

Victorian Transmission System

2023-27 access arrangement stakeholder reference group

Issues Paper on the capital program

1. Purpose

The purpose of this paper is to involve stakeholder in developing the capital program for the 2023-27 Victorian Transmission System (VTS) access arrangement revision proposal to the Australian Energy Regulator.

This paper sets out the issues highlighted during the course of the stakeholder engagement for the VTS access arrangement revision and to develop a response to the issues.

2. Regulatory requirements

APA's objective is to prepare a capital expenditure program plan that meets the requirement of gas customers and consumers in Victoria. APA must demonstrate to the Australian Energy Regulator that our proposal meets the requirements of the National Gas Law and National Gas Rules. The AER needs to be reasonably assured that what we are proposing meets the criteria of conforming capital expenditure.

Conforming capital expenditure is capital expenditure that meets the following criteria (Rule 79):

- capital expenditure must be such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services; and
- the capital expenditure must be justifiable on a number of grounds stated in the Rules including:¹
 - the overall economic value of the expenditure is positive; or
 - the present value of revenue to be generated as a result of the expenditure exceeds the present value of the capital expenditure; or
- the capital expenditure is necessary:²
 - to maintain and improve the safety of services; or
 - to maintain the integrity of services; or
 - to comply with a regulatory obligation or requirement; or
 - maintain capacity to meet levels of demand for services existing at the time the capital expenditure is incurred (as distinct from an expansion of pipeline capacity).

We hope to get broad acceptance by the stakeholder engagement group that our proposal reasonably reflects a good outcome for customers and consumers.

¹ This criteria applies to augmentation, that is, expansions and extensions.

² This criteria applies to stay-in-business, reliability and security of supply projects.

3. Background

The VTS capital program is driven by the need to maintain the provision of services to customers. In preparing the capital program for VTS, APA takes into account:

- Asset management plan for VTS
- Needs of customers for expansion and extensions
- AEMO Victorian Gas Planning Report.

The capital program includes forecast expenditure for (as per the AER asset categories):

- **Augmentation** – expansion and extension of assets to meet customer supply and demand needs
- **Replacement and upgrade** – Stay-in-business projects and programs of the existing assets. The drivers for replacement programs includes age, poor condition and obsolescence
- **Non-network** – corporate overheads, IT, buildings & property, and fleet & vehicles.

Developing the capital program for the VTS takes into consideration:

- AEMO's Victorian Gas Planning Report (VGPR) and the Gas Statement of Opportunities (augmentation projects mostly)
- Asset management planning for the VTS (replacement and upgrade referred to as Stay-in business (SIB))
- Corporate overheads. APA allocates corporate capex to assets based on the proportion of revenue of the assets. This is a consistent approach applied across all APA assets and has been accepted by the AER. We don't discuss this allocation approach any further.

The following includes a summary of the matters being considered in preparing the capital program for 2023-27 and includes issues raised so far by the VTS stakeholder engagement group. We have set out a number of questions for consideration and feedback by the engagement group.

4. Augmentation

A key driver for augmentation is the need to accommodate potential changes in demand and gas supply mix – field, storage and FSRUs. Developments in the Victorian gas market are dynamic and our planning will use the best information available at the time including the 2021 VGPR.

2021 Victorian Gas Planning Report

AEMO released the 2021 Victorian Gas Planning Report on 31 March (previous report was released in March 2019 and an update in 2020). VGPR provides information about the supply demand balance over the next five years (2021-25, outlook period) in Victoria. VGPR complements AEMO's Gas Statement of Opportunities which assesses the wider gas supply adequacy in eastern and south-eastern Australia (released at the same time as the VGPR).

