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

Attachment 2 – Capital base

July 2017

AUSTRALIAN ENERGY REGULATOR

Inquiries about this publication should be addressed to:

Australian Energy Regulator
GPO Box 520
Melbourne Vic 3001

Tel: 1300 585 165

Email: AERInquiry@aer.gov.au

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

Attachment 8 - Corporate income tax

Attachment 9 - Efficiency carryover mechanism

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
CESS	Capital Expenditure Sharing Scheme
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

2 Capital base

The capital base roll forward accounts for the value of APTPPL's Roma to Brisbane Pipeline (RBP) regulated assets over the access arrangement period. The opening capital base value for a regulatory year within the access arrangement period is rolled forward by indexing it for inflation, adding any conforming capex, and subtracting depreciation and other possible factors (for example, disposals or customer contributions).[1] Following this process, we arrive at a closing value of the capital base at the end of the relevant year. The opening value of the capital base is used to determine the return of capital (regulatory depreciation) and return on capital building block allowances.

This attachment sets out our draft decision on APTPPL's opening capital base as at 1 July 2017 for the 2017–22 access arrangement period. It also sets out our draft decision on APTPPL's projected capital base for the 2017–22 access arrangement period.

2.1 Draft decision

We do not approve APTPPL's proposed opening capital base of $451.5 million ($nominal) as at 1 July 2017. This is because we have made amendments to several inputs in the APTPPL's proposed roll forward model (RFM). We also updated the actual conforming capex for 2011–12 to 2015–16 and estimate for 2016–17, as discussed in attachment 6.

We determine an opening capital base of $444.0 million ($nominal) as at 1 July 2017, which is $7.5 million ($nominal) lower than that proposed by APTPPL, a reduction of 1.7 per cent.

Table 2.1 summarises our draft decision on the roll forward of APTPPL's capital base during the 2012–17 access arrangement period.

[1] The term "rolled forward" means the process of carrying over the value of the capital base form one regulatory year to the next.

Table 2.1 AER draft decision on APTPPL's capital base roll forward for the 2012–17 access arrangement period ($million, nominal)

	2012–13	2013–14	2014–15	2015–16	2016–17
Opening capital base	417.1	420.6	425.4	430.9	429.1
Net capex	5.8	8.9	17.8	10.2	18.8
Indexation of capital base	10.4	12.3	5.7	5.6	9.1
Less: straight-line depreciation	12.7	16.5	17.9	17.6	16.8
Closing capital base	420.6	425.4	430.9	429.1	440.3
Difference between estimated and actual capital expenditure in 2011–12					2.7
Return on difference for 2011–12 capex					1.0
Opening capital base as at 1 July 2017					444.0

Source: AER analysis.

We do not approve APTPPL's proposed roll forward of its projected capital base across the 2017–22 access arrangement period, and do not approve its closing capital base at 30 June 2022 of $505.4 million ($nominal). This is because we have not approved APTPPL's proposed inputs to the projected capital base roll forward, specifically the opening capital base (section 2.4), forecast depreciation (attachment 5) and forecast capex (attachment 6). Based on our revised amounts for these inputs, we determine a projected closing capital base of $488.1 million ($nominal) as at 30 June 2022. This is $17.3 million ($nominal) less than that proposed by APTPPL, a reduction of 3.4 per cent.

Table 2.2 sets out the projected roll forward of the capital base during the 2017–22 access arrangement period.

Table 2.2 AER's draft decision on APTPPL's projected capital base roll forward for the 2017–22 access arrangement period ($million, nominal)

	2017–18	2018–19	2019–20	2020–21	2021–22
Opening capital base	444.0	462.8	470.9	470.9	478.5
Net capex	24.5	14.8	7.1	8.8	8.9
Indexation of capital base	10.9	11.3	11.5	11.5	11.7
Less: straight-line depreciation	16.6	17.9	18.7	12.8	10.9
Closing capital base	462.8	470.9	470.9	478.5	488.1

Source: AER analysis.

2.2 APTPPL's proposal

APTPPL's proposal outlined its opening capital base at 1 July 2017, projected capital base over the 2017–22 access arrangement period, and the depreciation approach for determining the opening capital base at 1 July 2022 for the next access arrangement review.

2.2.1 Opening capital base as at 1 July 2017

APTPPL proposed an opening capital base as at 1 July 2017 of $451.5 million ($nominal).[2] This amount is calculated by rolling forward the opening capital base as at 1 September 2012 of $417.7 million ($nominal) by adding actual net capex, removing approved forecast depreciation and adding inflation indexation on the opening capital base in each year of the 2012–17 access arrangement period. APTPPL proposed a number of adjustments to the inputs to its capital base RFM including:[3]

- a reduction in the number of asset classes from 25 asset classes to 11 asset classes, as a result of consolidating the disaggregated pipelines/laterals[4] and compressors[5] asset classes
- accelerating the depreciation of redundant compressors or compressors nearing the end of their useful life, with an offsetting adjustment to the forecast depreciation of the pipelines asset classes[6]
- allocating the actual capex associated with the RBP expansion 8 (RBP8) project to the "Pipelines" asset class.[7]

APTPPL's proposed capital base roll forward during the 2012–17 access arrangement period is shown in Table 2.3.

---

2 APTPPL, *2017–22 Access arrangement submission*, September 2016, p. 125.

3 APTPPL's proposal used the AER's RFM (superseded version 2) for electricity transmission network service providers.

4 The consolidated pipelines and lateral asset classes include 'Looping 1 to 6', 'Lateral', 'Pipelines/laterals', 'Lytton lateral' and 'RBP expansion 8'.

5 The consolidated compressors asset classes include 'Condamine', 'Dalby (unit 1)', 'Gatton', 'Kogan', 'Oakey', and 'Yuleba'.

6 The pipelines asset classes refer to the 'Original pipeline' (DN250) asset class and proposed amalgamated 'Pipelines' asset class.

