15 January 2021

Amadeus Gas Pipeline

response to AER Draft Decision on proposed Access Arrangement revision 2021-2026

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Contents

Abbreviations

AER	Australian Energy Regulator
AGP	Amadeus Gas Pipeline
CPI	Consumer Price Index, All Groups Weighted Average Eight Capital Cities
GJ	Gigajoule
IT	Information technology
km	kilometres
MDQ	Maximum Daily Quantity
NGR	National Gas Rules
NT	Northern Territory
O&M	Operations and maintenance
PTRM	Post-tax Revenue Model
RBA	Reserve Bank of Australia
RFM	Roll Forward Model
TJ	Terajoule
TJ/d	Terajoule per day
WACC	Weighted average cost of capital

1 Access Arrangement revision

APA has revised its July 2020 proposal for revisions to Access Arrangement for the Amadeus Gas Pipeline.

APA's revised proposal will deliver a tariff for the firm service reference service which is 38% lower than the existing reference tariff.

APA's July 2020 proposal was largely accepted in a Draft Decision made by the Australian Energy Regulator (**AER**) on 27 November 2020. Amendments required to make the proposal acceptable to the AER are all relatively minor, and APA agrees to incorporate them into the Amadeus Access Arrangement.

Fifteen specific revisions must be made to the proposal originally submitted by service provider APT Pipelines (NT) Pty Limited (**Amadeus**). These revisions have been made in Amadeus's revised proposal (**Revised Proposal**), which comprises:

- *Amadeus-Revised Proposal 2021-26-Revised Access Arrangement-15_January_2021*
- *Amadeus-Revised Proposal 2021-26-Revised Access Arrangement (changes tracked)-15_January_2021*
- *Amadeus-Revised Proposal 2021-26-Access Arrangement Information-15_January_2021-public*
- *Amadeus-Revised Proposal 2021-26-Gas transmission RFM-15_January_2021-public*
- *Amadeus-Revised Proposal 2021-26-Draft amended gas transmission PTRM (AER December 2020)-15_January_2021-public*
- *Amadeus-Revised Proposal 2021-26-Tariff model-15_January_2021-public.*

In this submission, *Response to AER Draft decision on proposed Access Arrangement revision 2021-2026*, Amadeus explains the way in which it has addressed the revisions required by the Draft Decision when preparing the Revised Proposal.

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2 Further engagement with Amadeus stakeholders

Amadeus was pleased to note the positive comments made by the AER about the consumer engagement undertaken for AGP access arrangement revision. APA is committed to better stakeholder engagement on its major assets.

When developing the Revised Proposal, Amadeus continued to engage with the Amadeus Consumer Reference Group, the group convened initially to guide development of the reference service proposal which Amadeus submitted to the AER in July 2019.

At an online roundtable, held on 15 December 2020, Amadeus presented its view of the Draft Decision, and outlined its response in the form of the Revised Proposal to be submitted to the AER by 15 January 2021.

Amadeus explained that much of what had been proposed in the Access Arrangement revision proposal, which had been submitted in July 2020, was accepted in the Draft Decision, but some 15 amendments were required to make to the proposal acceptable to the AER.

Amadeus explained that the amendments were all relatively minor and matters of detail, and might be accepted. However, feedback was sought from the Consumer Reference Group before completion of the Revised Proposal.

Amadeus's view of the Draft Decision, and the elements of a proposed response, were summarised in a short presentation which was distributed to all participants in the Reference Group for further comment.

The main issue raised during the roundtable was the process for consideration of a planned expansion of the Amadeus Gas Pipeline (**AGP**).

Subsequently, Amadeus distributed a draft version of the Revised Proposal to the Amadeus Consumer Reference Group and sought comments on the draft.

Amadeus did not receive any comments on the draft Revised Proposal.

Amadeus has appreciated the participation of Consumer Reference Group members during the Access Arrangement revision process. Contributions from the Consumer Reference Group led, in our view, to a more considered access arrangement revision proposal for the AGP.

3 Pipeline expansion

A proposal for pipeline expansion was not included in the Amadeus Access Arrangement revision proposal. However, the AER recognised the interest in expanded capacity shown by members of the Amadeus Consumer Reference Group, and the Draft Decision advised that an expansion proposal could be considered if it were included in the Revised Proposal. Amadeus would, need to engage with stakeholders before advancing any expansion proposal.

Amadeus does not yet have a specific expansion proposal, developed in sufficient detail, to allow meaningful consultation with stakeholders.

There is a queue for capacity in the AGP, and discussions on expansion have been held with prospective pipeline users. However, Amadeus has not yet completed the engineering design work which must precede expansion, and has not concluded negotiation of the gas transportation agreements with prospective users which would support the economic feasibility of an expanded pipeline.

Amadeus has not yet commenced the negotiations with equipment suppliers and construction contractors which should lead to firm prices for the compressor units and other facilities required for pipeline expansion.

Not having a clear view on project timing, not having reliable cost estimates for tariff determination, and not having consulted with stakeholders, Amadeus has not included a proposal for pipeline expansion in the Revised Proposal.

