FINAL DECISION
Roma to Brisbane Gas Pipeline Access Arrangement 2017–22

Overview

November 2017

AUSTRALIAN ENERGY REGULATOR

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Note

This Overview forms part of the AER's final 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 final decision.

The final decision includes this Overview and the following attachments:

Overview

Attachment 1 - Services covered by the access arrangement

Attachment 2 - Capital base

Attachment 3 - Rate of return

Attachment 5 – Regulatory depreciation

Attachment 6 - Capital expenditure

Attachment 8 - Corporate income tax

Attachment 14 - Inflation

These have been numbered consistently with the equivalent attachments to our longer draft decision. In these and other elements of our draft decision, our draft decision reasons form part of this final decision.

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

Background to our final decision

Australian gas markets are undergoing unprecedented change. There is, for example, an increasing reliance on gas for electricity generation as some coal generators close. These dynamics emphasise the importance of consultation and careful assessment of issues arising from APTPPL's proposed access arrangement revisions. We extended our assessment period to ensure these matters are appropriately addressed.

With respect to service structure, our final decision, consistent with our draft decision, is to retain the Roma to Brisbane Pipeline's (RBP) l long term firm reference service but make it bidirectional in place of the current west to east service. This matches the increasing demand for bidirectional services on the RBP and was proposed by APTPPL. We have not defined a short term reference service because RBP users are already negotiating terms and conditions for short term services with APTPPL— we did not therefore consider that we should specify this service.

With respect to pricing, we have retained the existing postage stamp pricing for the long term firm reference service in this draft decision.[1] This approach minimises upwards pressure on the reference tariff for the long term firm service. An alternative approach would be to establish multiple pricing zones which would advantage users seeking part-haul services, but lead to higher prices for full-haul services. We note that full-haul services are expected to remain the predominant type of service demanded by users. Demand for other types of services is also growing, but demand is uncertain. For this reason our final decision is to make the following services rebateable services: in–pipe trading, capacity trading, and park and loan services. Seventy per cent of the revenue earned by APTPPL from these services will be rebated to users through lower reference tariffs.

We did not receive any written submissions on our draft decision or on APTPPL's revised proposal.

[1] Postage stamp pricing means uniform pricing regardless of the distance that gas is transported. A user wishing to transport gas for only a portion of the RBP's total length will pay the same per unit price as if gas were transported the full length of the RBP.

About this decision

The Australian Energy Regulator (AER) works to make all Australian energy consumers better off, now and in the future. We regulate energy networks in all jurisdictions except Western Australia. We set the amount of revenue that network businesses can recover from customers for using these networks.

The National Gas Law and Rules (NGL and NGR) provide the regulatory framework governing gas networks. Our work under this framework is guided by the National Gas Objective (NGO):[2]

> …to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.

Australian Petroleum Pipelines Pty Ltd (APTPPL) owns and operates the Roma to Brisbane Pipeline (RBP). We regulate gas pipelines that are subject to full regulation—like the RBP—under an approved access arrangement.[3] An access arrangement identifies certain pipeline services (reference services) and the price and non-price terms and conditions on which those services will be offered over the next five years (2017-22). This forms the foundation for negotiations between pipeline operators and users.

The decisions we make and the actions we take affect a wide range of individuals, businesses and organisations. Effective and meaningful engagement with stakeholders across all our functions is essential to fulfilling our role, and it provides stakeholders with an opportunity to inform and influence what we do. This is reflected in our Stakeholder Engagement Framework and in the consultation process set out for our access arrangement reviews in the NGR, which we have followed in this review.

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2 NGL, s. 23. We discuss the NGO in Appendix .

3 The NGL provides for different types of regulation to apply to gas pipelines, based on competition and significance criteria. A 'full regulation' pipeline must periodically submit an access arrangement to the AER, setting out pricing for a reference service sought by a significant part of the market. 'Light regulation' pipelines are not subject to upfront price regulation. The light regulation model is more a negotiate-arbitrate approach, placing greater emphasis on commercial negotiation and information disclosure. The AER plays a role only if dispute resolution mechanisms are triggered.

1 Our final decision

Our final decision is that APTPPL will be able to recover $235.6 million ($nominal, smoothed) from its customers over the 2017–22 access arrangement period. In making this decision we have accepted some, but not all, elements of APTPPL's revised proposal.

The revenue we determine affects the transmission component of a customer's gas bill, which makes up about 3 per cent of an average annual gas bill for a retail customer in south east Queensland. Other components of customer bills include the cost of sourcing the gas, distribution network charges and retailer costs.

Based on our estimates, this final decision will reduce the transmission component of the average annual gas bill for residential and small business customers by about $3 (nominal) and $31 (nominal) in 2017–18, respectively compared to the current 2016–17 charges. By the end of the 2017–22 access arrangement period, the transmission component of the average annual bill is expected to be about $5 and $50 below current levels for residential and small business customers, respectively. We discuss these estimates more in section 1.3.

Bill impacts for customers connected directly to the RBP, including gas fired power stations and large industrial manufacturers, will be different to impacts for residential and small business customers. For these large customers the transmission component of their gas bill is a larger proportion of their total bill and the impact of this decision is more direct. Under this decision, regulated tariffs RBP users pay will decrease by an average of 4.7 per cent per year (in nominal terms) over the 2017–22 access arrangement period.

Our assessment of APTPPL's proposed access arrangement revisions commenced in September last year, later than the usual commencement period, as permitted by the access arrangement. Our draft decision was then delayed as we assessed and consulted on the complex issues raised by this proposal. As a result of those delays our final decision has also been delayed. This gives rise to a six month interval of delay.[4] Our final revenue determination has accounted for this interval of delay so that neither APTPPL nor RBP customers better or worse off than they otherwise would have been.

While we have held a stakeholder workshop and called for submissions on APTPPL's initial proposal, our draft decision and the revised proposal, APTPPL has chosen not to undertake its own stakeholder engagement in the context of this review. This is in contrast to the approach taken by other gas and electricity network service providers in respect of their revenue proposal processes. We consider that targeted engagement with consumers—including APTPPL's direct users—can add value to the development

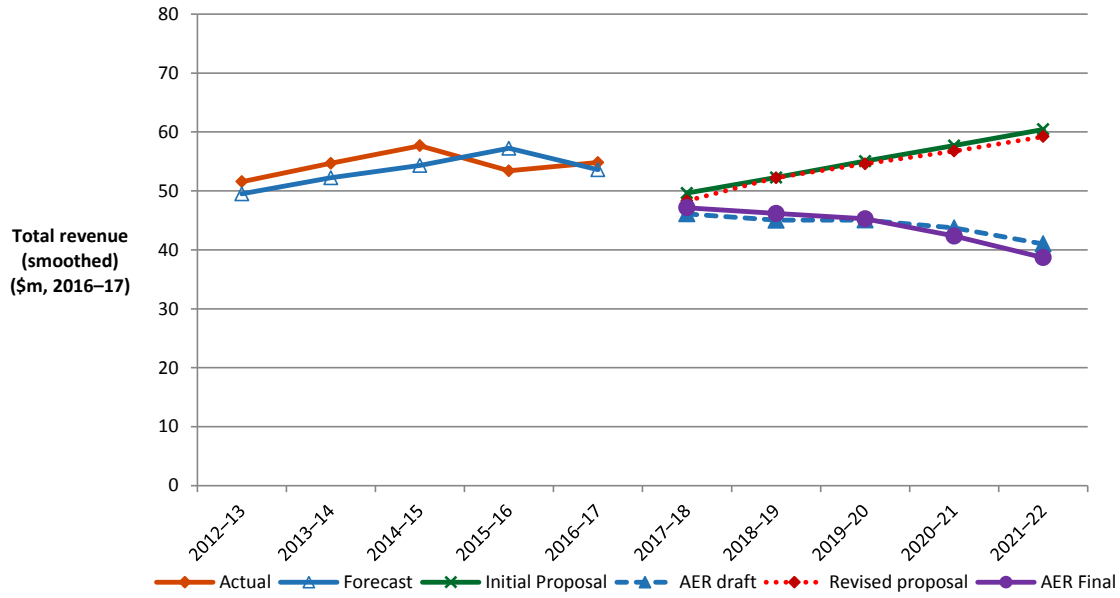
[4] NGR, r. 92(3). An interval of delay arises when there is a gap between the date on which access arrangement revisions were intended to commence and the date on which they actually commence.

of its regulatory proposals. We further consider that stakeholders would value such consultation from their network service. We encourage APTPPL to adopt a new approach going forward.

1.1 What is driving APTPPL's revenue requirement?

Figure 1-1 shows how the revenue approved in this final decision for 2017–22 compares to the revenue forecast for, and recovered during, the current 2012–17 access arrangement period. It also compares the final revenue approved in this decision to APTPPL's initial proposal, our draft decision and its revised proposal.