7 APTPPL, *2017–22 Access arrangement submission*, September 2016, pp. 118–125.

Table 2.3 APTPPL's proposed capital base roll forward for 2012–17 access arrangement period ($millions, nominal)

	2012–13	2013–14	2014–15	2015–16	2016–17
Opening capital base	417.7	418.8	425.3	436.7	434.9
Net capex	6.0	10.8	23.6	10.2	18.8
Indexation of capital base	10.4	12.3	5.7	5.7	8.7
Less: straight-line depreciation	15.3	16.5	18.0	17.7	16.8
Closing capital base	418.8	425.3	436.7	434.9	445.6
Adjustment for 2011–12 capex[a]					6.0
Opening capital base as at 1 July 2017					451.5

Source: RBP, *Proposed RFM*, September 2016.

(a) Comprising the difference between the actual and estimated capex for 2011–12 and the return on that difference.

2.2.2 Projected capital base over the 2017–22 access arrangement period

APTPPL proposed a projected closing capital base as at 30 June 2022 of $505.4 million ($nominal). APTPPL determined this value by adjusting the closing value at 30 June 2017 for depreciation (attachment 5), forecast net capex (attachment 6) and expected inflation (attachment 3). The projected roll forward of the capital base during the 2017–22 access arrangement period is shown in Table 2.4

Table 2.4 APTPPL's proposed projected capital base roll forward for the 2017–22 access arrangement period ($million, nominal)

	2017–18	2018–19	2019–20	2020–21	2021–22
Opening capital base	451.5	472.3	482.0	483.8	493.7
Net capex	27.1	17.0	7.5	9.3	11.1
Indexation of capital base	9.0	9.4	12.0	12.1	12.3
Less: straight-line depreciation	15.4	16.7	17.8	11.4	11.8
Closing capital base	472.3	482.0	483.8	493.7	505.4

Source: RBP, *Proposed PTRM*, September 2016.

2.2.3 Capital base at the commencement of the 2022–27 access arrangement period

APTPPL proposed to use the depreciation schedule based on forecast capital expenditure to establish the opening capital base as at 1 July 2022.[8]

2.3 AER's assessment approach

Our approach to assessing APTPPL's projected capital base is consistent with that adopted in previous gas transmission decisions made under the NGR.[9] In accordance with rule 77(2) and rule 78 of the NGR, we applied three steps to calculate the projected capital base:

- First, we confirm the value of the opening capital base for the first year of the 2012–17 access arrangement period (in this case, 1 September 2012).[10] Typically, this includes making an adjustment to account for any difference between actual and estimated capex in the final year of the previous access arrangement period (in this case, 1 July 2011 to 31 August 2012). This adjustment must also remove any benefit or penalty associated with any difference between the estimated and actual capex for that year.[11] We note that this adjustment is subject to any changes made in our assessment of conforming capex for that year.
- Second, the opening capital base as at 1 September 2012 is rolled forward to determine the closing capital base as at 30 June 2017. This closing capital base is also used as the value of the opening capital base for the access arrangement period as at 1 July 2017. This involves:[12]
    - adding conforming actual capex for each year—this requires assessing the capex and determining that it is consistent with the provisions of the 2012–17 access arrangement and data from the audited reset regulatory information notice, as well as the definition of 'conforming capital expenditure' in the NGR[13]
    - removing depreciation for each year based on the approach approved for the 2012–17 access arrangement
    - removing any capital contributions during the 2012–17 access arrangement period

---

8 APTPPL, *2017–22 Access arrangement submission*, September 2016, p. 192.

9 AER, *Access arrangement final decision APA GasNet Australia (Operations) Pty Ltd 2013–17 Part 2: Attachments*, March 2013; AER, *Final decision Amadeus Gas Pipeline Access Arrangement - Attachment 2 - Capital Base*, May 2016.

10 The AER released its decision on the Roma to Brisbane Pipeline on 27 August 2012. The AER's decision approved the access arrangement for the period from 1 September 2012 to 30 June 2017.

11 NGR, r. 77(2)(a).

12 NGR, r. 77(2).

13 NGR, r. 79.

- adding any speculative capex or redundant assets that will be reused during the 2017–22 access arrangement period
- removing any redundant assets and disposals during the 2012–17 access arrangement period
- indexing the roll forward each year for actual inflation.

- Third, the capital base is projected over the 2017–22 access arrangement period by rolling forward the opening capital base as at 1 July 2017 to 30 June 2022. This involves performing the following on the opening capital base:[14]
  - adding forecast conforming capex for each year
  - removing forecast depreciation for each year
  - removing the forecast value of assets to be disposed of during the 2017–22 access arrangement period
  - indexing the capital base of the roll forward each year for expected inflation.

2.3.1 Interrelationships

The level of the capital base substantially impacts the service provider's revenue and the price consumers pay. It is an input into the determination of the return on capital and depreciation (return of capital) allowances.[15] Factors that influence the capital base will therefore flow through to these building block components and the annual building block revenue requirement. Other things being equal, a higher capital base increases both the return on capital and depreciation allowances. In turn, it increases the service provider's revenue, and prices for its services.

The capital base is determined by various factors, including;

- the opening capital base (meaning the value of existing assets at the beginning of the access arrangement period)
- net capex[16]
- depreciation
- indexation adjustment – so the capital base is presented in nominal terms, consistent with the rate of return.

---

[14] NGR, r. 78.

[15] The size of the capital base also impacts the benchmark debt raising cost allowance. However, this amount is usually relatively small and therefore not a significant determinant of revenues overall.

[16] Net capex is gross capex less disposals and capital contribution. The rate of return or WACC also influences the size of the capex, which is assumed to be incurred in the middle of the year. This is because capex is not depreciated in the year it is first incurred, but added to the capital base at the end of the year. As a result, the capex amount is escalated by half a WACC to arrive at an end of year value. It then begins depreciating the following year.

