Draft Decision

APA Victorian Transmission System (VTS)

Access Arrangement 2023 to 2027

(1 January 2023 to 31 December 2027)

Attachment 12
Demand

June 2022

AUSTRALIAN ENERGY REGULATOR

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Note

This attachment forms part of the AER's draft decision on the access arrangement that will apply to APA's Victorian Transmission System (VTS) for the 2023–27 access arrangement period. 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 – Regulatory depreciation

Attachment 5 – Capital expenditure

Attachment 6 – Operating expenditure

Attachment 7 – Corporate income tax

Attachment 8 – Operating expenditure incentive mechanism

Attachment 9 – Reference tariff setting

Attachment 10 – Reference tariff variation mechanism

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Attachment 12 – Demand

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12 Demand

In this chapter, we set out our assessment of APA's demand forecast for the Victoria Transmission System (VTS) for the 2022-27 access arrangement period. At a highly simplified level[1], VTS pipeline service prices (reference tariffs) are derived by dividing APA's total revenue requirement (i.e. the sum of the revenue building blocks discussed earlier in this decision), divided by the forecast use of the system (e.g. projected injections and withdrawals from the VTS). Forecast demand will also influence the amount of operating expenditure (opex) and capital expenditure (capex) required by a network. For example, when higher demand is linked to high growth in new customers, APA is likely to require additional revenue to cover the capital and operating costs associated with such connections. Changes in demand may also indicate parts of a network that require additional investment to ensure safety and security of supply.

12.1 Draft decision

In our draft decision, we have included APA's updated demand figures as a placeholder. We will consider further information before making a final decision on demand.

APA's initial demand forecasts were based on the Australian Energy Market Operator's (AEMO) 2021 Gas Statement of Opportunities (GSOO), Victorian Gas Planning Report (VGPR) and a report it commissioned from Oakley Greenwood.[2] AEMO issued 2022 versions of these reports in March 2022, and APA subsequently updated its demand forecasts to accommodate this new information. On this basis, we do not consider the original demand forecast as submitted is the best forecast possible in the circumstances and have not included these in our draft decision.

The 2022 AEMO reports diverged from the previous reports, by having two central scenarios – progressive change and step change:

- **Progressive Change:** The Progressive Change scenario represents a future that delivers action towards net zero emissions through technology advancements and based on current state and federal government environmental and energy policies. AEMO is forecasting a 1.9% decrease in Victoria's annual total gas consumption over the next five years, with peak system demand remaining near current levels. Key drivers include energy efficiency savings schemes and a continuing increase in the number of new connections during the outlook period.[3]
- **Step Change:** The Step Change scenario represents a future with rapid consumer-led transformation of the energy sector, and a coordinated economy-wide approach that efficiently and effectively tackles the challenge of rapidly lowering emissions (including electrification of gas heating load), driven by consumer-led change with a focus on energy efficiency, digitalisation and step increases in global emissions policy above what

1 This formula is simplified, as, in practice, the mechanism for deriving tariffs is more complex, and involves determining specific pricing at dozens of separate injection and withdrawal points. However, in general, higher demand will lead to lower prices per unit of gas transported (as APA's fixed costs are spread over a greater volume of gas), whereas lower demand will lead to higher prices.

2 Oakley Greenwood, Issues Affecting Demand and Supply for Gas on the VTS, September 2021.

3 AEMO, Victorian Gas Planning Report Update, March 2022, p. 4.

is already committed. Under this scenario, AEMO is forecasting a reduction of 16.8% in annual gas consumption in the outlook period, and peak day system demands are forecast to reduce by approximately 18%.[4]

Progressive change more closely reflects the central scenario in the 2021 VGPR. APA's updated demand forecast is based on these figures. We have included APA's updated forecast in the draft decision as a placeholder.

In our view, it is not clear that this updated forecast represents the best possible forecast. However, it is also unclear whether demand forecast based on the step change would be superior. We consider further consideration of the merits of both scenarios, and developments in the policy environment will inform our final decision. Consequently, we have included APA's forecast as a placeholder, but our final decision may end up accepting a step change scenario, or a hybrid, depending on the outcome of further assessment. APA has also modified certain parts of AEMO's forecasts to meet its specific circumstances. We will consider whether these adjustments are justified as part of our final decision.

12.2 APA's proposal

APA's demand forecast is based on AEMO's 2022 GSOO and VGPR progressive change scenario, and adjusted the outcomes to reflect its expectations of injections and withdrawals on the VTS. APA has forecasts annual and peak day gas volumes withdrawn from the VTS for the 2022–27 access arrangement period. This information is in Table 12.1 below.