Figure 1-1 APTPPL's past total revenue, proposed total revenue and AER final decision total revenue allowance ($million, 2016–17)



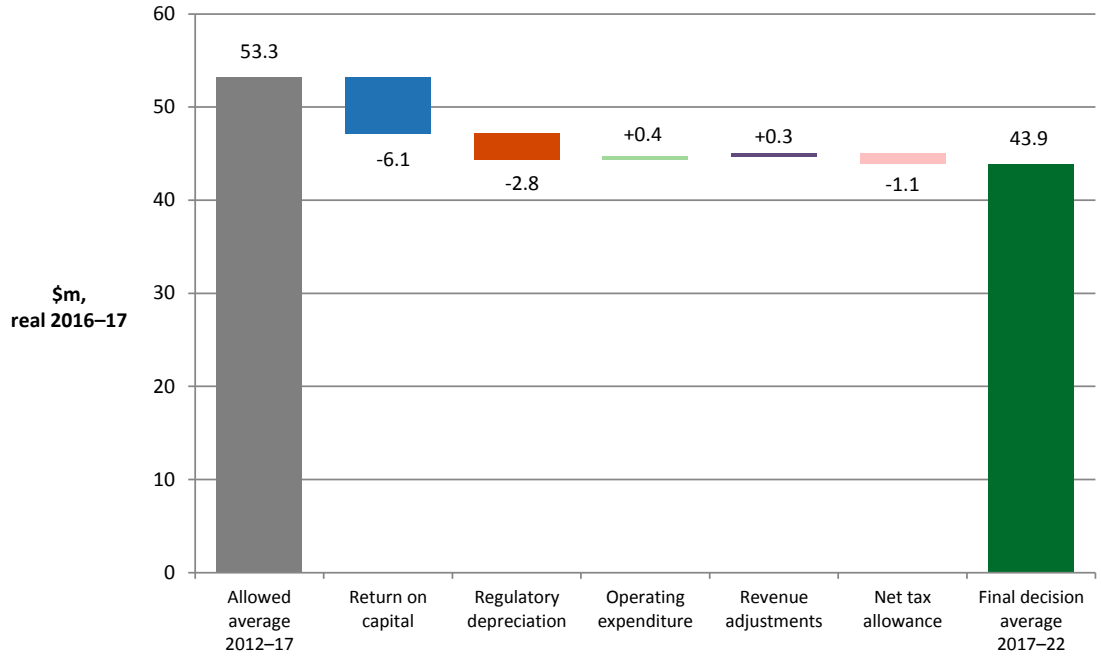
Source: AER analysis.[5]

The forecast of total revenue we approved in this decision for the 2017–22 access arrangement period is $219.5 million ($2016–17) —or 17.2 per cent– lower than the forecast used to set APTPPL's reference tariffs throughout the 2012–17 period.

Figure 1-2 highlights some of the key reasons for this by comparing this final decision for 2017–22 to APTPPL's allowed revenue for the current, 2012–17 period.

[5] The effect of inflation—which changes over time—makes it difficult to compare revenue from one period to the next on a like -for-like basis. To do this we use 'real' values based on a common year (in this case 2016–17), which have been adjusted to remove the effect of inflation.

Figure 1-2 AER's final decision for 2017–22 and APTPPL's 2012–17 average annual building block costs ($million, 2016–17)



Source: AER analysis.

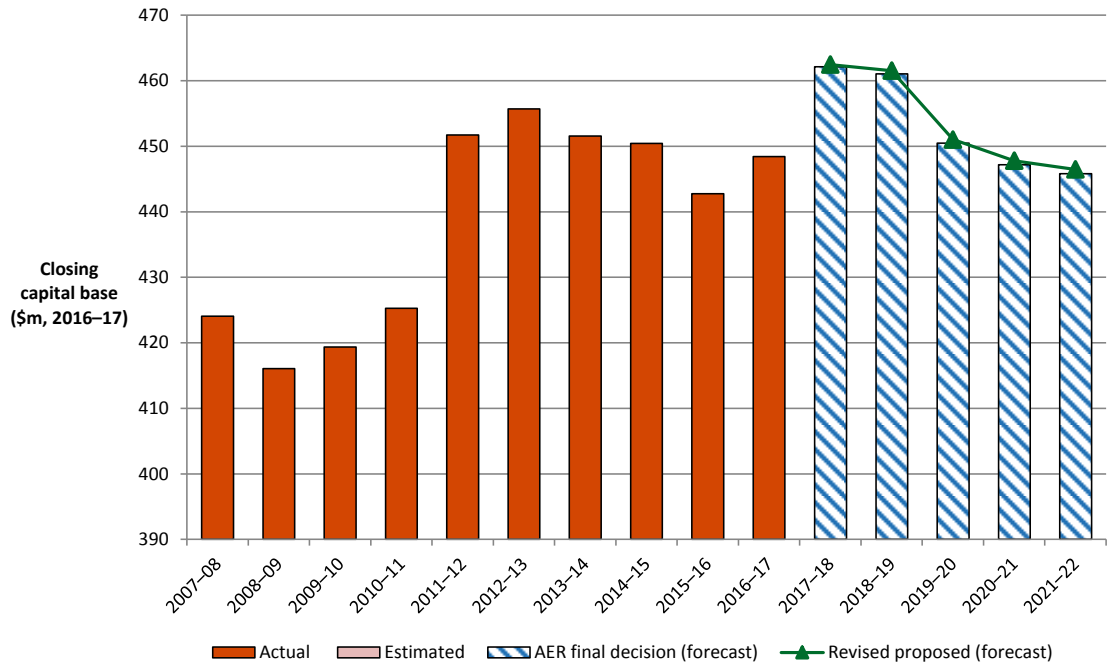
Figure 1-2 highlights that the return on capital and regulatory depreciation allowances are the key differences between our final decision for the 2017–22 access arrangement period and APTPPL's approved revenue for the 2012–17 access arrangement period.

The reduction in the return on capital is driven by changes in the estimated rates of return on debt and equity. The estimated return on debt and return on equity fell between regulatory control periods by 2.38 and 0.75 percentage points respectively.

The lower rate of return will reduce the impact of growth in APTPPL's capital base, which increased by 15.3 percent greater than forecast over the current period (in real terms). This was because APTPPL's conforming capex was higher than forecast to maintain its transmission service. Based on this decision, we forecast growth in the capital base over the next five years to be slower, around 1.4 per cent, reflecting APTPPL's lower forecast capex and lower demand.

Figure 1-3 shows the growth in APTPPL's capital base over time.

Figure 1-3 Projected growth in APTPPL's capital base ($ million, 2017)



Source: AER analysis.

1.2 Key differences between our final decision and APTPPL's revised proposal

The revenue we have approved is 19.4 per cent less than APTPPL proposed.

Our draft decision proposed accepting some elements of APTPPL's proposal, including demand, operating expenditure and most capital expenditure.[6] As there were no further submissions on these issues we therefore approve the demand, operating expenditure and most capital expenditure for the reasons set out in the draft decision. Where differences between ourselves and APTPPL remained after we received the revised proposal we have set out our reasoning in this final decision.

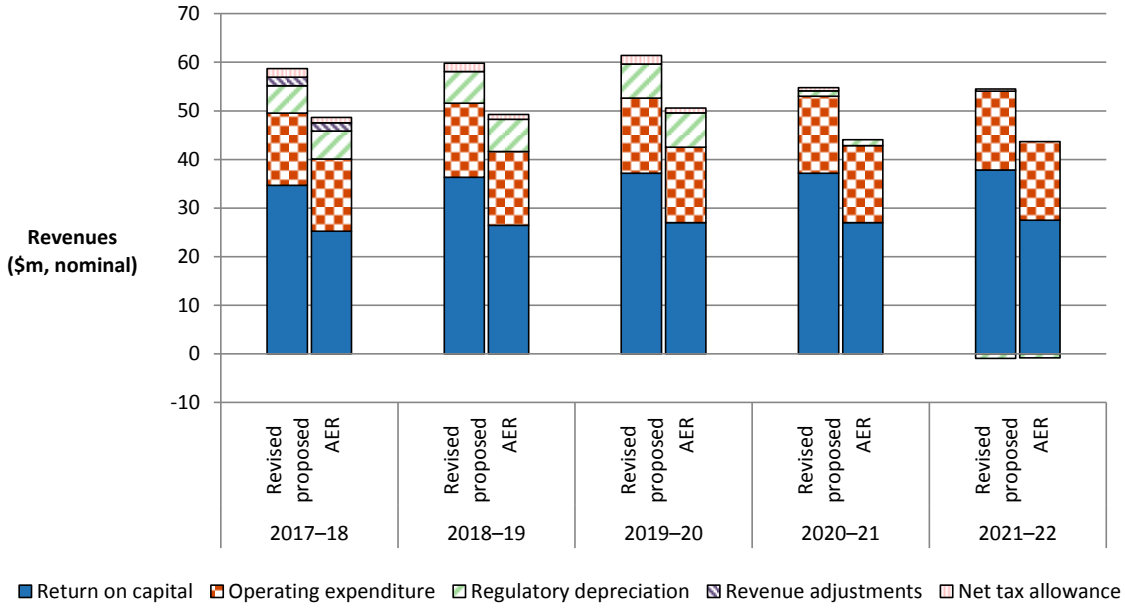
The significant item of difference between APTPPL's revised proposal and our final decision is the allowed rate of return. While APTPPL adopted our rate for gamma, it did not adopt our draft decision for the return on debt or return on equity. Other substantive areas of difference are limited to a small amount of capital expenditure and to rebateable services.

Figure 1-4 shows that the main factor driving the decrease in revenue between our final decision and APTPL's revised proposal is the return on capital. Our final decision

[6] Our draft decision proposed approving APTPPL's proposed operating expenditure allowance and aggregate capacity demand forecast of 200TJMQD/day.

includes a return on capital of $133.1 million which is $50.0 million lower than APTPPL's revised proposal.

Figure 1-4 AER's final decision and APTPPL's revised proposed annual revenue requirement ($million, nominal)



Source: AER analysis.