4 Roll forward of the capital base from 2016-20

The Draft Decision required:

Revision 2.1

Make all necessary amendments to reflect this draft decision on the roll forward of the capital base for the 2016-21 access arrangement period, as set out in Attachment 2 – Table 2.1.

Amadeus has made the necessary amendments.

Amadeus determined the opening capital base at 1 July 2021 using the gas transmission service provider version of the AER's roll forward model (**RFM**) to roll forward the capital base for the 2016-21 access arrangement period.

Although the AER accepted the way in which Amadeus had determined the opening capital base, the Draft Decision required:

- adjustment of the closing capital value at asset class level to reflect the reallocation of capitalised leases to the new asset class Leased Assets
- updating of the inputs to the nominal weighted average cost of capital (**WACC**) calculation to include the updated rate of return on debt for 2020-21
- use of actual capital expenditure for 2019-20 in place of the estimate made for that year for the access arrangement revision proposal
- revision of the 2020-21 capital expenditure estimate taking into account more recent information.

In the RFM, Amadeus has:

- adjusted the closing capital value at asset class level to reflect the reallocation of capitalised leases to the new asset class Leased Assets in 2019-20 (Amadeus adopted the accounting standard for leases, AASB 16, from 1 July 2019)
- updated the nominal WACC for 2020-21 using the nominal WACC (5.85%) from the model *AER – Amadeus Gas Pipeline access arrangement – 2020-21 return on debt update – PTRM – May 2020*[1]

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1 Available from the AER website, at Update | Australian Energy Regulator (aer.gov.au).

- replaced the estimate of capital expenditure for 2019-20 with the actual capital expenditure for that year (see section 4.2 below)
- retained the July 2020 estimate of capital expenditure for 2020-21 (see section 4.3 below).

These amendments have been made to, and are highlighted in, the worksheet *RFM input* in the model *Amadeus-Revised Proposal 2021-26-Gas transmission RFM-15_January_2021-public*.

4.1 Adjustment to reflect capitalised leases

Amadeus has calculated adjustments required to the closing capital value at asset class level to reflect the reallocation of capitalised leases to the new asset class Leased Assets in 2019-20. These adjustments are set out in rows 515 to 522 of the worksheet *RFM input*.

4.2 Estimated and actual capital expenditure for 2019-20

The AER's draft decision was to accept Amadeus's proposed capital expenditure during the period 2016-21 as conforming capital expenditure under National Gas Rules (**NGR**) rule 79, noting that expenditures in 2019-20 and 2020-21 were estimates. These estimates, the Draft Decision advised, would be updated in the revised proposal, and would be reassessed, in the AER's final decision, for whether they were conforming.

Estimated expenditure in 2019-20 can now be replaced with the actual capital expenditure for that year (which was reported to the AER on 30 November 2020). Actual capital expenditure, by asset class, is compared with the earlier estimates in Table 1 below. Capital expenditure by project, for 2019-20, is summarised in Table 2.

Table 1: Estimated and actual capital expenditure 2019-20: by asset class

		Estimate	Actual	Difference
Pipeline	$m	3,432,427	3,697,669	265,242
Compression	$m	0	0	0
Meter Stations	$m	3,383,436	3,229,493	-153,943
SCADA & Communications	$m	0	0	0
Operation & Management Facilities	$m	1,636,000	2,469,400	833,400
Buildings	$m	1,327,599	1,060,474	-267,125
	$m	**9,779,462**	**10,457,036**	**677,574**

Table 2: Estimated and actual capital expenditure 2019-20: by project

		Estimate	Actual	Difference
Expansion	**$m**	**0**	**0**	**0**
Replacement				
Hazardous areas assess. & equip. replacement	$m		102	102
Routine replacement & non system	$m	170,000	345,986	175,986
Replace site batteries	$m	12,500	107,524	95,024
Single loop controller replacement	$m	15,000	-2,016	-17,016
Earthing and lightning upgrades	$m		23,238	23,238
Earthing and lightning upgrades	$m	54,814	58,171	3,357
Cathodic protection unit replacement	$m	76,552	273,585	197,033
New cathodic protection sites	$m	421,758	17,597	-404,161
Replace mainline valve actuators	$m	2,177,441	2,504,873	327,432
Wizard controller replacement	$m	26,965	13,970	-12,995
Slops tanks	$m	36,473	25,304	-11,169
Replace CP Ground Beds	$m	69,047	83,195	14,148
RTU replacement	$m	49,129	6,629	-42,501
Site hut upgrades	$m	31,000	24,855	-6,145
Solar panel replacement	$m	114,000	79,233	-34,767
IT Infrastructure renewal program	$m		-1,246	-1,246
Heat shrink sleeve replacement	$m	250,329	282,825	32,496
Gas chromatograph upgrades	$m	28,951	28,374	-577
Moisture analyser upgrades	$m	96,765	41,827	-54,938
AGP20.SIB.15 DCG PigReceiver	$m		29,250	29,250
HA Equipment Upgrades	$m	250,562	265,957	15,395
AASB16 Capex-recorded in AGP - Leases	$m	3,088,771	3,088,771	0
Pig Receiver Equalisation Upgrade	$m	30,031		-30,031
CP Lightning Protection Upgrade	$m	16,775		-16,775
	$m	**7,016,863**	**7,298,003**	**281,140**
Non-network				
Corporate assets & non system	$m	970,000	697,148	-272,852
AGP's share of lease 626	$m	946,664	946,664	0
AASB16 Capex - Shared Corporate Leased assets	$m		642,480	642,480
AGP19.SIB.23 DCG Training Fac	$m		18,727	18,727
Palmerston NT Facility	$m	380,935	113,810	-267,125
Motor vehicles	$m	465,000	482,744	17,744
Workshop equipment	$m		257,461	257,461
	$m	**2,762,599**	**3,159,033**	**396,434**
	$m	**9,779,462**	**10,457,036**	**677,574**