Table 12.1 – Draft decision placeholder for annual VTS withdrawal volumes

	2023	2024	2025	2026	2027
Withdrawal volumes (PJ)					
Tariffs V&D	191.1	189.0	195.5	195.5	189.4
GPG	7.1	4.0	3.5	4.4	4.7
Exports	6.3	5.8	4.1	1.8	1.1
Sub-total	**204.5**	**198.7**	**203.1**	201.7	**195.1**
UGS/LNG refill	18.1	18.1	18.1	18.1	18.1
Total	**224.4**	**218.7**	**223.0**	**221.6**	**215.0**
1-in-2 Peak day (TJ/day)					
Tariffs V&D	1139.7	1125.0	1139.5	1141.2	1105.5
GPG	37.1	15.6	14.1	25.6	15.1
Exports	25.9	23.7	16.7	7.3	4.4
Less compressor fuel	2.5	2.5	2.5	2.5	2.5
Total	1,200.2	1,161.8	1,167.8	1,171.6	1,122.5
Annual withdrawals (PJ)					

Source: APA VTS - Load and demand forecasts 2022 Update - 29 April 2022 - Public

APA's approach to forecasting demand for varying customer groups is outlined below:

[4] Ibid, pp. 4,5

- **Residential and commercial customers (Tariff V)** – AEMO expects retail gas peak demand to fall moderately in next five years because of energy efficiency in gas appliances and electrification (progressive change scenario).
- **Industrial demand customers (Tariff D)** – APA has adopted the AEMO Progressive Change forecast of industrial demand, from the 2022 VGPR. APA forecast Tariff D demand to decrease over the 2022–27 period.
- **Gas powered generation (GPG)** – GPG is a volatile customer of gas, as it provides a firming function where other forms of electricity production are low (e.g. thermal generator outages, periods of low renewables generation). The GPG usage is forecast to fall in 2024, but remain somewhat stable for the remainder of the period.
- **Interstate transfers (exports)** – APA has assumed zero PJ per annum export at VicHub,[5] and has forecast exports out of Culcairn (NSW to Victoria interconnect) to fall over the period of new access arrangement.
- **Flows into storage (UGS/LNG refill)** – APA forecast flows into Dandenong LNG and Iona UGS using average withdrawals over the last three observable years. This leads to an annual withdrawal of 18.1 TJs per year.

12.3 Assessment approach

The NGR require APA to submit access arrangement information for a full access arrangement proposal for a transmission pipeline which includes:

- Usage of the pipeline over the earlier access arrangement period showing minimum, maximum and average demand for each receipt and delivery point; and user numbers for each receipt or delivery point;[6]
- To the extent that it is practicable to forecast pipeline capacity and utilisation of pipeline capacity over the access arrangement period, a forecast of pipeline capacity and utilisation of pipeline capacity over that period and the basis on which the forecast has been derived.[7]

The NGR also require that forecasts and estimates:[8]

- are arrived at on a reasonable basis; and
- represent the best forecast or estimate possible in the circumstances.

We consider that there are two important considerations in assessing whether demand forecasts are arrived at on a reasonable basis and whether they represent the best forecasts possible in the circumstances.[9] These are:

- the appropriateness of the forecast methodology – this involves consideration of how the demand forecast has been developed; and

[5] This is consistent with our decision on the 2013-17 access arrangement for APA VTS: AER – Draft decision Attachment 13 - Demand - July 2017, section **Error! Reference source not found.**.

- whether or not relevant factors have been considered in developing demand forecasts.

To determine whether APA's proposed demand forecasts were arrived at on a reasonable basis and are the best possible forecasts in the circumstances, we reviewed:

- information provided by APA.
- the data inputs used to implement the forecasting methodology.

In making our draft decision, we had regard to:

- Information provided by APA as part of its proposed access arrangement.
- Advice from Zincara in its review of APA's Southwest Pipeline (SWP) and Western Outer Ring Main (WORM). Zincara reviewed APA's proposal on these forecast investments and assisted us where we were not satisfied that forecast comply with the requirements of the NGR.
- Additional information provided by APA in response to our information requests.
- APA's supplementary capex submission on the proposed WORM.[10]
- AEMO's 2021 and 2022 GSOO and VGPR.
- Stakeholder submissions.

12.3.1 Interrelationships

As noted earlier, reference tariffs are derived using demand forecasts. Demand forecasts also affect the amount of augmentation capex that may be required to increase network capacity, network extensions to serve new customers, and associated opex.

12.4 Reasons for the draft decision

As noted earlier, we have not made a draft decision on forecast demand, but have instead included APA's forecast as a placeholder, pending further assessment. APA is also required to submit information on demand in the current access arrangement period. We note that this has been included, and have accepted this information, as outlined in section 12.4.7 below.