The opening capital base depends on the value of existing assets as well as actual conforming net capex, actual inflation outcomes and depreciation in the past.

The capital base when projected to the end of the access arrangement period may increase due to forecast new capex and the indexation adjustment. The size of the indexation adjustment depends on expected inflation (which also affects the nominal rate of return or WACC) and the size of the capital base at the start of each year.

Depreciation reduces the capital base. The depreciation allowance depends on the size of the opening capital base, the forecast net capex and depreciation schedules applied to the assets.

We maintain the capital base in real terms by indexing for inflation. A nominal rate of return (WACC) is multiplied by the opening capital base to produce the return on capital building block.[17] By convention, the indexation adjustment is offset against depreciation to prevent double counting of inflation in the capital base and WACC, which are both presented in nominal terms. This reduces the apparent size of the depreciation building block that feeds into the annual building block model for setting revenue.[18] The implications of our approach to indexing the value of the capital base on revenues are discussed further in attachment 5.

Figure 2.1 shows the key drivers of the change in the capital base over the 2017–22 access arrangement period as proposed by APTPPL. Overall, the closing capital base at the end of the 2017–22 access arrangement period would be 12 per cent higher than the opening capital base at the start of that period based on the proposal, in nominal terms. The proposed forecast net capex increases the capital base by about 16 per cent, while expected inflation increases it by about 12 per cent. Forecast depreciation, on the other hand, reduces the capital base by about 16 per cent.

The capital base would rise by less than one per cent in real terms over the 2017–22 access arrangement period based on APTPPL's proposal. The depreciation amount also largely depends on the opening capital base (which in turn depends on capex). Figure 2.1 shows forecast net capex is the largest driver of the increase in the capital base. Refer to attachment 6 for the discussion on forecast capex.

A ten per cent increase in the opening capital base causes revenues to increase by about five per cent. However, the impact on revenues of the annual change in capital base depends on the source of the capital base change, as some drivers affect more than one building block cost.[19]

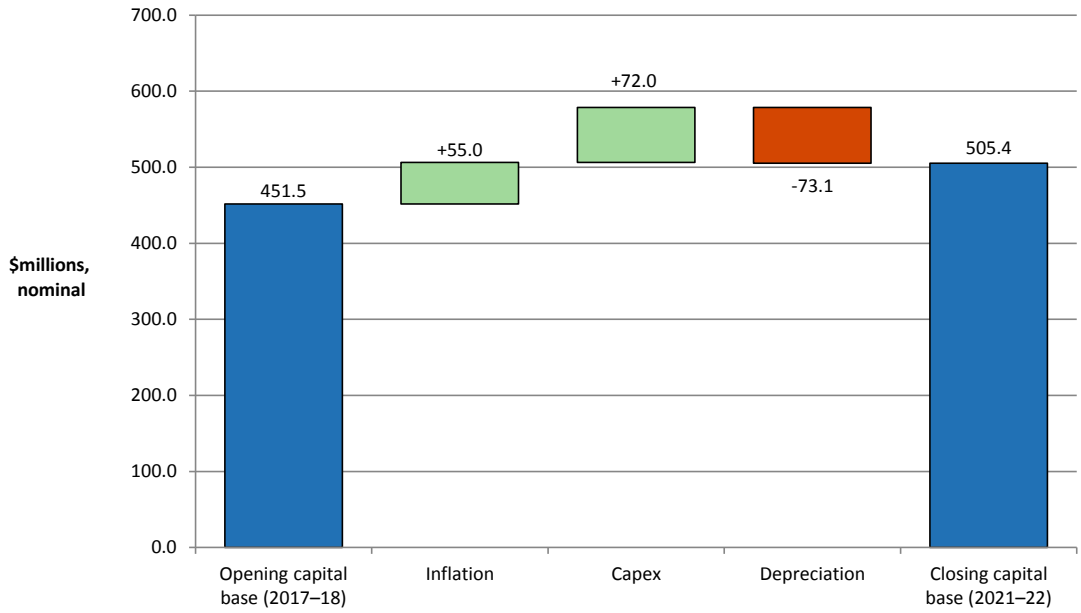
---

17 NGR, r. 87.

18 If the asset lives are extremely long, such that the capital base depreciation rate is lower than the inflation rate, then negative regulatory depreciation can emerge. The indexation adjustment is greater than the capital base depreciation in such circumstances. Please also refer to section 5.3.1 of attachment 5 of this draft decision for further explanation of the offsetting adjustment to the depreciation.

19 If capex causes the capital base increase, then return on capital, depreciation, and debt raising costs will all increase. If a reduction in depreciation causes the capital base increase, revenue could increase or decrease. In this case, the higher return on capital is offset (perhaps more than offset) by the reduction in depreciation

Figure 2.1 APTPPL's proposal - key drivers of changes in the capital base ($ million, nominal)



Source: AER analysis.

2.4 Reasons for draft decision

We do not approve APTPPL's proposed opening capital base of $451.5 million ($nominal) as at 1 July 2017. We have instead determined an opening capital base value of $444.0 million ($nominal) as at 1 July 2017, a reduction of $7.5 million ($nominal) (or 1.7 per cent). This is due to the amendments we made in APTPPL's proposed RFM to correct input errors and our decision on APTPPL's conforming capex over the period of 2011–17.

We do not approve APTPPL's projected closing capital base of $505.4 million ($nominal) as at 30 June 2022. We instead determine a closing capital base of $488.1 million ($nominal) as at 30 June 2022, a reduction of $17.3 million ($nominal) or 3.4 per cent from the proposed value. The main reasons for the reduction are our adjustments to the opening capital base as at 1 July 2017 (section 2.4.1), forecast depreciation (attachment 5) and forecast net capex (attachment 6).

We are satisfied each of these amendments is necessary having regard to the requirements of the NGR. The reasons for our decision are discussed below.