The difference between the estimate of 2019-20 capital expenditure made for the July 2020 access arrangement revision proposal, and the actual expenditure for the year, $677,574, was an increase of 6.9%. As shown in Table 2 above, there were differences (higher and lower) in a number of key projects.

The principal differences are explained in the following paragraphs.

Routine replacement and non-system ($175,986)

The higher than forecast expenditure for routine replacement and non-system projects can largely be attributed to two factors.

- *Replacement and upgrade of obsolete security system at Darwin City Gate*

  Darwin City Gate is a critical facility through which gas flows to the major power stations – Channel Island and Weddell – supplying the Northern Territory. An obsolete security system was compromising security of the facility, with "break-ins" going unnoticed until either system operators saw that continuation of gas flow was at risk (the facility "tripped"), or damage was observed by maintenance staff at the next scheduled maintenance of the facility. In 2019-20, the security system was replaced and upgraded with a new system of sensors and alarms visible to operators at APA's Integrated Operations Centre (and, importantly, maintainable by local service providers). Although the expenditure – $45,803 – was unplanned, it was essential to maintaining the integrity of the gas transportation service to the Darwin power stations.

- *Upgrade to workshop and accommodation facilities at Daly Waters*

  A workshop with accommodation facilities is provided, for operational staff, at Daly Waters about 500 km south of Darwin. Existing facilities had, over time, deteriorated due to general wear and tear, and to exposure to weather. They had fallen below the standards now required for operational staff working at remote locations, and a major upgrade was carried out. The expenditure – $107,655 – was that which would have been incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice to achieve the lowest sustainable cost of providing services, and was necessary to maintain the integrity of the gas transportation service.

Replace site batteries ($95,024)

Battery banks provide power supplies at remote delivery points, scraper stations, main line valve sites, and cathodic protection sites along the AGP. Replacement at one site (Tyler's Pass, a cathodic protection site) had been planned for 2019-20. However, routine inspection identified five additional sites (Newcastle Waters, Lake Woods, Aileron, Mataranka and Front Sturt) requiring battery replacements. High inland temperatures in the Northern Territory reduce battery life ("normal life" is assessed at an optimum temperature of 24 C). Battery replacements were necessary to ensure the continued functioning of the sites, and to maintain the integrity of the gas transportation service.

Cathodic protection - unit replacement and new sites (-$207,128)

Total expenditure on cathodic protection facilities (unit replacements and new sites) was $207,128 less than earlier estimates.

Replacement main line valve actuators ($327,432)

Expenditure on the pressure regulation facilities required at Warrego, to allow AGP gas flow from the north and from the south, into the Northern Gas Pipeline, has been recorded under the heading "Replacement of main line valve actuators". Expenditure on Warrego pressure regulation during 2019-20 was higher than initially expected, in part because commissioning of the facilities was delayed to be carried out in conjunction with operations on the Northern Gas Pipeline. In addition, COVID-19 movement restrictions affected contractor access to the Warrego site, necessitating multiple site visits for commissioning and adding significantly to costs.

Without the Warrego pressure reduction facilities, gas flow in one direction would be blocked by gas, at a higher pressure, flowing from the other direction. The facilities do not add to the capacity of the AGP. Rather, they maintain Amadeus's ability to meet current demand for the delivery of gas into the Northern Gas Pipeline, from producers located north and south of Warrego.

Corporate assets and non-system (-$272,852)

Expenditure recorded as "Corporate assets and non-system" is the portion of certain APA Group corporate level capital expenditures allocated to Amadeus. These corporate level expenditures allocated to individual business units include expenditures on IT renewal and IT infrastructure, buildings, and motor vehicles. Allocation has been in the ratio of attributed shared corporate costs to total APA corporate costs.[2] The portion of the total APA Group expenditure for 2019-20 allocated to Amadeus was less than previously estimated.

AASB 16 – Shared corporate leased assets ($642,480)

In 2019-20, APA began accounting for leased assets in accordance with the requirements of Australian accounting standard AASB 16. The costs of certain "right of use" assets are now capitalised and amortised. The expenditure recorded as "AASB 16 – Shared Corporate leased assets" is the portion of the capitalised value of right of use assets leased by APA Group which has been allocated to Amadeus. The capitalised value of corporate leased assets has been allocated to Amadeus in the same was as other APA Group corporate level capital expenditures.