The key findings from the VGPR relevant to the VTS include:

- **Declining Victorian gas production.** Several legacy Gippsland gas fields being forecast to cease production but offset in a small way by more production at Port Campbell. Victorian gas production is forecast to decline by 43%, from 360 petajoules per year (PJ/y) in 2021 to 205 PJ/y in 2025:
 - Gippsland annual production will decline by 52% from 316 PJ/y in 2021 to 153 PJ/y in 2025.
 - Port Campbell annual production will increase by 18% from 44 PJ/y in 2021 to 52 PJ/y in 2025.

- Forecast production decline also reduces peak day supply capacity into the DTS from existing sources by 38%, from 1,585 TJ/d in 2021 to 983 TJ/d in 2025.
- **System resilience and security.** Declining Victorian production capacity during the outlook period is also expected to reduce system resilience. Tightening supply demand balance will result in an increased probability that operational issues are unable to be operationally managed, leading to an increased likelihood of threats to system security or curtailment events. AEMO has identified this low Dandenong LNG inventory as a threat to system security and is seeking a market response.
- **Projects to address declining production.** AEMO's 2021 VGPR says the forecast 2024 winter gas supply shortfalls are expected to be addressed by Australian Industrial Energy construction of 500 terajoules per day (TJ/d) Port Kembla (NSW) liquefied natural gas (LNG) import terminal; and Jemena's modifying the Eastern Gas Pipeline (EGP) to enable reverse flow from Port Kembla into the DTS. Generally, this is expected to allow Sydney-bound Longford production to be diverted to the VTS along the existing Longford-Melbourne pipeline (LMP). As the LMP already has sufficient capacity to serve the Victorian market, it is not expected that this would result in any expansion expenditure to the LMP.
- **Other potential projects to address declining production include**
 - Golden Beach field and Kipper gas field
 - Victorian LNG import terminals - Viva project in Geelong, to the west of Melbourne; and Vopak project at Avalon, also to the west of Melbourne³
 - South West Pipeline expansion to address a capacity constraint
 - Increased supply capacity from outside Victoria - possible projects include
 - Additional compression at Port Kembla Gas Terminal; expansions of existing pipelines from Queensland; and a new pipeline from Queensland
 - Increased interest in hydrogen and biogas projects in Australia in recent years which could provide an alternate source of supply.

National Gas Infrastructure Plan

On 7 May 2021, the Australian Government released the National Gas Infrastructure Plan: Interim Report, which identifies the priority infrastructure developments in the near-term. APA is currently considering the matters raised in the Interim Report. The full National Gas Infrastructure Plan is due by late 2021 and will consider the medium to long term east coast market infrastructure requirements to 2040.

Question 1. Are there potential projects arising from the VGPR that APA should take into consideration in preparing the capital plan for the 2023-27 VTS?

Question 2. Are there any other matters that APA should take into consideration in preparing the capital plan for the 2023-27 VTS?

³ Note that in March 2021, the Victorian Government rejected the proposed AGL Crib Point project to the east of Melbourne on environmental grounds.

Western Outer Ring Main

The Western Outer Ring Main (WORM) was proposed by APA (and supported by AEMO) for the 2018-22 access arrangement period capital program. The project is a high pressure, buried gas transmission pipeline, approximately 51 kilometres long, which will provide a new connection between existing pipelines at Plumpton in Melbourne's west and Wollert in the north. The project also includes an upgrade to the existing compressor station at Wollert.

The WORM will address the tightening of supply / demand balance forecast by AEMO in March 2017 (Victorian Gas Planning Report) providing additional linepack closer to Melbourne, support increased gas supply to Iona Underground Storage System.

In the AER's 2017 Final Decision 2018-22 on the access arrangement for VTS, a total of \$126.7 million (\$2017) was included in the VTS capital program to undertake the WORM project. The WORM was justified based on the need to maintain system security. The environment planning approval process for the WORM is still underway. All going to plan, the WORM is scheduled to be completed by end 2022.

At the early stages of engagement we had floated the idea of increasing the size of the original project to accommodate potential FSRU projects. This raised questions from stakeholders about the timing, capital requirements and impact on tariffs and the need for early regulatory approval.