1.3 How will our final decision impact gas bills?

The annual gas bill for customers in Queensland will reflect the combined cost of all the gas supply chain components. These components are the:

- cost of producing gas (the wholesale gas production cost);
- cost of the pipeline used to transport the gas (the transmission and distribution networks) and other infrastructure such as metering cost; and
- retailer's cost and profit margin.

The annual gas bill will therefore change to reflect movements in one or more of the components of the bill. Our draft decision for APTPPL relates to transmission tariffs which represent approximately 3 per cent on average of a Queensland retail customer's annual bill. So, while our final decision is to reduce APTPPL's regulated revenues by 17.2 per cent compared to the 2012–17 access arrangement period, this translates into relatively small bill impacts for retail customers.[7] The bill impact is also

[7] For comparative purposes the percentage reduction in APTPPL's revenue between the 2012–17 and 2016–17 access arrangement periods is calculated in real 2016–17 dollar terms.

influenced by the level of demand for gas from the RBP, which is expected to decline relative to the current period.[8]

We estimate the expected bill impact by varying the transmission tariffs in accordance with our final decision, while holding other components of the bill constant. Our estimates are in nominal terms (taking into account expected future inflation to determine what the nominal price levels will be in future periods) because consumers are billed in nominal amounts. Based on this approach, we expect that our final decision will result in an estimated reduction of $5 (nominal) to the transmission component of the average annual gas bill for residential customers in Queensland over the 2017–22 access arrangement period.

Our decision to approve the change to a capacity only tariff based on an expected lower demand ameliorates the movement in tariffs given the lower approved revenue in 2017–22 period compared to 2012–17 periods. Our decisions on reference tariffs, services and demand are discussed in section 2.1.

Table 1-1 show the estimated impact of our final decision on average residential and small business customer annual gas bills in Queensland over the 2017–22 access arrangement period, compared with APTPPL's revised proposal. These bill impacts are indicative only and individual customer's actual bills will depend on their usage patterns and the structure of the chosen retail tariff offer.

While our approach isolates the effect of our decision on gas prices, it does not imply that other components of the bill will remain unchanged across the access arrangement period.

Bill impacts for customers connected directly to the RBP, including gas fired power stations and large industrial manufacturers, will be different to impacts for retail customers. Directly connected customers don't pay distribution network charges, so the transmission component of their gas bill is a larger proportion of their total bill. In this case, bill impacts for directly connected customers will be minimal because our draft decision is for relatively flat transmission tariffs. More generally, bill impacts for directly connected customers are a magnified version of bill impacts estimated for retail customers.

[8] Pipeline costs are largely fixed and do not vary with the level of demand for the pipeline's use, at least in the short term. If demand is low, a set level of revenue to be recovered from customers will translate into higher per unit tariffs. When demand is high, tariffs will be lower per unit of consumption.

Table 1-1 Estimated impact of final decision on average Queensland residential and small business customers' gas bills for 2017–22 access arrangement period ($nominal)

	2016–17	2017–18	2018–19	2019–20	2020–21	2021–22
AER draft decision						
Residential annual gas bill[a]	775	772	772	772	771	770
Annual change		–3 (–0.4%)	0 (0.1%)	0 (0.1%)	0 (–0.0%)	–1 (–0.1%)
Small business annual gas bill[b]	7035	7008	7008	7008	6999	6985
Annual change		–31 (–0.4%)	4 (0.1%)	4 (0.1%)	–1 (–0%)	–9 (–0.1%)
APTPPL proposal						
Residential annual gas bill	775	773	774	776	778	780
Annual change		–2 (–0.3%)	2 (0.2%)	2 (0.2%)	2 (0.2%)	2 (0.3%)
Small business annual gas bill	7035	7013	7027	7042	7059	7077
Annual change		–22 (–0.3%)	14 (0.2%)	15 (0.2%)	17 (0.2%)	18 (0.3%)

Source: AER analysis.

2 Key components of our final decision

Gas pipelines that are subject to full regulation—like the RBP—are regulated under an approved access arrangement.[9] This forms the foundation for negotiations between pipeline operators and users.

An access arrangement specifies certain pipeline services (reference services) and the price and non-price terms and conditions on which those reference services will be offered over the next five years (2017–2022).

The prices (reference tariffs) that apply to reference services are based on an approved forecast revenue requirement determined in this decision.

In the sections below we summarise the key components of our final decision on APTPPL's access arrangement for the RBP.

2.1 Reference services and tariffs

2.1.1 Services covered by the access arrangement

An access arrangement must specify as a reference service at least one pipeline service that is likely to be sought by a significant part of the market. For each reference service the access arrangement specifies the reference tariff and the other terms and conditions on which the reference service will be provided.

The NGR also provides for the regulation of certain non-reference services called ‘rebateable services’, if there is substantial uncertainty about demand for, or the revenue to be generated from, the service and the market for the service is substantially different from the market for the reference service.[10] The costs associated with a rebateable service can, in whole or in part, be included in the calculation of the reference tariff, if an appropriate portion of the revenue derived from sales of this service is returned to reference service users through a rebate or refund.[11]

Further detail on the relationship between reference services, rebateable services and other non-references services is set out in Figure 2-1.

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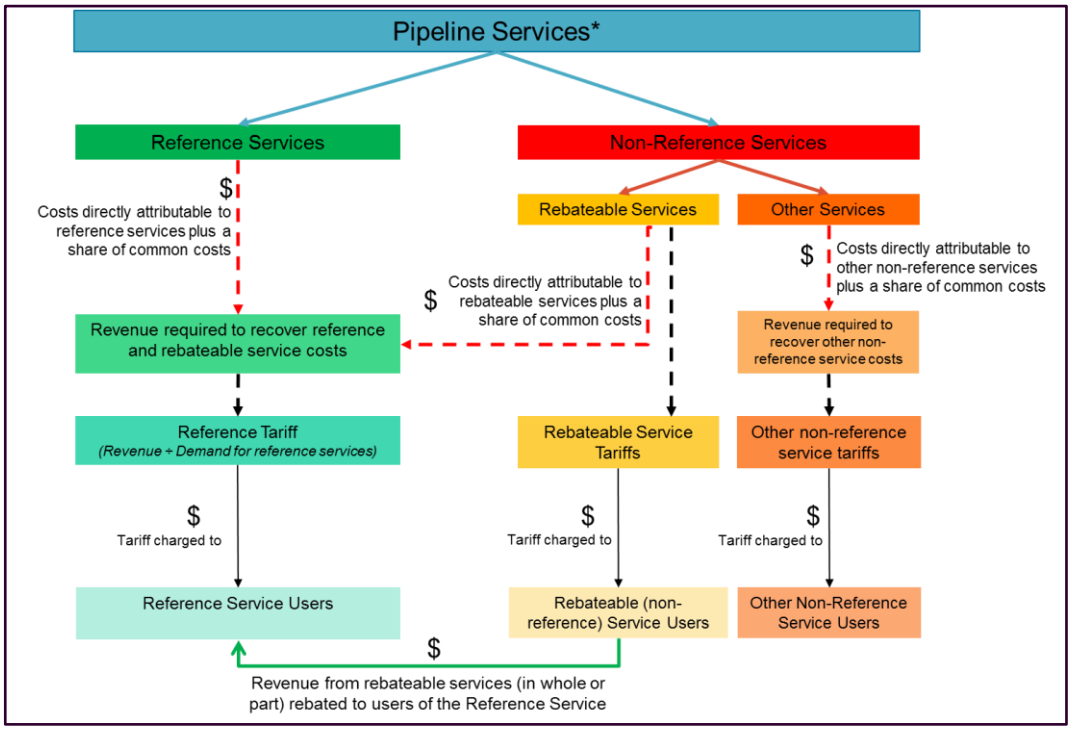
9 The NGL provides for different types of regulation to apply to gas pipelines, based on competition and significance criteria. A 'full regulation' pipeline must periodically submit an access arrangement to the AER, setting out pricing for a reference service sought by a significant part of the market. 'Light regulation' pipelines are not subject to upfront price regulation. The light regulation model is more a negotiate-arbitrate approach, placing greater emphasis on commercial negotiation and information disclosure. The AER plays a role only if dispute resolution mechanisms are triggered.

10 NGR, r. 93(4).

11 NGR, r. 93(2).

Figure 2-1 Interaction between reference, rebateable and other non-reference services



* The term 'pipeline service' is defined in the NGL as (a) a service provided by means of a pipeline, including (i) a haulage service (such as firm haulage, interruptible haulage, spot haulage and backhaul); and (ii) a service providing for, or facilitating, the interconnection of pipelines; and (b) a service ancillary to the provision of a service referred to in paragraph (a), but does not include the production, sale or purchase of natural gas or processable gas.

In our draft decision we proposed approving APTPPL's proposal to define the bidirectional Long Term Firm Service (LTFS) as a reference service. We did not receive any submissions on this issue, we are satisfied that this reference service is likely to be sought by a significant part of the market and that its inclusion in the access arrangement is consistent with the Revenue and Pricing Principles (RPPs) and will promote the NGO.[12]

As set out in our draft decision, we are not satisfied that defining a Short Term Firm Service (STFS) as a reference service, as originally proposed by APTPPL, would be consistent with the Revenue and Pricing Principles (RPPs), nor that it would promote the NGO. We are already seeing customers negotiate short term services with APTPPL. We consider that interfering with commercial negotiations for these r short term services may not be in customers' best interests. The specification of this service as a reference service also appears unnecessary given reforms underway to facilitate

[12] NGL, s. 23.

more trade and competition between pipeline operators and users for provision of short-term transportation services. APTPPL accepted our approach and in its revised proposal included only a LTFS as a reference service.