Palmerston NT Facility (-$267,125)

Amadeus is intending to relocate its Palmerston office to a new building, built to current standards for conditions in the Northern Territory, and located closer to the centre of Darwin, ensuring better access for staff, suppliers and customers. Workshop facilities currently located at two sites, are to be consolidated on the site of the existing Palmerston office. The office relocation has not been progressed, although some building modifications have been made to facilitate workshop consolidation. In consequence, expenditure in 2019-20 has been less than previously estimated.

Workshop equipment ($257,461)

The "expenditure" is an asset valuation adjustment following a stocktake of equipment at remote workshops, principally at Katherine and Alice Springs.

4.3 Estimated capital expenditure for 2020-21

In July 2020, Amadeus proposed a relatively small program of capital expenditure for 2020-21 (about $ 4.3 million) comprising:

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2 *Annual RIN – Amadeus Gas Pipeline: RIN response and basis of Preparation 2020*, November 2020, Section 4.1.1.4.

- $2.6 million for minor component replacement, either because components will have reached the ends of their physical lives, or because they have become obsolete and can no longer be maintained
- $0.7 million for motor vehicle replacements
- $1.0 million of APA Group corporate level capital expenditure allocated to Amadeus.

This estimate of expenditure was used in the roll forward of the capital base from the period 2016-21. Project level expenditures supporting the totals by asset class reported in the RFM were set out in worksheets E2. Repex and E6. Non-network of the Microsoft Excel workbook Amadeus 2022-26 - Reset RIN – Workbook 1 – Forecast, which formed part of Amadeus's July 2020 Reset RIN response.

Amadeus still expects to carry out a program of minor component replacement during 2020-21, and to replace motor vehicles, in the way anticipated in July 2020. A review of the program has indicated that the July estimate of expenditure does not require updating for more recent information.

Amadeus also expects to be allocated about $1.0 million of APA Group corporate level capital expenditure during 2020-21.

For the Revised Proposal, Amadeus has not amended its earlier estimate of capital expenditure for 2020-21.

4.4 Remaining asset lives

Amadeus notes small differences between the remaining asset lives (capital base and tax asset base) of the RFM of its Revised Proposal and the AER's Draft Decision RFM. These small differences arise principally from inclusion, in the Revised Proposal RFM, of actual capital expenditure for 2019-20 which, as noted above, is different from the estimate of capital expenditure for 2019-20 used in the Draft Decision RFM.

5 Projected capital base 2021-26

The Draft Decision required:

Revision 2.2

Make all necessary amendments to reflect this draft decision on the projected capital base for the 2021-26 access arrangement period, as set out in Attachment 2 – Table 2.2.

Revision 5.1

Make all necessary amendments to reflect our draft decision on conforming capex for the 2021-26 access arrangement period, as set out in Attachment 5 – Table 5.3.

Revision 4.1

Make all necessary amendments to reflect this draft decision on the regulatory depreciation amounts for the 2021-26 access arrangement period, as set out in Attachment 4 – Table 4.1.

Revision 4.2

Make all necessary amendments to reflect this draft decision on the remaining asset lives, as set out in Attachment 4 – Table 4.3.

Revision 4.3

Make all necessary amendments to reflect this draft decision on capitalised lease reallocation from the Pipelines and Buildings asset classes, as set out in section 4.4.

Amadeus has made all of the necessary amendments.

In the Draft Decision, the AER approved, as conforming capital expenditure in accordance with NGR rule 79(1), the projected capital expenditure for the period 2021-26 which Amadeus had proposed.

However, to make the access arrangement revision proposal acceptable to the AER, Amadeus was to include in its capital expenditure forecast:

- forecast asset disposals for the period 2021-26
- forecast capitalised corporate overheads.

Amadeus has now forecast asset disposals and capitalised corporate overheads, and included these in its capital expenditure forecasts for the

2021-26 access arrangement period. The ways in which these forecasts have been made are explained in sections 5.1 and 5.2 below.

Regulatory depreciation for the 2021-26 access arrangement period has been amended, although implicitly rather than explicitly. Depreciation is recalculated within the gas transmission service provider version of the AER's Post-tax Revenue Model (**PTRM**) once the required changes have been made to the model inputs.

Amadeus has amended the remaining lives of the assets which comprise the AGP. The amended remaining lives differ from those in Attachment 4, Table 4.3, for the reason given in section 4.4 above.

The capital values of the leases of right of use assets have been removed from the asset classes "Pipelines" and "Buildings", and are now recorded in the asset class "Leased assets". The remaining asset life for Leased assets, 11.37 years, is the average remaining term of the leases.

All of the amendments to the PTRM inputs are highlighted in the worksheet *PTRM input* in the model *Amadeus-Revised Proposal 2021-26-Draft amended gas transmission PTRM (AER December 2020)-15_January_2021-public*.

In addition to these amendments, the AER required an amendment to the wording of clause 3.5 of the Amadeus Access Arrangement:

Revision 2.3

Amend clause 3.5 of the access arrangement as follows:

The depreciation schedule (straight line) for establishing the Capital Base at 1 July 2026 will be based on forecast capital expenditure at the asset class level approved for the 2021-26 access arrangement period.

Amadeus has made this amendment.