---

allowance. Inflation naturally increases the capital base in nominal terms. However, the real impact from changing the inflation forecast is inconsequential as revenues are updated annually by actual inflation and the X factor, which is generally unaffected by the assumed forecast inflation rate.

2.4.1 Asset class consolidation

We accept APTPPL's proposed asset class consolidation. The consolidation reduces the number of asset classes from 25 to 11 by amalgamating the previously approved asset classes which were based on projects. This resulted in multiple asset classes with similar asset types for pipelines and compressors that were assigned the same standard asset lives. We are satisfied the consolidation is appropriate as it eliminates duplication of asset classes for similar asset types and the proposed asset classification reflects the asset classes approved for other regulated gas transmission pipelines. The consolidation does not require changes to the existing approved standard asset lives for the 2012–17 access arrangement period because the consolidated asset classes adopt the same approved standard asset lives as the underlying assets. Using the same standard asset lives does not affect the depreciation calculations going forward because the standard lives of the affected asset types (pipelines and compressors) do not differ across projects. The proposed remaining asset lives for the consolidated asset classes reflect the weighted average remaining asset lives approach.

APTPPL's proposed RFM applied the consolidated asset classes from 1 July 2011, the commencement of the capital base roll forward. We consider the asset classes in the RFM should be consistent with the asset classes approved at the last access arrangement review. Therefore, any changes to the approved asset classes should be implemented form the start of the forthcoming access arrangement period.[20] However, we note that APTPPL's proposal better aligns with the annual actual capex values for 2012–16 which have been reported under the consolidated asset classes. As discussed in attachment 5, we do not consider the proposal to start the asset class consolidation from 1 July 2011 has a material impact on the opening capital base and remaining asset life values as at 1 July 2017. On this basis, the proposed asset class consolidation is generally consistent with the forecast depreciation schedule approved at the previous access arrangement decision. In these circumstances, the proposed asset class consolidation arrives at a reasonable and best estimate of forecast depreciation to roll forward the capital base.[21] For these reasons, we accept the consolidation of the asset classes to be implemented from 1 July 2011 in the RFM.

RBP8 allocation to consolidated asset classes

We do not approve APTPPL's proposed allocations of the RBP expansion 8 (RBP8) actual and estimated capex in 2011–12. APTPPL's proposal to consolidate asset classes provided for different allocations of the RBP8 actual and forecast capex. APTPPL's proposed RFM allocated the 2011–12 RBP8 actual capex against the 'Pipelines' and 'Compressors' asset classes, and reported forecast capex against the 'Pipelines' asset class only.

---

[20] For our decision on APTPPL's proposed asset class consolidation refer to Table 2.6 below.

[21] NGR, r. 74.

Our previous access arrangement decision approved forecast capex for the RBP8 as a single asset class with its own assigned standard asset life of 46 years.[22] We reviewed APTPPL's June 2011 business case for the RBP8 estimated capex.[23] APTPPL's budget estimates for the RBP8 allocated estimated capex across the 'Pipelines', 'Compressors', and 'Regulators and meters' asset classes. The RBP8 standard asset life was calculated using the weighted average of estimated capex and the standard asset lives of the 'Pipelines, 'Compressors', and 'Regulator and meters' asset classes.[24]

We consider the RBP8 actual capex for 2011–12 should also be allocated to the 'Regulators and meters' asset class, and not just to the 'Pipelines' and 'Compressors' asset classes. We have therefore updated the 2011–12 actual capex in the RFM to be allocated across the three asset classes using APTPPL's responses to our information requests.[25] APTPPL's responses provided an allocation of actual capex that corrected the proposed allocation to recognise capex across the three asset classes consistent with the accepted cost estimates for the RBP8. We also corrected the proposed forecast capex allocation to match the allocations approved at the previous decision.[26] Our adjustment to the allocation of the 2011–12 RBP8 actual and forecast capex recognises the need to allocate capex consistently across the relevant asset classes of 'Pipelines', 'Compressors' and 'Regulators and meters'. Table 2.5 shows our draft decision to amend the RBP8 allocation of actual and forecast capex for 2011–12.

Table 2.5 AER draft decision on RBP8 capex (as-incurred only) allocation for 2011–12[27]

Asset class	APTPPL proposal		AER draft decision	
	Forecast[a]	**Actual**	**Forecast**[a]	**Actual**
Pipelines	47.6	24.4	10.5	22.6
Compressors		21.3	27.8	21.3
Regulators and meters			9.2	1.7
Total	**47.6**	**45.7**	**47.6**	**45.7**

Source: APTPPL, Proposed RFM.
AER analysis.

[22] AER, *2012-17 Roma to Brisbane Draft Decision*, April 2012, pp.109–10.
[23] APTPPL, *Attachment 4.6 AA Business Case RBP8 - Confidential*, June 2011.
[24] AER, *2012-17 Roma to Brisbane Draft Decision*, April 2012, pp.109–10.
[25] APTPPL, *Email response to information request IR#016*, received on 18 October 2016; APTPPL, *Email response to information request IR#019*, received on 30 November 2016.
[26] APTPPL, *Email response to information request IR#016*, received on 18 October 2016; APTPPL, *Email response to information request IR#019*, received on 30 November 2016.
[27] The AER draft decision values in table 2.5 are presented to provide a relative comparison to APTPPL's proposal and do not include other adjustments to the regulatory year 2011–12 estimated capital expenditure, as discussed below in section 2.4.2.

(a) This is the forecast nominal value inclusive of half year WACC to adjust the forecast capex to end of year terms. The amended allocation also applies to forecast depreciation in order to preserve the approved depreciation profile of the disaggregated RBP8 asset classes.

We consider our reallocation of the RBP8 expansion project's actual and forecast capex as set out above in Table 2.5 provides a like for like comparison of forecast and actual capex for the purposes of performing the true up adjustment required under rule 77(2)(a) of the NGR.[28]

Our draft decision on APTPPL's proposed asset class consolidation is presented in Table 2.6. It also shows the mapping with the previous asset classes.