Also in our draft decision we identified changes to APTPPL's proposed access arrangement to include the following services as rebateable services and provide for the allocation of the costs of these services to the reference services:

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

We are satisfied that there is a substantial degree of uncertainty around the demand for, or revenue to be generated from, these services and that the markets for these services are substantially different from the markets for the reference service.[13] We are also satisfied that the classification of these services as rebateable services is consistent with the RPPs and will promote the NGO.

In its revised proposal APTPPL did not agree with our draft decision to establish rebateable services. In particular APTPPL's views differed on the proposed mechanism to provide rebates via direct refunds to customers who use the reference service or services like the reference service. In its revised proposal APTPPL set out an alternative mechanism that would reduce future reference service tariffs—much like a cost pass through mechanism.[14] In this final decision we have accepted APTPPL's proposed mechanism.

In our draft decision we accepted APTPPL's proposal to retain the current postage stamp tariff structure. This means all users face the same reference tariffs regardless of how far they wish to transport gas, whether the full length of the pipeline or only a part-haul service. While we can see merit in moving to a more cost reflective service, we are concerned that this may place additional financial pressure on users of the RBP in and around Brisbane and exacerbate what is already a financially challenging environment for many gas users. This could have longer term consequences for consumers of natural gas and the efficient use of the pipeline, contrary to the NGO.

Further detail on our draft decision in regards to the services covered by APTPPL's access arrangement is set out in attachment 1.

2.1.2 Adjustment to tariffs for past calculation error

Our final decision approves a $1.69 million (nominal) revenue adjustment in 2017–18 to account for a calculation error in the 2016–17 reference tariff variation process. The

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13 NGR, rr. 93(3) and 93(4).

14 Reference tariffs will be adjusted downwards by a value equivalent to 70 per cent of the revenue earned by APTPPL from rebateable services.

error, committed by APTPPL, resulted in the tariffs for the previous year being adjusted by the Consumer Price Index only and not the X factor.

Our draft decision noted that, in July 2016, APTPPL sought AER permission to adjust the reference service tariffs immediately to correct the miscalculation.[15] We advised APTPPL that it should seek to account for this error by adjusting proposed revenue in its proposed 2017–22 access arrangement. We also note that under the NGR that the reference tariff variation mechanism must be designed to equalise, in terms of net present value:

- Forecast revenue from reference services over the access arrangement period;[16] and
- The portion of total revenue allocated to reference services for the access arrangement period.[17]

We also note that the NGR preclude the inclusion of such a revenue adjustment for past tariff calculation error in our assessment of total revenue.[18] However, in these circumstances, we consider that such an adjustment should be allowed under APTPPL's 2012–17 access arrangement. This is because APTPPL's 2012–17 access arrangement specifies that if a past annual tariff adjustment contains a material error or deficiency because of a miscalculation the AER may change subsequent tariffs to account for these past issues.[19]

We adjusted APTPPL's proposed adjustment amount from $1.74 million (nominal) to $1.69 million (nominal) to correct for an input error. APTPPL's proposed amount of $1.74 million includes an adjustment for time value of money, by multiplying the under recovery in 2016–17 by the nominal vanilla WACC of 7.31 per cent, approved in our previous access arrangement determination.[20] APTPPL's application of nominal WACC results in a 'double counting' of inflation.

The PTRM input requires the revenue adjustment to be in real 2016–17 dollar terms. The real 2016–17 input is then inflated by the forecast inflation approved in this final decision to arrive at a nominal value for the purposes of calculating nominal forecast revenues in the PTRM. To remove the double counting of inflation we have corrected the time value of money adjustment to the under recovery for the real post-tax WACC of 4.64 per cent.[21] Therefore, our final decision approves a revenue adjustment of $1.69 million (nominal) to adjust subsequent tariffs to account for the 2016–17 calculation error.

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15 AER, *Draft decision: Roma to Brisbane Gas Pipeline Access Arrangement 2017–22 – Attachment 10*, July 2017, pp.12–13.

16 NGR, r. 92(2)(a)

17 NGR, r.92(2)(b).

18 NGR, r. 76.

19 Clause 4.5.5, APTPPL, *Roma to Brisbane Pipeline Access Arrangement – 1 September 2012 to 30 June 2017*, August 2012, p.19.

20 AER, *Access arrangement final decision, Roma to Brisbane Pipeline 2012–13 to 2016–17 (PTRM)*, August 2012.

21 AER, *Access arrangement final decision, Roma to Brisbane Pipeline 2012–13 to 2016–17 (PTRM)*, August 2012.

2.1.3 Revenue reconciliation factor

In our draft decision we determined a revenue reconciliation factor (RRF) to reconcile the LTFS reference tariff multiplied by the forecast demand against smoothed revenue in each year of the 2017–22 access arrangement period. This RRF reflects the combined revenue impact of certain commercial in confidence factors not otherwise disclosed in this overview. APTPPL's revised proposal adopted our approach to translate reference service tariffs to revenue.[22] Similarly, for this final decision we updated the RRF to perform the same reconciliation of reference tariff revenue to smoothed revenues. Table 2-1 shows the approved final decision tariffs, forecast demand and RRF used to derive the smoothed revenue for each year of the 2017–22 access arrangement period.

Table 2-1 Reconciliation of revenues, reference tariffs and demand (nominal)

	2017–18	2018–19	2019–20	2020–21	2021–22
LTFS reference tariff ($/GJMDQ/day)	0.7195	0.7191	0.7187	0.6846	0.6311
Demand forecast (TJMDQ/day)	200	200	200	200	200
Revenue reconciliation factor (RRF)[a]	0.92	0.92	0.92	0.93	0.95
Building block revenue - smoothed ($m)[a]	**23.99**	**48.44**	**48.63**	**46.62**	**43.62**

Source: AER analysis.

(a) The figures shown are for the six months ending 30 June 2018, reflecting the access arrangement period expected commencement date of 1 January 2018.

2.1.4 Demand

For the reasons set out in our draft decision, we are satisfied that APTPPL's proposed demand forecasts comply with rule 74(2) of the National Gas Rules (NGR), taking into account the RPP.

APTPPL has proposed two separate demand forecasts for its eastbound and westbound services over the 2017-22 access arrangement period. It proposes to offer these services on a long term and short term firm basis. For both eastbound and westbound services, it forecasts an average 200 TJMDQ /day long term firm equivalent

[22] APTPPL, *RBP Access arrangement Revised Proposal Submission*, August 2017, p.101.

demand over the 2017-22 access arrangement period. APTPPL engaged ACIL Allen to assist it to come to its position on demand forecasts.

APTPPL forecasts that the eastbound service will be sought by retail and industrial users on a long term firm basis, and that gas powered generation (GPG) users will acquire the eastbound service on a short term firm basis. APTPPL forecasts that its westbound services will be sought only on a short term firm basis by a range of different users; including LNG producers, and spot market traders.

Based on all the information before us, our conclusion is that APTPPL's forecast of an average of 200 TJMDQ/day long term firm equivalent demand is the best estimate in the circumstances.[23] Our final decision is to approve APTPPL's proposed demand forecast.

2.1.5 Reference tariff variation mechanism

The reference tariff variation mechanism includes:

- an annual reference tariff variation mechanism, and
- a cost pass through mechanism.

Our final decision, consistent with our draft decision, is to apply a price cap tariff variation mechanism for each of APTPPL's reference services in respect of the RBP for the 2017–22 access arrangement. This is the same price control mechanism as applied in the current access arrangement.

APTPPL will provide the AER with a tariff variation proposal at least 50 business days prior to each 1 July. The AER will provide APTPPL with written notification no later than 30 business days after receiving the tariff variation whether it has approved or not approved the variation.

This time can be extended by the AER for a period of up to 90 business days if further information is required from APTPPL or other relevant parties. The AER will provide APTPPL with written notification of any time extensions.

2.1.6 Cost pass through events

In its revised proposal APTPPL agreed with our position in relation to the cost pass mechanism set out in the draft decision in all respects other than one—it retained the carbon cost event, with an amended definition in response to our concerns. We are of the view that the carbon cost event should not be included in the access arrangement. It is squarely within the scope of matters contemplated by the Regulatory Change

[23] Reconciling the draft decision smoothed revenue (section 4.2) against the reference service tariffs and approved demand (section 3.2) requires the use of a revenue reconciliation factor (RRF) in each year of the access arrangement period discussed in attachment 10.

Event we have approved[24] – i.e. a change in a regulatory obligation or requirement within the course of the access arrangement period which substantially affects the manner in which the service provider provides reference services. We do not accept that a carbon pricing mechanism is 'unlikely to affect the manner' in which reference services are provided. Further, the definition of 'regulatory obligation or requirement' (which is an element of the Regulatory Change Event) in the National Gas Law is sufficient to cover a government imposed carbon scheme.[25]

2.2 Total revenue requirement

The total revenue requirement is a forecast of the efficient cost of providing gas transmission services over the access arrangement period. We determine annual revenue—and the total revenue requirement—in nominal terms because it will be in nominal amounts that consumers will be paying. To do this, we take into account expected future inflation to determine what the nominal price levels will be in future periods.