5.1 Forecast asset disposals for the period 2021-26

From time to time, Amadeus sells items of obsolete plant and equipment, including IT and telecommunications equipment, motor vehicles, items of mobile plant (principally trucks and trailers), and tools. Amounts received from these sales have varied from year to year depending on the particular items offered for sale, the state of those items, and conditions in the market for second hand plant and equipment.

Since Amadeus acquired the AGP in 2011, annual asset disposals (reported in the roll forward models) have varied between zero and about $0.3 million. The annual average of these disposal values, when re-expressed in June 2021 prices, is $0.127 million.

This average of asset disposal values (for 2011-12 to 2019-20) represents the best forecast possible in the circumstances for the period 2021-26.

Assets disposals in the period 2021-26 are expected to be of the types noted above. They are all disposals from within the asset class O&M Facilities.

They are minor items of plant and equipment, so that disposals as decommissioned are the same as disposals as incurred.

5.2 Forecast capitalised corporate overheads

Certain capital expenditures made at corporate level within APA Group are allocated across operating businesses within the Group. The allocation is made on a revenue basis. Allocations can vary year-by-year depending on both the expenditures themselves, and the revenues earned by individual business units. This imparts uncertainty into business unit level forecasts of these capitalised corporate overheads, and Amadeus did not include them in the capital expenditure forecast of its July 2020 access arrangement revision proposal.

Allocated corporate level capital expenditures include expenditures on IT renewal and infrastructure, buildings, and motor vehicles. The allocations show some regularity across years, and the Amadeus has now made forecasts of them, as averages for the period 2016-2020, in the way shown in Table 3.

Forecast capitalised corporate overheads for each year in the 2021-26 access arrangement period are:

- O&M facilities:
  - as incurred: $0.813 million (real, June2021)
  - as commissioned: $0.669 million (real, June 2021)
- Buildings:
  - as incurred: $0.072 million (real, June2021)
  - as commissioned: $0.060 million (real, June 2021).

Table 3: Capitalised corporate overheads

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
CPI, June quarter	108.6	110.7	113.0	114.8	114.4	117.1
Conversion factor: nominal to Jun-2021 prices	1.0784	1.0579	1.0364	1.0201	1.0237	1.0000
As incurred ($m, nominal)						
IT Applications renewal program	0.530	0.642	0.701	0.851	0.544	
IT Infrastructure renewal program	0.000	0.000	0.049	0.010	0.000	
Building modifications	-0.001	0.027	0.158	0.053	0.114	
Routine replacement & non system	0.052	0.016	0.042	0.323	0.153	
	0.581	0.685	0.950	1.237	0.811	
As incurred: by asset class ($m, nominal)						
O&M Facilities	0.582	0.658	0.792	1.184	0.697	
Buildings	-0.001	0.027	0.158	0.053	0.114	
	0.581	0.685	0.950	1.237	0.811	
As incurred: by asset class ($m, real Jun-2021)						
O&M Facilities	0.628	0.696	0.821	1.207	0.713	
Buildings	-0.001	0.028	0.164	0.055	0.117	
	0.627	0.724	0.985	1.262	0.830	
Average: as incurred 2015-2020 ($m, real Jun-2021)						
O&M Facilities	**0.813**					
Buildings	**0.072**					
Proportions: as incurred						
(for allocation of as commissioned)						
O&M Facilities	0.918					
Buildings	0.082					
As commissioned ($m, nominal)	**0.889**	**0.378**	**0.709**	**1.003**	**0.512**	
As commissioned ($m, real Jun-2021)	0.959	0.399	0.735	1.023	0.525	
Allocation to asset classes						
O&M Facilities	0.881	0.367	0.675	0.939	0.482	
Buildings	0.079	0.033	0.060	0.084	0.043	
Average: as commissioned 2015-2020 ($m, real Jun-2021)						
O&M Facilities	**0.669**					
Buildings	**0.060**					

6 Rate of return and expected inflation

In its July 2020 access arrangement revision proposal, Amadeus applied the 2018 Rate of Return Instrument when determining a proposed allowed rate of return.

Amadeus estimated expected inflation in the way then required by the AER, using a 10 years geometric mean of:

- Reserve Bank of Australia (**RBA**) forecasts of CPI inflation for years 1 and 2
- the mid-point (2.5%) of the RBA's target inflation band of 2% to 3% for years 3 to 10.

Changes in the values for certain components of the rate of return since Amadeus's submission of its revision proposal, which require changes in the rate of return itself, and a change in the way expected inflation has been estimated for the Revised Proposal, are discussed in sections 6.1 and 6.2 below.

6.1 Rate of return

Two changes to components of the rate of return have occurred following submission of the July 2020 proposal. They are:

- a reduction in the yields on the Australian Government securities used to estimate the nominal risk free rate
- a reduction in the trailing average rate of return on debt consequent upon annual updating of the rate of return on debt for 2020-21.

In the Draft Decision, the nominal risk free rate has been estimated to be 0.91% (at the time of Amadeus's proposal the estimate was 1.21%), and the trailing average rate of return on debt was 4.69% (at the time of Amadeus's proposal, 4.75%).

Amadeus has used the Draft Decision nominal risk free rate estimate, and the Draft Decision trailing average rate of return on debt, in its revised proposal, recognising that these values will be updated by the AER in advance of its final decision on the access arrangement revision proposal.