Further analysis by APA weighed up the risks against the benefits of amending the original proposal. In light of a number of uncertainties we have decided to build the original proposed WORM project. However, since the AER 2017 Final Decision, APA has been required to undertake further planning requirements which has resulted in a change to the project scope and contributed to an increase in the estimated project cost from the original forecast of \$126.7 million.

In December 2019, the Victorian Minister for Planning determined that an Environment Effects Statement (EES) was required for the WORM. In February 2020, the Commonwealth Department for Agriculture, Water and Environment (DAWE) issued a decision that the Project is a 'controlled action' under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and that the Project would be assessed under the assessment bilateral agreement with Victoria.

APA was required to prepare EES documentation which responds to the Scoping Requirements, determined by the Victorian Minister for Planning, to understand the potential environmental effects of the Project. During the course of preparing the EES documentation, a number of environmental matters were identified that needed to be addressed including, an increase in number and length of horizontal directional drilling (HDD). In addition, the cost of meeting biodiversity offset obligations is significantly higher than originally forecast. The delay in commencement of construction has also resulted in an increased cost of steel and higher construction costs due to construction now scheduled to be across and including a winter season.

Estimated project costs have increased due to the above to an internally approved capital cost of \$167M. We envisage that actual construction costs may be higher than estimated due to the above and that level of detail won't be known until construction tenders are received later in 2021. The key cost variances from the original forecast in 2017 are due to increases in pipeline construction costs including the cost of HDD and rock disposal and additional EES conditions and Department of Transport requirements. The EES process itself will cost approximately \$9 million; and biodiversity offsets are estimated at \$8 million. There has been an increase in cost of steel for the pipeline; pipeline length (from 49.3 km to 51.1 km); and land access costs.

Question 3. Are there any further matters you wish APA to address about the WORM?

Import terminals for LNG Floating Storage and Regasification Units

During the course of the engagement, there were three import terminal projects at play for LNG Floating Storage and Regasification Units (FSRUs) including Viva Energy Gas Terminal at Geelong; Vopak at Avalon; and AGL Crib Point proposal. In NSW, Australian Industrial Energy (AIE) import terminal at Port Kembla (near Wollongong) has achieved Final investment decision (FID). AEMO has identified the AIE project has having the ability to address the forecast 2024 winter shortfalls (2021 VGPR) – along with Jemena's modifying the Eastern Gas Pipeline (EGP) to enable reverse flow from Port Kembla into Victoria.

On 31 March 2021, the Victorian Government ruled out AGL's proposal to establish a gas import terminal at Crib Point based on environmental grounds.

Issues raised so far

A threshold question is the AER's ability to approve expansion capital expenditure under Rule 79 to accommodate an FSRU in cases where the FSRU proponent has not reached a Final Investment Decision. The National Gas Rules do not include provisions such as the 'contingent project' procedure in the National Electricity Rules designed to accommodate investment uncertainty for large projects. There is also some uncertainty as to what capex would be required to accommodate additional injections west of Melbourne, depending on what project(s) proceed (and the order in which they proceed).

The stakeholder engagement group posed the question of the treatment of potentially stranded investment since the business case for FSRUs is that they are 'flexible' and can move between locations. Questions raised included what happens if APA builds assets to accommodate an FSRU and then after, say, five years the FSRU leaves? Can the gas import terminal proponent be charged for the assets? Why can't the FSRU proponents (rather than customers) pay for the additional capex required to extend the pipelines to get the gas to market?

APA response

Under the market carriage model we cannot charge for connection / expansion of assets to individual users. This is because there is no firm access - therefore no incentive for users to pay a 'capital contribution'.

Therefore a proposal for an LNG gas terminal to accommodate FSRUs would need to be included in the 2023-27 capital investment proposal.

Question 4. Are there any further matters APA should consider with respect to potential LNG Gas Terminals coming on line in Victoria?