Our final decision is to approve a total revenue requirement (smoothed) of $235.6 million ($nominal) for APTPPL over the 2017–22 access arrangement period.[26] This total smoothed revenue requirement is $56.8 million (or 19.4 per cent) lower than APTPPL's revised proposal.

Table 2-2 sets out our final decision on APTPPL's revenue requirement, by building block, for each year of the 2017–22 access arrangement period, the total revenue after equalisation (smoothing) and the X factors to be applied in the tariff variation mechanism.

[24] In addition, the Carbon Cost Event could potentially fall within the Tax Change Event.

[25] NGL, s. 6: Most obviously s. 6(b)(iv): An obligation or requirement under an Act of a participating jurisdiction or any instrument made or issued under or for the purposes of that Act that relates to the protection of the environment.

[26] This is calculated by smoothing the unsmoothed building block revenue for the 2017–22 access arrangement period as set in this draft decision.

Table 2-2 Final decision on smoothed total revenue and X factors for 2018–22 ($ million, nominal)

Building block	2017–18	2018–19	2019–20	2020–21	2021–22	Total
Return on capital	25.2	26.4	27.0	27.0	27.5	133.1
Regulatory depreciation	5.8	6.6	7.1	1.2	–0.8	19.9
Operating expenditure	14.9	15.2	15.5	15.8	16.2	77.6
Revenue adjustments	1.7	0.0	0.0	0.0	0.0	1.7
Net tax allowance	1.1	1.0	1.0	0.0	0.0	3.1
Building block revenue - unsmoothed	48.6	49.3	50.6	44.0	42.8	235.3
Building block revenue - smoothed	**48.3**	**48.4**	**48.6**	**46.6**	**43.62**	**235.6**
X factors	14.86%	2.42%	2.42%	7.00%	10.00%	n/a

Source: AER analysis.

n/a: not applicable.

(a) Under the CPI–X form of control, a positive X factor is a decrease in price (and therefore in revenue). The X factor for 2017-18 is indicative only. The final decision establishes 2017–18 tariffs directly, rather than referencing a change from 2016–17 tariffs.

2.2.1 Revenue smoothing and tariffs

After our assessment of APTPPL's total building block revenue (unsmoothed revenue), we need to determine the smoothed revenue profile across the 2017–22 access arrangement period.[27] This decision approves that APTPPL will operate under a simple individual price cap as its tariff variation mechanism for the 2017–22 access arrangement period. This means we determine the weighted average tariff change each year. This weighted average tariff change is referred to as the 'X factor'. The X factors that we determine must ensure that the sum of the smoothed revenues across the period equals the unsmoothed building block revenue in net present value (NPV) terms.

The X factors represent the weighted average real change in tariffs. As part of the annual reference tariff variation process, we combine the X factors we have determined in our decision with actual inflation to provide reference tariffs for the subsequent year. This means that the prices paid by consumers, and therefore the revenues received by the networks, change with actual inflation (but ignoring other non-inflation factors) are constant in real terms.

APTPPL's revised proposal raised the issue of a calculation error in translating from a two part tariff (capacity and throughput) to a single capacity tariff in setting a 2016–17

[27] This process of smoothing revenues is described in the NGR as 'revenue equalisation' NGR, r.92.

base year tariff.[28] APTPPL stated our draft decision approach implied that throughput was equal to the maximum amount of capacity all shippers had reserved.[29] APTPPL's revised proposal included an adjustment to the current approved throughput tariff based on the load factor calculated as the ratio of actual average volume of gas transported to maximum amount of gas delivered on a given day during 2016–17. APTPPL referred to this as the 'RBP average composite load factor' and calculated the load factor applied to the throughput tariff to be 60.3 per cent.[30]

We are required to set the reference tariffs at the commencement of an access arrangement period. We revised our draft decision calculations and arrived at an approach that sets the capacity only opening reference service tariff in 2017–18 by adjusting the reference tariff for the difference between the smoothed revenue and unsmoothed building block revenue in 2017–18. The indicative X factor for 2017–18 is then set as the percentage change in smoothed revenue in 2017–18 from approved revenue in 2016–17 in real 2016–17 dollar terms. This approach facilitates APTPPL's recovery of its forecast unsmoothed revenue via reference tariffs that set the net present value of unsmoothed revenue equal to smoothed revenue from reference tariff services.[31] This is achieved by varying reference tariffs from year to year by CPI and the X factor set in this access arrangement determination.

APTPPL's revised proposed PTRM (confidential) applied the calculation of load factor to the throughput tariff used to determine the revenue adjustment required in this access arrangement period arising from the interval of delay. In adjusting the throughput tariff APTPPL erred in the calculation of revenue that it is currently able to recover via approved reference tariffs until this new access arrangement commences on 1 January 2018. APTPPL's revised proposal based the calculation of revenue during the interval of delay on the current throughput tariff adjusted to reflect its approach converting to a capacity equivalent tariff. APTPPL applied the RBP average composite load factor of 60.3 per cent to arrive at the capacity equivalent tariff of $0.0259/GJ. APTPPL's conversion of the throughput (capacity equivalent) tariff to revenue used forecast throughput volumes for 2017–18. This approach understates the revenue APTPPL was able to earn because the throughput (capacity equivalent) tariff is lower than the currently approved throughput tariff of $0.0430/GJ.

Our final decision corrects this calculation error by reinstating the currently approved throughput tariff in determining the adjustment to revenues for the interval of delay.[32] These access arrangement revisions do not commence until 1 January 2018 and the current approved tariffs (capacity and throughput) still apply. Therefore, no adjustment

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28 Our draft decision PTRM approach derived a capacity only base year tariff in 2016–17 from which to calculate the X factor adjustments over the 2017–22 access arrangement period. This adjustment had no effect on the equalisation of net present value of the smoothed revenue derived from reference service tariffs relative to the unsmoothed building block revenue under r. 92(2) of the NGR.

29 APTPPL, *RBP Revised access arrangement submission*, August 2017, pp.101–2

30 APTPPL, *RBP Revised access arrangement submission*, August 2017, p.102.

31 NGR, r.92(2).

32 NGR, r.92(3)(b).

to the throughput tariff is required for the purposes of calculating the difference in revenue had this access arrangement determination been in place as at 1 July 2017. Our final decision on the adjustment to revenues for the interval of delay and is discussed further below.

Table 2-3 presents our final decision X factors in comparison to APTPPL's revised proposal.

Table 2-3 Weighted average tariff change across the access arrangement period (X factors) —– comparison of APTPPL's revised proposal and AER's final decision (per cent)

	2017–18	2018–19	2019–20	2020–21	2021–22
AER final decision					
X factor	14.86%	2.42%	2.42%	7.00%	10.00%
Nominal price change	–12.80%	–0.06%	–0.06%	–4.74%	–7.82%
APTPPL revised proposal					
X factor[a]	12.79%	–5.00%	–5.00%	–5.00%	–5.00%
Nominal price change	–10.67%	7.55%	7.55%	7.55%	7.55%

Source: AER analysis.

(a) We revised APTPPL's proposed smoothing mechanism to match that applied in our final decision to compare relative weighted average real price changes on a like-for-like basis.

2.2.2 Accounting for the interval of delay

APTPPL submitted its proposed access arrangement revisions on 1 September 2016, as permitted under the current iteration of the RBP access arrangement. Given the stakeholder consultation and analysis required in this instance, we did not publish our final decision before 1 July 2017, the date on which revisions to the access arrangement were due to commence. Consistent with the NGR, reference tariffs for 2016–17 have continued to apply until we release our final decision and new reference tariffs take effect.

This means there will be an interval of delay between 1 July 2017 and the date revisions actually commence following our final determination—1 January 2018. Under rule 92(3) of the NGR, we may take any interval of delay into account when determining reference tariffs in the new period. This provision allows a reconciliation or 'true up' in the determination of new reference tariffs.

Our final decision is to reduce APTPPL's building block revenues in the forthcoming access arrangement period compared to the current period. Our decision sets an opening reference tariff with respect to lower forecast revenue and expected demand in 2017–18 compared to the current period. This would be expected to provide for lower expected revenue relative to the revenue from currently approved tariffs. However, the expected revenue from currently approved tariffs for 2016–17 to be

recovered during the interval of delay is calculated with respect to the forecast demand for 2017–18 approved in this final decision. The expected revenue from currently approved tariffs is therefore lower than the expected revenue from tariffs approved in this final decision.

We determine an adjustment of $0.1 million (nominal) to APTPPL's 2017–18 revenue during the interval of delay. This adjustment reconciles the difference in revenue APTPPL would be expected to earn under currently approved tariffs with the revenue from the new reference tariffs approved in this final decision. To account for the interval of delay we incorporated the adjustment to revenue in the smoothing mechanism approach in the final decision PTRM used to set reference tariffs at the commencement of the 2017–22 access arrangement period.