Rate of return determination for Amadeus's Revised Proposal is summarised in Table 4.

Table 4: AGP rate of return

		2021-22	2022-23	2023-24	2024-25	2025-26
Nominal risk free rate	0.91%					
Equity beta	0.60					
Market risk premium	6.10%					
Rate of return on equity	**4.57%**					
Gearing	**60.00%**					
Trailing average debt return		**4.69%**	**4.38%**	**4.06%**	**3.74%**	**3.43%**
Rate of return (nominal vanilla WACC - varying)		**4.64%**	**4.45%**	**4.26%**	**4.07%**	**3.88%**

Amadeus notes that the AER's decision was to accept the proposed risk free rate and debt averaging periods, which were provided to the AER on a confidential basis in July 2020.

6.2 Expected inflation

In April 2020, the AER initiated a review of the regulatory treatment of inflation. This review was close to completion at the end of November 2020, and the Draft Decision advised that:

- the AER intended to consult, under the NGR, on changes to the PTRM if the outcome of the review were a different method for estimating expected inflation, and if rule changes were not required
- the AER expected to apply amendments to the PTRM in its final decision on the Amadeus Access Arrangement revision proposal.[3]

The AER's final position on the regulatory treatment of inflation was announced on 17 December 2020. A different method is to be used for the estimation of expected inflation, but the adoption of this method does not require changes to the NGR. It does, however, require changes to the PTRM, and the AER has prepared an amended model (*AER – Attachment B – Draft amended gas transmission PTRM – December 2020*) for consultation in accordance with NGR rule 75.[4]

3 Australian Energy Regulator, *Draft Decision, Amadeus Gas Pipeline Access Arrangement 2021 to 2026*, Attachment 3, page 6.

4 Available from the AER website, at [Gas revenue models (transmission and distribution) - April 2021 amendment | Australian Energy Regulator (aer.gov.au)].

Anticipating incorporation of the new method of estimating expected inflation in the PTRM in the way the AER has proposed in the amended model released for consultation, Amadeus has used that model when determining the total revenue for the Revised Proposal.

In the amended version of the PTRM, expected inflation is estimated as a 5 years geometric mean of:

- RBA forecasts of CPI inflation for years 1 and 2 ahead, unless a forecast is not yet available for year 2, in which case expected inflation for that year is to be estimated using a linear glide-path from the year 1 estimate to the mid-point of the RBA's target inflation band in the fifth year from the start of the access arrangement period using the formula:

  Year 1 value + [(RBA mid-point – Year 1 value)/4]

- a linear glide-path from the forecasts of inflation for years 1 and 2 to the mid-point of the RBA's inflation target band (2.5%) in year 5.

Amadeus has applied the linear glide path using the CPI inflation forecast for June 2022 from the RBA's November 2020 *Statement on Monetary Policy*.[5] A "year 2" inflation forecast (1.56%) has been made using the formula noted above.

The new method of estimation yields an estimate of expected inflation (the geometric mean) for the period 2021-26 of 1.87%.

Amadeus understands that the RBA is likely to issue a new *Statement on Monetary Policy* in February 2021, and that the inflation forecasts of that statement may be used, by the AER, in a final decision on proposed revisions to the Amadeus Access Arrangement.

5 The forecast, 1.25%, is from Table 6.1 of the *Statement on Monetary Policy*.

7 Operating expenditure and efficiency carryover mechanism

Amadeus's forecast of operating expenditure for the period 2021-26 was assessed and accepted in Attachment 6 to the Draft Decision.[6]

The Draft Decision noted that the AER considered corporate costs, which Amadeus had treated as category specific forecasts, were "business as usual". They should not be removed from the base operating expenditure of the base-step-trend forecasting approach (which Amadeus had used).[7]

This treatment of corporate costs, and a number of other aspects of Amadeus's forecasting of operating expenditure, affect the operation of the efficiency carryover mechanism of the Amadeus Access Arrangement. However, they do not fundamentally change the way in which incremental efficiency gains and losses are assessed, and taken into account in the determination of total revenue.

The Draft Decision required:

Revision 8.1

Amend clause 8.1l so that it reads:

The incremental efficiency gain (or loss) for the Financial Year 2021–22 will be calculated as:

$$(\boldsymbol{F}_{\mathbf{2021-22}} - \boldsymbol{A}_{\mathbf{2021-22}}) - [(\boldsymbol{F}_{\mathbf{2020-21}} - \boldsymbol{A}_{\mathbf{2020-21}}) - (\boldsymbol{F}_{\mathbf{2017-18}} - \boldsymbol{A}_{\mathbf{2017-18}})]$$

where:

$\boldsymbol{F}_{\mathbf{2020-21}}$ ***is the forecast operating expenditure for Financial Year 2021–22;***

$\boldsymbol{A}_{\mathbf{2020-21}}$ ***is the actual operating expenditure for Financial Year 2021–22;***

$\boldsymbol{F}_{\mathbf{2019-20}}$ ***is the forecast operating expenditure for Financial Year 2020–21;***

$\boldsymbol{A}_{\mathbf{2019-20}}$ ***is the actual operating expenditure for Financial Year 2020–21;***

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6 Australian Energy Regulator, *Draft Decision, Amadeus Gas Pipeline Access Arrangement 2021 to 2026*, Attachment 6, page 4.