Question 5. Are there any other options you want us to consider regarding the funding of gas import terminals?

Augmentation - expansion and extensions

At this stage, APA is not anticipating including augmentation (expansion and extensions) projects in the VTS 2023-27 capital program. This may change depending on the feedback we receive during stakeholder engagement and further consideration of AEMO's VGPR. However, during the course of engagement, questions were raised about who pays if a shipper needs more capacity? How do rules 79 and 80 work?

Rule 79 covers the criteria for conforming capital expenditure and is summarised above in the section on regulatory requirements. Capital expenditure must be found by the AER to be conforming capital expenditure before it can be rolled into the capital asset base. Once in the capital asset base, APA earns a return on capital (interest) and return of capital (depreciation).

Rule 80 provide power to the AER to make an advance determination with regard to future capital expenditure. The AER may, on application by a service provider, make a determination to the effect that, if capital expenditure is made in accordance with proposals made by the service provider and specified in the determination, the expenditure will meet the new capital expenditure criteria. This provision provides advanced approval and assurance to a service provider that a project may go ahead when it is outside of the access arrangement review period.

Question 6. Are there any other questions about how augmentation or other projects get considered by the AER?

5. Replacement and upgrade

Asset Management

Roundtables 3 and 5 included presentations on APA asset management framework and a first look at the capital planning for stay-in-business projects and programs. We explained the prioritisation approach applied across APA for the stay-in-business programs and projects.

We were asked whether APA's asset management (maintenance) approach operate based on 'run to failure' or condition assessment approach. APA applies a risk-based condition based approach to asset planning. APA is required to comply with the service standards under the National Gas Rules. We noted that APA does not apply run-to-failure asset management for VTS as such an approach is not prudent for VTS - of the >2,200Km of pipeline - most (75%) is in urban areas.

Question 7. Do you have further questions about APA's approach to planning for stay-in-business (replacement and upgrade)?

6. Hydrogen

We were asked whether APA has been taking into consideration the potential opportunities of hydrogen on its pipelines.

APA is involved in the Future Fuels Cooperative Research Centre (FFCRC) and in late February, APA announced a hydrogen pilot project to enable the proposed conversion of 43-kilometres of the Parmelia Gas Pipeline in Western Australia. APA is targeting the testing and research to be completed around late 2022. Further information <https://www.apa.com.au/news/media-statements/2021/apa-set-to-unlock-australias-first-hydrogen-ready-transmission-pipeline/>

At this stage, we are not planning to include expenditure for hydrogen projects in the VTS capital program.

Question 8. Are there any other questions about APA's hydrogen initiatives in relation to the VTS?

Question 9. Are there any other matters about the VTS capital program that you wish the raise with APA?

7. Your response

We will be having further discussions about the capital program at Roundtable 7 in June.

Ahead of the June Roundtable, we are interested in getting your views on the matters raised in this paper. Please provide written responses to Scott and Nives by Friday, 4 June. Otherwise, if you prefer to meet face-to-face please let us know.

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List of questions

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| Question 1 | Are there potential projects arising from the VGPR that APA should take into consideration in preparing the capital plan for the 2023-27 VTS? |
| Question 2 | Are there any other matters that APA should take into consideration in preparing the capital plan for the 2023-27 VTS? |
| Question 3 | Are there any further matters you wish APA to address about the WORM? |
| Question 4 | Are there any further matters APA should consider with respect to potential LNG Gas Terminals coming on line in Victoria? |
| Question 5 | Are there any other options you want us to consider regarding the funding of gas import terminals? |
| Question 6 | Are there any other questions about how augmentation or other projects get considered by the AER? |
| Question 7 | Do you have further questions about APA's approach to planning for stay-in-business (replacement and upgrade) |
| Question 8 | Are there any other questions about APA's hydrogen initiatives in relation to the VTS? |
| Question 9 | Are there any other matters about the VTS capital program that you wish the raise with APA? |