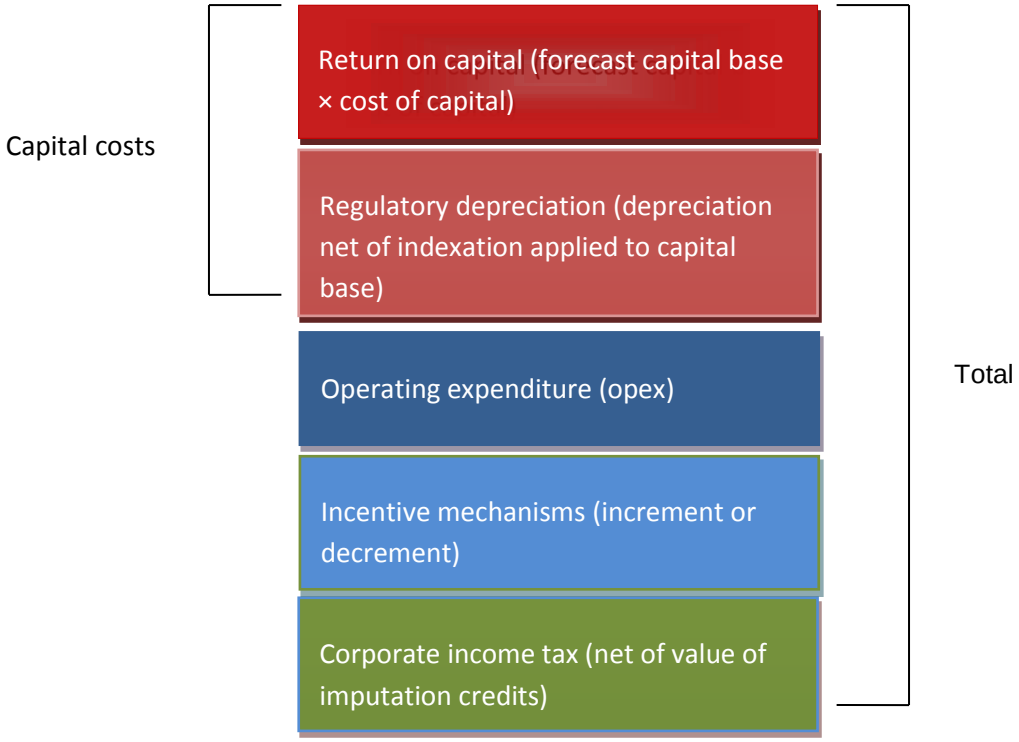
2.3 Key elements of our decision on revenue

The total revenue requirement is based on forecasts of the efficient costs that APA is likely to incur in providing its reference service. This is commonly referred to as the building block approach. The building blocks, shown in Figure 2-2, include:[33]

- capital costs:
    - return on the projected capital base (return on capital)
    - depreciation of the projected capital base (return of capital)
- forecast opex
- revenue increments or decrements resulting from incentive schemes such as the efficiency carryover mechanism
- the estimated cost of corporate income tax.

[33] NGR, r. 76.

Figure 2-2 The building block approach to determining total revenue



Note: Capital expenditure (capex)—the capital costs incurred in the provision of pipeline services —mostly relates to assets with long lives and these costs are recovered over several access arrangement periods. APA recovers the costs of these assets through the return on capital and depreciation building blocks that form part of its total revenue. In this way APA recovers the financing cost and depreciation associated with these assets over the expected life of these assets, not just in the years that expenditure was incurred.

In the following sections we explain how the various components of this final decision compare to our draft decision and APA's revised proposal.

2.3.1 Capital base

The capital base roll forward accounts for the value of APTPPL's regulated assets over the access arrangement period. The opening value of the capital base is used to determine the return of capital (regulatory depreciation) and return on capital building block allowances.

Our final decision approves an opening capital base value of $452.1 million ($ nominal) as at 1 July 2017 for APTPPL. This amount is $0.1 million lower than the APTPPL's revised proposal. This is because we amended APTPPL's revised proposed roll forward model (RFM) to correct an input error with the value of capital contributions for 2013–14 to be deducted from the capital base.

We approve a forecast closing capital base value of $502.5 million ($nominal) at 30 June 2022. This is $1.4 million lower than the $503.9 million ($nominal) in APTPPL's revised proposal. Our final decision on the projected closing capital base reflects our changes to the opening capital base as at 1 July 2017, and our final decisions on

forecast capex (attachment 6), expected inflation (attachment 3) and forecast depreciation (attachment 5).

2.3.2 Rate of return (return on capital)

The allowed rate of return provides a service provider a return on capital to service the interest on its loans and give a return on equity to investors. The return on capital building block is calculated as a product of the rate of return and the value of the RAB.

Our final decision allows APTPPL a nominal vanilla rate of return of 5.58 per cent, compared to its revised proposal of 7.67 per cent.

Table 2-4 sets out our rate of return and APTPPL's proposed rate of return.

Table 2-4 APTPPL's rate of return (% nominal)

	Previous allowed return (2012-17)	APTPPL's revised proposal (2017-22)	AER final decision (2018)	Allowed return over 2017-22 regulatory control period
Return on equity (nominal post–tax)	7.75%	8.8a	7.0	Constant (7.0%)
Return on debt (nominal pre–tax)	7.01%	6.91	4.64	Updated annually
Gearing	60	60	60	Constant (60%)
Nominal vanilla WACC	7.31%	7.67	5.58%	Updated annually for return on debt
Forecast inflation	2.55%	2.45	2.42	Constant (%)

Our return on equity point estimate and the parameter inputs are set out in Table 2-5.

Table 2-5 APTPPL's return on equity (% nominal)

	AER previous decision (2012–17)	APA's revised proposal (2017–22)	AER final decision (2017-22)
Nominal risk free rate (return on equity only)	2.95%	2.68a	2.44% b
Equity risk premium	4.8%	6.16%	4.55%
Market risk premium	6%	7.7%	6.50%
Equity beta	0.8	0.8	0.70
Nominal post–tax return on equity	7.75%	8.8%	7.0%

Source: AER analysis; APTPPL, Roma to Brisbane Pipeline revised access arrangement submission, August 2017, p. 66.

a Based on APTPPL's indicative averaging period adopted for its revised proposal of 20 business days to 31 July 2017

b Calculated with a final averaging period of 20 business days up to 30 June 2017.

For the reasons set out in attachment 3 to this final decision, we have not accepted APTPPL's revised proposal with the key differences being:

- The estimate of the market risk premium
- The estimate of the equity beta
- The choice of debt curves used to estimate the return on debt
- the method used to transition from the on-the-day approach to a trailing average approach to estimating the return on debt.

We are not satisfied that APTPPL's revised proposal would result in an outcome that better achieves the ARORO.[34]

2.3.3 Inflation

Our final decision is to estimate expected inflation using our standard approach, labelled the 'RBA method'. This is consistent with APTPPL's revised proposal.[35]

However, we have not accepted several other inflation-related changes proposed by APTPPL for the 2017–22 PTRM.[36] This included a proposal to annually update the estimate of expected inflation within the access arrangement period. These changes would have substantially altered inflation exposure for both APTPPL and consumers. Instead, we propose to maintain our standard inflation treatment in the PTRM, consistent with:

- past treatment of the RBP
- AER decisions for other gas and electricity service providers
- the preliminary position paper released as part of our *Review of the regulatory treatment of inflation*.[37]

The revenue we set in this final decision incorporates expected inflation over the upcoming 2017–22 access arrangement period, so that targeted revenue is sufficient to meet expected changes in purchasing power. However, our approach then allows revenue recovered from consumers to vary in line with inflation outcomes. Service providers and their investors ultimately receive a revenue allowance with the same purchasing power as initially targeted. This means:

- if inflation is lower than expected, APTPPL will recover less than the initial target

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34 NGR, cl. 87(18)

35 APTPPL, *Roma to Brisbane pipeline, Revised access arrangement submission*, August 2017, pp. 54–61, 104–105.

36 APTPPL proposed to use actual inflation (technically, one-year lagged actual inflation implemented via annual updates) in the 2017–22 PTRM, instead of expected inflation. The PTRM inflation treatment in APTPPL's revised proposal aligned with that included in the APA VTS revised proposal (and departed from the implementation in the initial APTPPL RBP proposal). See AER, *Draft decision, APA VTS Australia gas access arrangement 2018 to 2022*, July 2017, attachment 2(2-19 to 2-31) and attachment 3 (3-152 to 3-161).

37 The final position paper has not yet been released. See https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/review-of-expected-inflation-2017.

- if inflation is higher than expected, APTPPL will recover more than the initial target.

In either case, purchasing power is preserved and investors receive the initial real rate of return on capital.

Attachment 3 sets out our reasons for accepting APTPPL's proposed approach for estimating expected inflation. Attachment 14 sets out our reasons for not accepting the other inflation changes proposed by APTPPL, and the rationale for applying our standard inflation treatment instead.

2.3.4 Value of imputation credits (gamma)

Under the Australian tax system investors can receive imputation credits for tax paid at the company level. We make an adjustment to our tax building block to account for the value of imputation credits (gamma). The higher the value of gamma, the larger the adjustment to the corporate income tax allowance.

Our draft decision did not accept APTPPL's proposed gamma value of 0.25, and instead applied a gamma of 0.4. For the purposes of its revised proposal, APTPPL has adopted our draft decision on gamma.

Our final decision, consistent with the reasoning in our draft decision and APTPPL's revised proposal, is to apply a gamma value of 0.4. Our reasons for this decision are principally set out in our draft gamma decision for APTPPL.[38] However, in this final decision we have also had regard to:

- the recent Australian Competition Tribunal decision for ActewAGL (Gas) Distribution and Jemena Electricity Networks[39]
- recent submissions on gamma by TransGrid
- updated tax and equity ownership data.

Our consideration of TransGrid's recent submissions on gamma, recent legal decisions and the most recent data, are set out in our draft electricity transmission determination for ElectraNet.[40]

2.3.5 Regulatory depreciation (return of capital)

When determining the total revenue for APTPPL, we include an allowance for the depreciation of the projected capital base (otherwise referred to as 'return of capital'). Regulatory depreciation is used to model the nominal asset values over the 2017–22

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38 AER, *Draft Decision – Roma to Brisbane Gas Pipeline Access Arrangement 2017 to 2022 - Attachment 4 - Value of imputation credits*, July 2017.