7 Australian Energy Regulator, *Draft Decision, Amadeus Gas Pipeline Access Arrangement 2021 to 2026*, Attachment 6, page 23.

$F_{2017-18}$	***is the forecast operating expenditure for Financial Year 2017–18;***
$A_{2017-18}$	***is the actual operating expenditure for Financial Year 2017–18.***

Revision 8.2

Amend clause 8.1l so that it reads:

The incremental efficiency gain (or loss) for Financial Year 2025–26 will be calculated as:

$$(F_{2025-26} - A^*_{2025-26}) - (F_{2024-25} - A_{2024-25})$$

where actual operating expenditure in the Financial Year 2025–26 is to be estimated using the following equation:

$$A^*_{2025-26} = F_{2025-26} - (F_b - A_b) + non-recurrent\ efficiency\ gain_b$$

and where:

$A^*_{2025-26}$	***is the estimate of operating expenditure for Financial Year 2025–26;***
$F_{2025-26}$	***is the forecast operating expenditure for Financial Year 2025–26;***
F_b	***is the forecast operating expenditure for the base year used to forecast operating expenditure in the access arrangement period commencing 1 July 2026;***
A_b	***is the actual operating expenditure for the base year used to forecast operating expenditure in the access arrangement period commencing 1 July 2026; and***

$non-recurrent\ efficiency\ gain_b$ ***is the adjustment made to*** A_b ***used to forecast operating expenditure in the access arrangement period commencing 1 July 2026 to account for operating expenditure associated with one-off factors.***

Revision 8.3

Delete clauses 8.1(f)(i) and 8.1(f)(ii).

Revision 8.4

Delete clause 8.1(h)(i).

Revision 8.1 of the Draft Decision provides the correct measure of the incremental efficiency gain for the first year of the 2021-26 access arrangement period. Revision 8.2 sets out the way in which the incremental efficiency gain in the final year of the access arrangement period is to be calculated, given that, at the time of application of the efficiency carryover mechanism, the actual operating expenditure for that last year will not be known and must be estimated. Revision 8.3 has the effect of removing clauses made redundant by Revision 8.2, and Revision 8.4 has the effect of retaining pigging costs within the operation of the efficiency carryover mechanism.

Amadeus has made the amendments required by Revisions 8.1, 8.2, 8.3 and 8.4.

8 Estimated cost of corporate income tax

The Draft Decision required:

Revision 7.1

Make all necessary amendments to reflect this draft decision on the proposed estimated cost of corporate income tax for the 2021-26 access arrangement period.

Revision 7.2

Make all necessary amendments to reflect this draft decision on the opening tax asset base as at 1 July 2021, as set out in Attachment 7 – Table 7.2.

Amadeus has made all of the necessary amendments.

Most of the changes which the AER required, and which Amadeus has made, to the roll forward of the capital base to 1 July 2021, have implications for the tax asset base at that date. Amadeus has used the amended closing value of the tax asset base, as determined in the RFM, as the opening tax asset base at 1 July 2021 in the PTRM.

Amadeus has then relied on the PTRM, with other inputs amended in the ways required by the Draft Decision, to estimate the cost of corporate income tax for the 2021-26 access arrangement period.

9 Total revenue and reference tariffs

The Draft Decision required:

Revision 9.1

Amend the quantum of reference tariffs to reflect our draft decision on APTNT's building block proposal.

Amadeus has recalculated the reference tariffs for the AGP using the total revenue for the period 2021-26 determined using the PTRM amended in accordance with the requirements of the Draft Decision.

The reference tariffs, recalculated to reflect the implications of the Draft Decision for Amadeus's building block proposal, are shown in Table 5.

Table 5: AGP reference tariffs

		2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Firn service	$/GJ MDQ	0.5470	0.3367	0.3339	0.3302	0.3284	0.3257
Interruptible service	$/GJ	n.a.	0.3367	0.3339	0.3302	0.3284	0.3257

Schedule 1 to the Amadeus Access Arrangement (Details Schedule) has been updated to include the Revised Proposal tariffs shown in Table 5.

The tariffs in Table 5 have been calculated using the model *Amadeus-Revised Proposal 2021-26-Tariff model-15_January_2021-public*. This model is the AER's November 2020 Draft Decision tariff model, in which the inputs have been updated to reflect the requirements of the Draft Decision.

The recalculated reference tariffs, like the tariffs of the Draft Decision, are higher than the tariffs Amadeus proposed in July 2020. Nevertheless, the tariff for the firm service reference service is 38.4% lower than the current (2020-21) firm service reference tariff.

The Draft Decision was that the AER was satisfied with Amadeus's proposed demand forecast: in accordance with NGR rule 74(2), the forecast was arrived at on a reasonable basis, and represented the best forecast possible in the circumstances.[8]

8 Australian Energy Regulator, *Draft Decision, Amadeus Gas Pipeline Access Arrangement 2021 to 2026*, *Attachment 12 - Demand*, November 2020, page 4.