Table 2.6 AER draft decision on APTPPL's proposed asset class consolidation

Approved asset classes 1 September 2012	Consolidated asset classes
Original pipeline	Original pipeline (DN250)
Looping 1 Looping 2 Looping 3 Looping 4 Looping 5 Looping 6 Lateral Lytton Lateral Pipelines/Laterals	Pipelines
Dalby compressor Kogan compressor Oakey compressor Condamine compressor Yuleba compressor Gatton compressor	Compressors
Easements	Easements
Communications	Communications
Other	Other
Capitalised AA costs	Capitalised AA costs

[28] For allocating the as-commissioned RBP8 capex across the 'Pipelines', 'Compressors' and 'Regulators and meters' asset classes, we applied the proportions arising from the allocation of the as-incurred RBP8 capex.

Approved asset classes 1 September 2012	Consolidated asset classes
Group IT	Group IT
SIB capex	SIB capex
PMA	PMA
Regulators and meters	Regulators and meters
RBP expansion 8	Pipelines Compressors Regulators and meters

Source: APTPPL, *2017–22 Access arrangement submission*, September 2016, pp. 116–17.
AER analysis.

2.4.2 Roll forward of the capital base during the 2012–17 access arrangement period

To determine the opening capital base as at 1 July 2017, we have assessed APTPPL's proposed roll forward of its capital base over the 2012–17 access arrangement period. As part of this assessment, we reviewed the following key inputs to the capital base roll forward:

- the value of the opening capital base as at 1 July 2011 (the commencement of the last regulatory year of the previous access arrangement period),
- the adjustment for actual capex in 2011–12 (including an assessment of the inputs used to calculate this adjustment)
- conforming capex in the 2012–17 access arrangement period
- depreciation amounts in the 2012–17 access arrangement period
- actual inflation from 2010–11 to 2015–16 and forecast inflation for 2016–17.

We approve the opening asset value of $368.8 million ($nominal) as at 1 July 2011 used to commence the roll forward of the capital base.[29] As discussed above we approve the proposed asset class consolidation to take place in the RFM. The proposed value of the opening capital base using the consolidated asset classes equals the value of the opening capital base for 2011–12 as set out in the previous decision RFM.[30]

[29] The RFM inputs require the opening capital base at the commencement of the final year of the previous access arrangement period on an as-incurred and as-commissioned basis. The $368.8 million (nominal) value is the as-incurred value of the opening capital base. We also applied the as-commissioned opening capital base value of $362.7 million (nominal) in the draft decision RFM.

[30] AER, *Final decision - RBP Roll forward model*, August 2012.

We accept APTPPL's proposed approach to calculate the adjustment for the difference between the actual and estimated capex for 2011–12. APTPPL proposed to establish the opening capital base from the commencement of the current access arrangement period, 1 September 2012. We accept this proposal because it satisfies the requirements of the capital base roll forward under rule 77(2)(a) of the NGR. In accepting the proposed approach, we corrected several inputs which affected the amount being adjusted for the difference between the estimated and actual capex in 2011–12.

In addition to correcting these inputs, we also substituted our latest version of the RFM.[31] The current version 3 of the RFM represents the latest approach to the roll forward of a transmission network service provider's capital base and was subject to industry consultation.[32] Therefore, we implemented the new version of the RFM and updated the input errors to calculate the value of the capital base for APTPPL.[33] Our adjustments to APTPPL's proposed roll forward of the capital base are discussed in turn below.

We do not accept APTPPL's proposed actual capex as conforming capex during the 2011–17 period have been properly accounted for in the capital base roll forward and are consistent with the requirements of the NGR.[34]

We approve APTPPL's proposal to roll forward the capital base to 1 July 2017 using forecast depreciation (straight-line method, adjusted for actual inflation) in accordance with clause 3.6 of the approved 2012–17 access arrangement.[35] However, we do not accept APTPPL's proposal to reallocate total annual depreciation approved in the 2012–17 access arrangement decision PTRM across different asset classes. APTPPL proposed to fully depreciate the residual value of certain compressor assets when rolling forward the capital base for the 2012–17 access arrangement period. To do so, it increased the approved forecast depreciation amounts for the compressor asset classes and offset this increase by reducing the approved amounts for the two pipeline asset classes. We do not agree with this approach. We have amended the proposed RFM so that the depreciation of the 'Compressors', 'Original pipeline (DN250)' and 'Pipelines' asset classes are based on the approved forecast depreciation approach set out in our 2012–17 access arrangement decision.[36] Our amendment results in the compressor and pipeline assets to be depreciated over their approved economic lives.[37]

---

31 AER, *Appendix A - Transmission roll forward model - Version 3*, October 2015.

32 The AER initiated proposed amendments to the roll forward model (transmission) in July 2015. We received one submission from AusNet Services. We published our final decision on version 3 of the roll forward model and amendments in October 2015.

33 APTPPL's proposed RFM is based on an earlier version 2 for transmission network service providers.

34 NGR, r. 77(2)(b).

35 APTPPL, *Roma to Brisbane Pipeline Access Arrangement*, August 2012, p.11.

36 NGR, r. 90(1).

37 NGR, r. 89(1)(b).

We accept the inflation inputs for 2011–12 to 2015–16 in APTPPL's proposed RFM. However, we changed the application of the formula to calculate the indexation values for 2011–12 and 2012–13. This is to recognise the length of the regulatory year as 14 months and 10 months, respectively. We also updated APTPPL's proposed estimate of inflation in 2016–17 with actual CPI of 2.13 per cent that is now available from the Australian Bureau of Statistics (ABS).[38]

Adjustments for difference between actual and estimated capex in 2011–12

We accept APTPPL's proposed approach to calculate the adjustment for the difference between the actual and estimated capex for 2011–12. APTPPL's proposal used the AER's RFM for electricity service providers, which provides for this adjustment. Under the RFM, the capital base is adjusted for the difference between estimated and actual capex for the final year of the previous access arrangement period (in this case 2011–12) and the accumulated return on capital associated with that difference.[39] APTPPL proposed that the adjustment between estimated and actual capex for 2011–12 should be for 14 months (1 July 2011 to 31 August 2012) due to the delay to start of the 2012–17 access arrangement period. We accept this proposal because it satisfies the requirements of the capital base roll forward under rule 77(2)(a) of the NGR.