39 Australian Competition Tribunal, *Application by ActewAGL Distribution [2017] ACompT 2,* 17 October 2017.

40 AER, *Draft Decision - ElectraNet transmission determination 2018 to 2023 - Attachment 4 - Value of imputation credits*, October 2017.

access arrangement period and the depreciation allowance in the total revenue requirement.[41]

Our final decision approves forecast regulatory depreciation of $19.9 million ($ nominal) for APTPPL over the 2017–22 access arrangement period. This amount represents an increase of $0.6 million (or 2.9 per cent) from the $19.3 million ($ nominal) in APTPPL's revised proposal. This is because we have updated our forecast of expected inflation over the 2017–22 access arrangement period. We also amended APTPPL's opening capital base as at 1 July 2017 to update conforming capex by the value of capital contributions in 2012–17, and as a consequence updated the remaining asset life for one asset class as at 1 July 2017 to reflect our final decision on the roll forward of the opening capital base.

Our final decision on APTPPL's regulatory depreciation allowance for the 2017–22 access arrangement period is set out in Table 2-6.

Table 2-6 AER's final decision on APTPPL's regulatory depreciation allowance for the 2017–22 access arrangement period ($million, nominal)

	2017–18	2018–19	2019–20	2020–21	2021–22	Total
Straight-line depreciation	16.7	18.1	18.8	13.0	11.1	77.7
Less: indexation on capital base	11.0	11.5	11.7	11.7	11.9	57.8
Regulatory depreciation	**5.8**	**6.6**	**7.1**	**1.2**	**–0.8**	**19.9**

Source: AER analysis.

2.3.6 Capital expenditure

Capital expenditure (capex) refers to the capital costs and expenditure incurred in the provision of pipeline services.[42] This investment mostly relates to assets with long lives. APTPPL recovers the costs of these assets over their expected life, through the return on capital and depreciation building blocks that form part of its total revenue.

Our decision on APTPPL's revenue includes an assessment of its actual capex in the 2011-17 period, which forms part of its opening capital base.[43] It also includes an assessment of APA's forecast capex for the 2017–22 access arrangement period, which forms part of its projected capital base.[44]

Conforming capex for the 2012–17access arrangement period

41 Regulatory depreciation allowance is the net total of the straight-line depreciation (negative) and the annual inflation indexation (positive) on the projected capital base.

42 NGR, r. 69.

43 NGR, r. 77.

44 NGR, r. 78(b)

We approve APTPPL's proposed total net capex of $69.0 million ($2016–17) for the 2012–17 access arrangement period as conforming capex.[45]

In our draft decision we approved APTPPL's actual capex of $57.9 million ($2016–17) in the 2011–12 year as conforming capex.[46] We did not consider that $7.8 million of capex for flood related costs was conforming.

With its revised proposal APTPPL re-proposed the $7.8 million of flood related capex and provided additional supporting information. Based on this information, we consider the proposed 2012–17 flood related capex satisfies the new capex criteria.[47] Our final decision on APTPPL's capex for the 2012-17 access arrangement period is shown in Table 2-7.

Table 2-7 AER approved capex, 2011–12 to 2016–17 ($million, 2016–17)

Category	2011–12(a)	2012–13	2013–14	2014–15	2015–16	2016–17	Total 2012–17
Expansion	50.3	3.2	2.5	0.0	–	–	5.7
Replacement	–	0.7	2.3	4.0	4.5	6.3	17.7
Stay in business	7.6	2.5	6.3	19.6	5.5	12.0	45.9
GROSS TOTAL CAPEX	57.9	6.4	11.1	23.6	10.0	18.2	69.3
Contributions	–	–	0.1	–	–	–	0.1
Asset disposals	–	0.1	0.1	0.0	–	–	0.2
NET TOTAL CAPEX	57.9	6.2	10.9	23.6	10.0	18.2	69.0

Source: AER analysis. Totals may not add to due to rounding.

Conforming capex for the 2017–22 access arrangement period

Our final decision approves APTPPL's proposed $65.4 million ($2016–17) total net capex for the 2017–22 access arrangement period.[48]

In our draft decision we:

- Accepted $27.8 million ($2016–17) of the proposed $29.1 million of stay in business capex for the 2017–22 access arrangement period. We did not accept $1.3 million for the proposed Dalby turbine overhaul.
- Accepted $31.7 million ($2016–17) of the proposed $37.6 million ($2016–17) of replacement capex for the 2017–22 access arrangement period. We did not accept

45 NGR, r. 79(1).
46 NGR, r. 77(2).
47 NGR, r. 79(1).
48 NGR, r. 79(1).

$5.9 million in replacement capex because we considered APTPPL could undertake fewer pipeline excavations, at a lower cost per excavation.

With its revised proposal APTPPL accepted that the Dalby turbine did not require overhaul during the 2017–22 access arrangement period. However, APTPPL re-proposed the $5.9 million in replacement capex and provided additional supporting information. Based on this information we have accepted APTPPL's proposed capex in this final decision because it has justified that the expenditure is necessary to maintain and improve the safety of services and maintain the integrity of services.[49] Table 2-8 shows our final decision on APTPPL's capex for the 2017–22 access arrangement period.

Table 2-8 AER approved capex over the 2017–22 access arrangement period ($million, 2016–17)

Category	2017–18	2018–19	2019–20	2020–21	2021–22	Total
Expansion	–	–	–	–	–	–
Replacement	8.7	10.2	5.5	6.8	6.4	37.6
Stay in business	17.2	5.7	1.4	1.6	1.9	27.8
GROSS TOTAL CAPEX	**25.9**	**15.9**	**6.9**	**8.4**	**8.3**	**65.4**
Contributions	–	–	–	–	–	–
Asset disposals	–	–	–	–	–	–
NET TOTAL CAPEX	**25.9**	**15.9**	**6.9**	**8.4**	**8.3**	**65.4**

Source: AER analysis. Totals may not add due to rounding.

2.3.7 Operating expenditure

Our final decision, consistent with our draft decision, is to accept APTPPL's opex forecast of $72.1 million ($2016–17) over the 2017–22 access arrangement period.[50] This is because APTPPL's opex forecast is consistent with our own forecast and we consider it complies with the opex criteria and satisfies the criteria for forecasts and estimates.[51]

APTPPL's proposed total opex and our final decision on opex are set out in Table 2-9.

[49] NGR, r, 79(2)(c)(i) and (ii).
[50] Including debt raising costs.
[51] NGR, r. 74.

Table 2-9 Our final decision on total opex ($million, 2016–17)

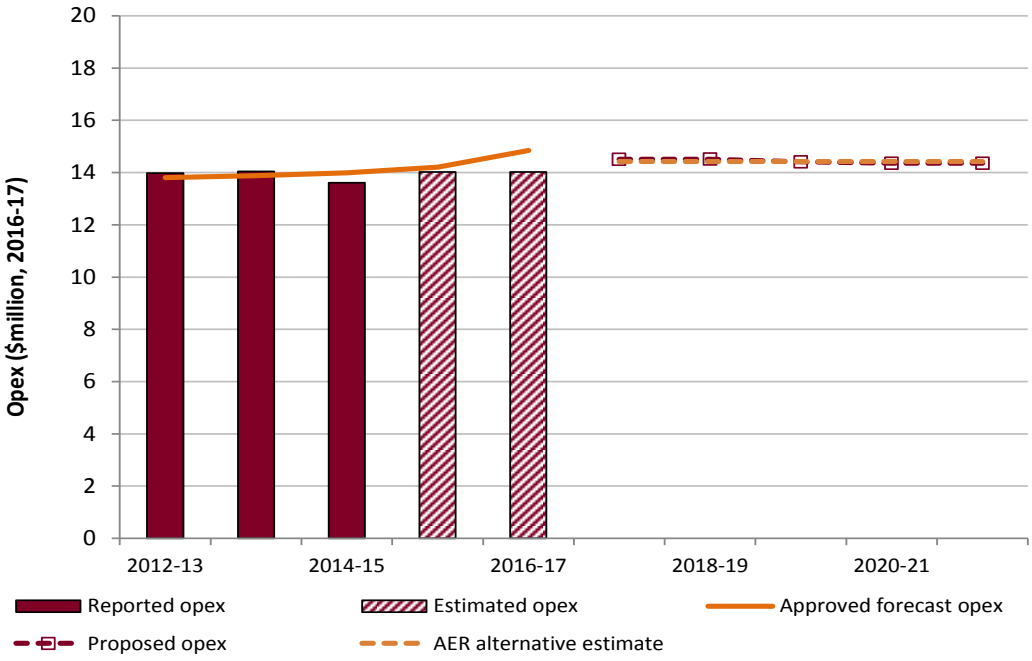
	2017-18	2018-19	2019-20	2020-21	2012-22	Total
APTPP's initial proposal	14.5	14.5	14.4	14.3	14.3	72.1
AER draft decision	14.5	14.5	14.4	14.3	14.3	72.1
Difference	–	–	–	–	–	–

Source: APTPPL, *RBP Access arrangement proposal 2017–22, Post tax revenue model (PTRM),* September 2016.

Note: Includes debt raising costs. Numbers may not add up due to rounding.