In consequence, the amended reference tariffs are higher than the tariffs proposed in July 2020 because the Draft Decision required amendments to Amadeus's building block proposal which have resulted in a higher total revenue for the period 2021-26.

Amadeus's proposed revised total revenue is compared with the Draft Decision total revenue in Table 6.

Table 6: Proposed revised and Draft Decision total revenues

		2021-22	2022-23	2023-24	2024-25	2025-26	Total
Revised Proposal							
Return on equity	$m	2.303	2.323	2.333	2.347	2.359	**11.665**
Return on debt	$m	3.548	3.337	3.108	2.883	2.652	**15.529**
Return on capital	$m	5.851	5.660	5.441	5.230	5.011	**27.193**
Regulatory depreciation	$m	1.990	2.238	2.463	2.704	2.983	**12.378**
Operating expenditure	$m	9.768	10.091	10.265	10.167	10.353	**50.643**
Efficiency gains and losses	$m	2.034	2.616	0.000	0.945	0.831	**6.426**
Tax payable	$m	0.051	0.000	0.000	0.000	0.000	**0.051**
Value of imputation credits	$m	-0.030	0.000	0.000	0.000	0.000	**-0.030**
Revised Proposal total revenue	**$m**	**19.664**	**20.604**	**18.169**	**19.046**	**19.178**	**96.661**
Draft Decision							
Return on equity	$m	2.290	2.313	2.320	2.331	2.342	**11.596**
Return on debt	$m	3.528	3.322	3.091	2.864	2.634	**15.439**
Return on capital	$m	5.819	5.635	5.410	5.196	4.976	**27.035**
Regulatory depreciation	$m	1.097	1.605	1.795	2.000	2.243	**8.741**
Operating expenditure	$m	9.816	10.190	10.417	10.368	10.610	**51.400**
Efficiency gains and losses	$m	2.044	2.641	0.000	0.964	0.852	**6.501**
Tax payable	$m	0.000	0.000	0.000	0.000	0.000	**0.000**
Value of imputation credits	$m	0.000	0.000	0.000	0.000	0.000	**0.000**
Draft Decision total revenue	**$m**	**18.775**	**20.071**	**17.622**	**18.528**	**18.680**	**93.676**
Differences (Revised Proposal - Draft Decision							
Return on equity	$m	0.013	0.011	0.013	0.015	0.017	**0.069**
Return on debt	$m	0.020	0.015	0.018	0.019	0.019	**0.090**
Return on capital	$m	0.032	0.026	0.031	0.034	0.036	**0.159**
Regulatory depreciation	$m	0.893	0.632	0.667	0.704	0.740	**3.637**
Operating expenditure	$m	-0.048	-0.099	-0.152	-0.201	-0.257	**-0.757**
Efficiency gains and losses	$m	-0.010	-0.026	0.000	-0.019	-0.021	**-0.075**
Tax payable	$m	0.051	0.000	0.000	0.000	0.000	**0.051**
Value of imputation credits	$m	-0.030	0.000	0.000	0.000	0.000	**-0.030**
Draft Decision total revenue	**$m**	**0.888**	**0.533**	**0.546**	**0.518**	**0.499**	**2.985**

The principal differences between the proposed revised total revenue and the total revenue of the Draft Decision are noted in the following paragraphs.

Return on capital (+$0.159 million)

Although the Draft Decision required the use of lower rates of return, the effect was offset by the higher return from an increased projected capital base. The Draft Decision required that, when amending the projected capital base, Amadeus:

- use an opening capital base at 1 July 2021 which was the roll forward of the capital base from the preceding access arrangement period with the earlier estimate of capital expenditure for 2019-20 replaced by the higher actual capital expenditure for that year
- include in its capital expenditure forecast for 2021-26 a forecast of capitalised corporate overheads for that period.

Regulatory depreciation (+$3.637 million)

The amendments to the capital base noted in the preceding paragraph have a small effect on regulatory depreciation. The main reason for the higher depreciation allowance is Amadeus's use of a lower estimate of expected inflation (1.87%, as compared with the estimate of 2.37% for the Draft Decision). This lower estimate is the result of Amadeus applying the new method for estimating expected inflation, which was announced by the AER on 17 December 2020.

Operating expenditure (-$0.757 million)

The Draft Decision was to accept Amadeus's forecast of operating expenditure, which was set, initially, in real terms at the prices expected to prevail in June 2021. In the Draft Decision, the AER applied an expected inflation rate of 2.37% to determine the nominal operating expenditure forecast used in the calculation of total revenue. For the revised proposal, Amadeus has applied, to the same forecast in real terms, the lower estimate (1.87%) from the AER's new method of estimating expected inflation. The lower operating expenditure of the Revised Proposal is fully explained by Amadeus's use of the lower expected inflation rate.

10 Reference tariff variation mechanism

The Draft Decision required:

Revision 10.1

Amend the pass through event definitions as set out in this attachment.

Amadeus has amended the definitions as required.

The amendments to the definitions are as shown in *Amadeus-Revised Proposal 2021-26 Revised Access Arrangement (changes tracked)-15_January_2021*.