In accepting the proposed approach, we corrected several inputs which affected the amount being adjusted for the difference between estimated and actual capex in 2011–12. Our amendments include:

- adjusting the estimated capex to recognise the length of the 2011–12 regulatory year as 14 months
- adjusting the regulatory depreciation, inflation and WACC inputs for 2011–12 to recognise the length of the 2011–12 regulatory year as 14 months
- adjusting the allocation of the RBP8 estimated and actual capex in 2011–12 to reflect the asset classes that comprised the project as discussed in section 2.4.1.
- updating the actual as–commissioned capex values for 2011–12.

Estimated capex in 2011–12

APTPPL proposed to establish the opening capital base from the commencement of the current access arrangement period, 1 September 2012. As a consequence APTPPL proposed that 2011–12 actual capex was for a 14 month period, rather than for the standard 12 month period due to the delay to the start of the 2012–17 access arrangement period. We consider that the proposed adjustment to include two months of actual capex (from 1 July 2011 to 31 August 2011) satisfies the requirements of the

[38] The March quarter CPI is used as a proxy for the June financial year in APTPPL's reference tariff variation mechanism.

[39] NGR, r. 77(2)(a).

capital base roll forward under rule 77(2)(a) of the NGR. However, APTPPL did not make a corresponding adjustment to the estimated capex to allow an accurate comparison to actual capex over a 14 month period.[40] Therefore, the proposed adjustment for the difference between actual and estimated capex was not determined on a like for like basis.

We issued information requests to APTPPL identifying the input error regarding the estimated capex for 2011–12. APTPPL's response acknowledged the need to augment the estimated capex for 2011–12 with two months of the approved forecast capex for 2012–13.[41] Therefore, we corrected the estimated capex to be assessed on a 14 month period by augmenting the estimate with two months of the approved forecast capex for 2012–13. This adjustment allowed comparison of the estimated and actual capex for the 2011–12 regulatory year to be on a consistent basis. Our decision increases the estimated capex for 2011–12 by $1.0 million ($nominal) to determine the difference between actual and estimated capex consistent with rule 77(2)(a) of the NGR.

Other adjustments—regulatory depreciation, inflation and WACC inputs

We also made adjustments to the regulatory depreciation, inflation and WACC inputs for 2011–12 to recognise the length of the 2011–12 regulatory year as 14 months. Our previous decision approved values for the opening capital base as at 1 July 2012. Therefore, we require the 2011–12 regulatory year values of forecast regulatory depreciation, actual inflation and WACC to also be augmented by two months to establish the opening capital base as at 1 September 2012.

We corrected the value of the forecast nominal regulatory depreciation inputs for 2011–12 to align to a 14 months period. The correction to forecast nominal regulatory depreciation involved the following adjustments:

- augmenting the 2011–12 forecast straight-line depreciation by adding two months of the forecast straight-line depreciation from 2012–13 in real 2011–12 dollars
- adding two months of lagged actual inflation to calculate the adjusted forecast nominal straight-line depreciation for 2011–12
- recalculating the indexation on the 2011–12 opening capital base for 14 months to be subtracted from the nominal straight-line depreciation
- allocating the adjusted forecast nominal regulatory depreciation across the consolidated asset classes.

We also updated the half WACC applied to forecast capex in 2011–12 to convert from middle of year to end of year values by a factor of 0.58 per cent to reflect the extra two months of the 2011–12 regulatory year.

---

[40] APTPPL, *2017–22 Access arrangement submission*, September 2016, p. 78.

[41] APTPPL, *Email response to information request IR#016*, received on 18 October 2016; APTPPL, *Email response to information request IR#019*, received on 30 November 2016.

Our corrections to the capital base align the RFM inputs so all are reported on a 14 month basis in 2011–12. As a consequence of this approach, the 2012–13 regulatory year is recognised as the 10 month period from 1 September 2012 to 30 June 2013, and required corresponding adjustments. These adjustments include:

- reducing the forecast straight-line depreciation in 2012–13
- applying the 2012–13 lagged actual inflation for 10 months
- applying 10 months of the WACC in 2012–13 to the calculation of return on the difference between actual and estimated capex in 2011–12.
- applying 5 months of the WACC in 2012–13 to convert the capex from mid-year to end-of-year values.

We note that APTPPL's proposed actual capex for 2012–13 reflects a 10 month period. Therefore, no further adjustments to the capital base values for the 2012–13 regulatory year are required.

RBP8 2011–12 actual and estimated capex

As discussed in section 2.4.1, we reallocated the RBP8 expansion project's actual and forecast capex across the asset classes of 'Pipelines', 'Compressors' and 'Regulators and meters' set out above in Table 2.5. Our decision to correct the proposed allocation of the RBP8 capex affects the calculation of the adjustment for the difference between actual and forecast capex in 2011–12 for these asset classes, and therefore alters the adjustment amount to the opening asset values of the affected asset classes as at 1 July 2017. Our corrections to the adjustment amount, including the update to estimated capex discussed above, reduce the net benefit for the proposed capex overspend from $6.0 million ($nominal) to $3.7 million ($nominal) consistent with rule 77(2)(a) of the NGR. [42]

As-incurred and as-commissioned actual capex for 2011–12

APTPPL's proposed RFM included as-commissioned actual capex equal to its proposed as-incurred capex for 2011–12. At the previous decision we approved estimated capex in 2011–12 on both an as-incurred and as-commissioned basis. Therefore, we requested APTPPL to provide the as-commissioned values for actual capex in 2011–12. We updated APTPPL's as-commissioned actual capex in the RFM arising from its responses to our information requests.[43] We are satisfied APTPPL's corrections to the value of as-commissioned actual capex provides a consistent basis

---

[42] Rule 77(2)(a) of the NGR states, the opening capital base for the later access arrangement is to be the opening capital base as at the commencement of the earlier access arrangement period adjusted for any difference between estimated and actual capital expenditure included in that opening capital base. This adjustment must also remove any benefit or penalty associated with any difference between the estimated and actual capital expenditure.