Figure 2-3 shows our draft decision compared to APTPPL's proposal, its past allowances and past actual expenditure.

Figure 2-3 Our final decision compared to APTPPL's past and proposed opex ($ million, 2016–17)



Source: APTPPL, *Final RIN - RBP response*, September 2016; AER analysis.

Note: Includes debt raising costs.

2.3.8 Efficiency carryover mechanism

The opex incentive mechanism in APA's access arrangement provides an additional incentive to that provided under an incentive based regime for APA to pursue efficiency improvements in its opex over an access arrangement period. It does this by allowing APA to retain efficiency savings achieved within a particular period for a longer period of time.

Our draft decision approved an efficiency carryover mechanism to apply to APTPPL in the 2017–22 access arrangement period. APTPPL adopted our draft decision in its revised proposal. Our final decision to include a carryover mechanism is consistent with our draft decision and APTPPL's revised proposal.

Table 2-10 sets out our final decision on the approved opex forecast we will use to calculate efficiency gains in the 2017–22 regulatory control period, subject to further adjustments allowed by the efficiency carryover mechanism.[52]

Table 2-10 Approved forecast opex for the efficiency carryover mechanism ($ million, 2016–17)

	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21	2021–22
Approved forecast opex	14.1	14.1	14.3	14.3	14.2	14.1	14.1

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

Note: Excludes debt raising costs. Numbers may not add up due to rounding.

Consistent with the reasoning in our draft decision, in applying the efficiency carryover mechanism to APTPPL in the 2017–22 access arrangement period, we will:

- exclude any cost categories that are not forecast using a single year revealed cost approach in the access arrangement period commencing in 2022
- adjust APTPPL's opex forecast to account for any Determined Pass Through Amounts
- adjust APTPPL's opex forecast to account for any capitalisation policy changes
- not adjust forecast opex for operating and maintenance costs associated with extensions and expansions that were not included in APTPPL's capex allowance.

In its revised proposal, APTPPL raised concerns that the operation of our proposed efficiency carryover mechanism does not adjust outturn operating expenditure to exclude operating and maintenance costs associated with extensions and expansions that were not included in APTPPL's capex allowance.[53] APTPPL did not propose an opex incentive mechanism in its initial proposal, so we did not discuss this issue in our draft decision.

However, we consider that excluding forecast opex for costs associated with extensions and expansions from the opex incentive mechanism would not provide APTPPL with a continuous incentive to minimise these costs. Further, it would provide an incentive to increase these costs in the expected base year. By not excluding these costs from the incentive mechanism, they will be shared between APTPPL and consumers in the same way as any efficiency gain or loss. We see no reason why

[52] The approved opex forecast excludes debt raising costs.

[53] APTPPL, Revised access arrangement submission, August 2017, p. 97.

these costs should be shared differently to any other efficiency gain or loss. Also, we see no reason why changes in opex driven by exogenous factors should be shared differently than genuine efficiency gains, even if they could be identified.

2.3.9 Corporate income tax

APTPPL has adopted the post–tax framework to derive its revenue requirement for the 2018–22 access arrangement period. Under the post-tax framework, a separate corporate income tax allowance is calculated as part of the building blocks assessment we use to calculate APA's forecast revenue requirement.

Our final decision on the estimated cost of corporate income tax is $3.1 million ($ nominal) for APTPPL over the 2017–22 access arrangement period. This is a reduction of $5.2 million ($ nominal) or 63.2 per cent from the $8.3 million ($ nominal) in APTPPL's revised proposal. The reduction reflects our amendments to APTPPL's proposed inputs for forecasting the cost of corporate income tax, namely our adjustments to the return on capital (attachment 3) and regulatory depreciation (attachment 5) building block costs affect revenues, which in turn impacts the tax calculation.

Our final decision on APTPPL's estimated cost of corporate tax allowance for the 2017–22 access arrangement period is set out in Table 2-11.

Table 2-11 AER's final decision on APTPPL's estimate cost of corporate tax allowance for the 2017–22 access arrangement period ($million, nominal)

	2017–18	2018–19	2019–20	2020–21	2021–22	Total
Tax payable	1.8	1.7	1.6	0.0	0.0	5.1
Less: value of imputation credits	0.7	0.7	0.6	0.0	0.0	2.0
Net corporate income tax allowance	**1.1**	**1.0**	**1.0**	**0.0**	**0.0**	**3.1**

Source: AER analysis.

3 Non-tariff components

The non-tariff components of an access arrangement include:

- the terms and conditions for the supply of reference services
- extension and expansion requirements—the method for determining whether an extension or expansion is a part of the covered pipeline and the effect this will have on tariffs
- capacity trading requirements—the arrangements for users to assign contracted capacity and change delivery and receipt points
- provisions for receipt and delivery point changes, and
- a review submission date and a revision commencement date
- queuing requirements—how any spare or developable pipeline capacity will be allocated among existing or prospective users.

In our draft decision we accepted many of APTPPL's proposed non-tariff components. Our draft decision raised a small number of issues which APTPPL responded to in its revised proposal by mostly adopting our proposed approach. The sole exception related to the inclusion in the access arrangement of a waiver from daily variance charges between 1 December 2016 and 30 November 2017. As APTPPL pointed out in its revised proposal, the publication date of this final decision makes the proposed waiver redundant. Our final decision is therefore to approve APTPPL’s non-tariff components as set out in its revised proposal.

A The National Gas Objective

The NGL requires us to make this decision in a manner that contributes, or is likely to contribute, to achieving the NGO.[54] The focus of the NGO is on promoting efficient investment in, and efficient operation and use of, natural gas services (rather than assets) in the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.[55] This is not delivered by any one of the NGO's factors in isolation, but rather by balancing them in reaching a regulatory decision.[56]

We consider that the long-term interests of consumers are best served where consumers receive a reasonable level of safe and reliable service, which they value, at least cost in the long run.[57] A decision that places too much emphasis on short term considerations may not lead to the best overall outcomes for consumers once the longer term implications of that decision are taken into account.[58]

There may be a range of economically efficient decisions that we could make in a revenue decision, each with different implications for the long term interests of consumers.[59] A particular economically efficient outcome may not be in the long term interests of consumers, depending on how prices are structured and risks allocated within the market.[60] There are also a range of outcomes that are unlikely to advance the NGO, or advance the NGO to the degree that others would. For example:

- The long term interests of consumers will not be advanced if our decisions encourage over-investment which results in prices so high that consumers are unwilling or unable to efficiently use the network.[61] This could have significant longer term pricing implications for those consumers who continue to use network services.
- Equally, the long term interests of consumers will not be advanced if we allowed revenues to result in prices so low that investors do not invest to sufficiently maintain the appropriate quality and level of service.[62] This could create longer term problems in the network, and could have adverse consequences for safety, security and reliability of the network.

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54 NGL, s. 28(1)

55 This is also the view of the Australian Energy Markets Commission (the AEMC). See, for example, the AEMC, 'Applying the Energy Objectives: A guide for stakeholders', 1 December 2016, p. 5.

56 Hansard, *SA House of Assembly,* 26 September 2013, p. 7173. See also the AEMC, 'Applying the Energy Objectives: A guide for stakeholders', 1 December 2016, p. 7-8.

57 Hansard, *SA House of Assembly,* 9 February 2005, p. 1452.

58 See, for example, the AEMC, 'Applying the Energy Objectives: A guide for stakeholders', 1 December 2016, p. 6-7.

59 Re Michael: Ex parte Epic Energy [2002] WASCA 231 at [143].

60 See, for example, the AEMC, 'Applying the Energy Objectives: A guide for stakeholders', 1 December 2016, p. 5.

61 NGL, s. 24(7).

62 NGL, s. 24(6).

The legislative framework recognises the complexity of this task by providing us with significant discretion in many aspects of the decision-making process to make judgements on these matters.

A.1 Achieving the NGO to the greatest degree

Our decisions on gas access arrangements are complex. In most cases, the provisions of the NGR do not point to a single answer, either for our decision as a whole or in respect of particular components. They require us to exercise our regulatory judgement. For example, part 9 of the NGR requires us to consider forecasts, which are predictions about unknown future circumstances. Very often, there will be more than one plausible forecast, and much debate amongst stakeholders about relevant costs. For certain components of our decision there may therefore be several plausible answers or several plausible point estimates.

When the components of our decision are considered together, this means there will almost always be several potential, overall decisions. More than one of these may contribute to the achievement of the NEO. In these cases, our role is to make an overall decision that we are satisfied contributes to the achievement of the NEO to the greatest degree.

We approach this from a practical perspective, accepting that it is not possible to consider every permutation specifically. Where there are choices to be made among several plausible alternatives, we have selected what we are satisfied would result in an overall decision that contributes to the achievement of the NEO to the greatest degree.

A.2 Interrelationships between the different components of our decision

Examining individual components of our decision in isolation ignores the importance of the interrelationships between components of the overall decision, and would not contribute to the achievement of the NGO. We consider these interrelationships as part of our analysis of the various components of our decision. Examples include:

- underlying drivers and context which are likely to affect many constituent components of our decision. For example, forecast demand affects the efficient levels of capex and opex in the regulatory control period.
- direct mathematical links between different components of a decision. For example, the level of gamma has an impact on the appropriate tax allowance; the benchmark efficient entity's debt to equity ratio has a direct effect on the cost of equity, the cost of debt, and the overall vanilla rate of return.
- trade-offs between different components of revenue. For example, undertaking a particular capex project may affect the need for opex or vice versa.