Victorian community organisations submitted that the 2022 GSOO be used as the basis for the demand forecast, with an allowance for the potential impact from the Victorian Gas Substitution Roadmap.[11] CCP 28, in its advice to the AER, urged APA and the AER to assess the latest forecasts from AEMO and, wherever possible, take them into account before the draft decision.[12] We note that, at the time these submissions were made, it was not known that multiple central scenarios would be included in the GSOO.

12.4.1 Demand forecast for Residential and commercial customers (Tariff V)

Our draft decision is to accept APA's forecast of Tariff V demand for the 2022–27 access arrangement period. We accept APA's approach to forecasting Tariff V demand by adopting AEMO's forecast. APA's forecast demand for retail users primarily by reviewing existing contracts and assessing the probability of contract renewal. APA's forecast is consistent with

11 Victorian community organisations, submission to the AER, 14 February 2022, p 20.

12 CCP 28, advice to the AER, 18 February 2022, p. 35.

the expectations of future contracted capacity. While we accept the methodology, as noted earlier, we have included the figure as a placeholder, and will take into account further information on whether step change or progressive change (or a hybrid) represents the best forecast in the circumstances.

12.4.2 Demand forecasts for Tariff D

We are satisfied that APA's Tariff D forecast over the 2022–27 access arrangement period is arrived at on a reasonable basis. Tariff D demand is highly asymmetrical because a relatively small number of large users accounting for a substantial portion of overall industrial demand. Therefore, if any number of those large users decide to reduce their demand, the impact will be large. While we accept the methodology, as noted earlier, we have included the figure as a placeholder, and will take into account further information on whether step change or progressive change (or a hybrid) represents the best forecast in the circumstances.

12.4.3 Demand forecasts for Gas Powered Generation

We are satisfied that APA's GPG consumption for the state of Victoria is arrived at on a reasonable basis.

GPG demand is often variable. GPG is mostly used as a firming fuel, due to its fast start characteristics, and is often bid into the market at higher prices. The demand for firming services, and hence GPG, is greater when either electricity demand is high, or supply is low because of external factors, such as the unavailability of renewables, or a thermal generator being out of service. AEMO has forecast a downward trend in GPG over the period, driven by an increase in renewable generation. While we accept the methodology, as noted earlier, we have included the figure as a placeholder, and will take into account further information on whether step change or progressive change (or a hybrid) represents the best forecast in the circumstances.

12.4.4 Demand forecasts for interstate transfers (exports)

We are satisfied that APA's export forecast is arrived at on a reasonable basis. APA has forecast falls in exports over the access arrangement period. While we accept the methodology, as noted earlier, we have included the figure as a placeholder, and will take into account further information on whether step change or progressive change (or a hybrid) represents the best forecast in the circumstances.

12.4.5 Demand forecasts for flows into storage (UGS/LNG refill)

We are satisfied that APA's forecast for withdrawals by UGS and LNG storage are arrived at on a reasonable basis. APA forecast flows into Dandenong LNG and Iona UGS using average withdrawals over the last three observable years.

While we accept the methodology, as noted earlier, we have included the figure as a placeholder, and will take into account further information on whether step change or progressive change (or a hybrid) represents the best forecast in the circumstances.

12.4.6 Forecast pipeline capacity and utilisation

The NGR require that, to the extent it is practicable to forecast pipeline capacity over the access arrangement period, the access arrangement information should include forecast pipeline capacity and utilisation of pipeline capacity over the access arrangement period.

APA's access arrangement information includes this information. APA's capacity forecast is consistent with historical capacity and reflects the proposal to expand the SWP and finish the WORM. We consider the utilisation forecast reflects APA's forecasts of reductions in GPG and industrial load. As with our draft decision above, we have included these as placeholders, and will assess the impact of AEMO's updated forecast on these as part of our final decision.

12.4.7 Minimum, maximum and average demand

The NGR require that access arrangement information includes minimum, maximum and average demand for each receipt or delivery point for the earlier access arrangement period. For a transmission pipeline, the NGR also require the access arrangement information to include the user numbers for each receipt or delivery point. APA's access arrangement information includes this information and satisfies the requirements of the NGR in this regard.

A Shortened forms

Shortened form	Extended form
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
APA / APA VTS	APA VTS Australia (Operations) Pty Ltd and APA VTS Australia (NSW) Pty Ltd
Capex	Capital Expenditure
GPG	Gas Powered Generation
GSOO	Gas Statement of Opportunities
LNG	Liquified Natural Gas
NGR	National Gas Rules
Opex	Operating Expenditure
SWP	Southwest Pipeline
UGS	Underground Gas Storage
VGPR	Victorian Gas Planning Report
VTS	Victorian Transmission System
WORM	Western Outer Ring Main