[43] APTPPL, *Email response to information request IR#016*, received on 18 October 2016; APTPPL, *Email response to information request IR#019*, received on 30 November 2016.

to compare with the as-commissioned estimated capex for 2011–12 approved in the previous decision.

Conforming capital expenditure in 2011–12 and the 2012–17 access arrangement period

Our assessment of conforming capex is set out in capex attachment 6. In determining the opening capital base as at 1 July 2017, we assessed whether APTPPL's proposed capex amounts for 2011–12 and the 2012–17 access arrangement are properly accounted for in the capital base roll forward.

We do not accept APTPPL's proposed actual capex as conforming capex during the 2011–17 period. Therefore, we do not consider that actual conforming capex has been properly accounted for in the proposed capital base roll forward consistent with the requirements of the NGR.[44] We note that the proposed capex for 2016–17 is an estimate and that APTPPL may provide a revised 2016–17 capex estimate based on more up to date information in its revised proposal. We will undertake the assessment of whether the actual 2016–17 amounts are conforming capex as part of the next access arrangement review.

Depreciation used in the 2012–17 access arrangement period

We approve APTPPL's proposal to roll forward the capital base to 1 July 2017 using forecast depreciation (straight-line method, adjusted for actual inflation) in accordance with clause 3.6 of the approved 2012–17 access arrangement.[45] We accept the proposed total amount of forecast straight-line depreciation subtracted from the capital base in the 2012–17 access arrangement period. Under the NGR, we are to subtract from the capital base depreciation calculated in accordance with the relevant access arrangement.[46]

However, we do not accept APTPPL's proposal to reallocate total annual depreciation approved in the 2012–17 access arrangement decision PTRM across different asset classes to fully depreciate the residual value of certain compressor assets. We consider that APTPPL's proposed reallocation of the approved forecast depreciation between asset classes does not reflect the requirement of rules 77(2)(d) and 74 of the NGR.

APTPPL proposed to fully depreciate the residual value of compressor assets, either de-commissioned or nearing the end of their remaining life, before the start of the 2017–22 access arrangement period.[47] It has done so by altering the approved

---

44 NGR, r. 77(2)(b).

45 APTPPL, *Roma to Brisbane Pipeline Access Arrangement*, August 2012, p.11.

46 NGR, r. 77(2)(d).

47 The decommissioned compressors include Condamine, Dalby, Gatton and Yuleba. The compressors nearing the end of their remaining life are Kogan and Oakey. For details on affected compressors refer to APTPPL's RBP

forecast depreciation schedule for the 'Original pipeline (DN250)' asset class, the 'Pipelines' and 'Compressors' asset classes in the capital base roll forward for the 2012–17 access arrangement period. Specifically, in order to maintain the total amount of annual forecast depreciation, APTPPL:

1. increased the depreciation amount allocated to the 'Compressors' asset classes, and
2. reduced the amount of depreciation allocated to the 'Original pipeline (DN250)' and 'Pipelines' asset classes.

We consider that the proposed approach is inconsistent with the approved 2012–17 access arrangement because it does not reflect the forecast depreciation values for the affected asset classes approved in that access arrangement decision.[48] We consider the approach results in a forecast depreciation schedule that is not representative of the best forecast at the asset class level.[49] This is because the proposed approach altered the approved forecast depreciation amount for these asset classes by allocating less depreciation to the 'Original pipeline (DN250)' and 'Pipelines' asset classes and more depreciation to the 'Compressors' asset class. As discussed in attachment 5, the outcome of the proposed approach would be to artificially increase the remaining asset lives of those asset classes going forward. This is also inconsistent with the depreciation criteria under rule 89(1)(b) of the NGR.

Our draft decision is to roll forward the capital base by depreciating the 'Compressors', 'Original pipeline (DN250)' and 'Pipelines' asset classes using the approved forecast depreciation profiles as set out in our 2012–17 access arrangement decision.[50] We consider our approach provides a forecast that is arrived at on a reasonable basis and represents the best forecast in the circumstances.[51] Further, as discussed in attachment 5, our approach is consistent with the depreciation criteria under the NGR because it allows the affected asset classes to be depreciated over their respective economic lives.[52]

We note that this results in a small residual value of the compressor assets retired or nearing the end their economic life as at 1 July 2017. We separately tracked the residual value of these 'redundant compressors' and excluded them from the asset class consolidation. As a result, we can fully depreciate the residual value of the affected compressor assets over the 2017–22 access arrangement period by assigning a remaining asset life of three years as discussed in attachment 5.

---

compressor operating philosophy in its access arrangement revision submission, *Attachment 4.3 - RBP Compressor operating philosophy (public)*, p. 6.

48 NGR, r. 77(2)(d).

49 NGR, r. 74(2)(b).

50 NGR, r. 77(2)(d).

51 NGR, r. 74.

52 NGR, r. 89(1)(b).

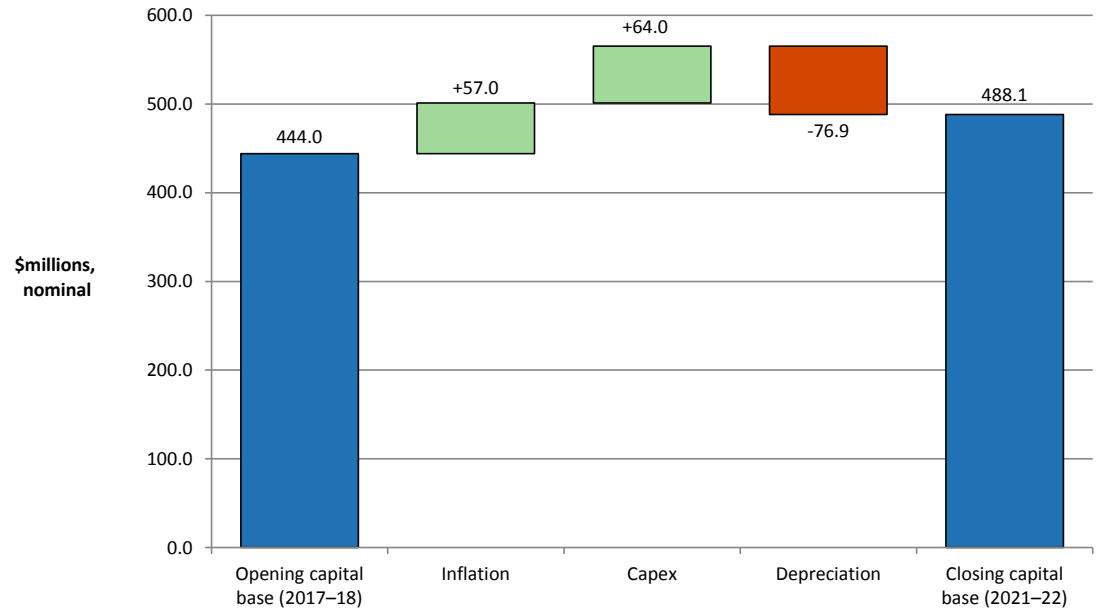
2.4.3 Projected capital base during the 2017–22 access arrangement period

We forecast APTPPL's projected capital base at 30 June 2022 to be $488.1 million ($nominal), a reduction of $17.3 million ($nominal) or 3.4 per cent from APTPPL's proposal. This results from our draft decision on the inputs to the determination of the projected capital base. We have amended the inputs in the following ways:

- Reduced APTPPL's opening capital base as at 1 July 2017 by $7.5 million ($nominal) or 1.7 per cent to reflect the changes required in this attachment.
- Reduced APTPPL's proposed forecast net capex for the 2017–22 access arrangement period by $7.2 million ($2016–17) or 10.7 per cent. Our assessment of the proposed forecast capex is set out in attachment 6.
- Increased APTPPL's proposed forecast regulatory depreciation allowance for the 2017–22 access arrangement period by $1.8 million ($nominal) or 9.8 per cent. Our assessment of the proposed forecast depreciation is set out in attachment 5.

Figure 2.1**Error! Reference source not found.**Figure 2.2 shows the key drivers of the change in APTPPL's capital base over the 2017–22 access arrangement period for this draft decision. Overall, the closing capital base at the end of the 2017–22 access arrangement period is forecast to be 10 per cent higher than the opening capital base at the start of that period, in nominal terms. The approved forecast net capex increases the capital base by about 14 per cent, while expected inflation increases it by about 13 per cent. Forecast depreciation, on the other hand, reduces the capital base by about 17 per cent.

Figure 2.2 AER draft decision - key drivers of changes in the capital base ($ million, nominal)



Source: AER analysis.

2.4.4 Capital base at the commencement of the 2022–27 access arrangement period

The capital base at the commencement of the 2022–27 access arrangement period will be subject to adjustments consistent with the NGR. The adjustments for APTPPL include (but are not limited to) actual inflation and approved depreciation over the 2017–22 access arrangement period.

We accept APTPPL's proposal to establish the opening capital base as at 1 July 2022 using the depreciation schedules based on forecast capex over the 2017–22 access arrangement period.[53] We approved such an approach in our recent gas decisions.[54] This approach is also consistent with the approach outlined in our *Access Arrangement Guideline*.[55] The amount of the forecast depreciation is to be approved by us in the final decision for the 2017–22 access arrangement period.

However, we consider the access arrangement should further provide for the capital base as at 1 July 2022 is to be established using the approved depreciation schedules (straight-line) based on forecast capex at the asset class level.[56] Having regard to the capital base as determined in the preceding access arrangement, we consider this will provide for a forecast of depreciation over the 2017–22 access arrangement period that provides for continuity and consistency in determining depreciation from one access arrangement period to the next.[57]

2.5 Revisions

We require the following revisions to make the access arrangement proposal acceptable:

Revision 2.1: Make all necessary amendments to reflect this draft decision on the roll forward of the capital base over the 2012–17 access arrangement period, as set out in Table 2.1**.**

Revision 2.2: Make all necessary amendments to reflect this draft decision on the roll forward of the capital base over the 2017–22 access arrangement period, as set out in Table 2.2.

---

53 APTPPL, *2017–22 Access arrangement submission*, p. 192. The amount of the forecast depreciation to be used for rolling forward the capital base at the next access arrangement review will be set out in our final decision for APTPPL's 2017–22 access arrangement period.

54 AER, *Final Decision Amadeus Gas Pipeline, Attachment 2 – Capital base*, p.11; AER, *Final Decision Australian Gas Networks, Attachment 2 – Capital base*, p.11

55 AER, *Final access arrangement guideline*, March 2009, pp. 61–62.

56 NGR, r. 90.

57 NGL, s. 24(4) and s. 28(2)(a)(i).

Revision 2.3: Update the access arrangement (section 3.6) to set out the depreciation schedule used for rolling forward the capital base at the commencement of the 2022–27 access arrangement period as follows:

The depreciation schedule (straight-line) for establishing the opening capital base at 1 July 2022 will be based on forecast capital expenditure at the asset class level.