Zincara

From strategy to action

Capital Expenditure Review
Western Outer Ring Main
South West Pipeline

Public

Prepared for

AUSTRALIAN ENERGY REGULATOR

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1. INTRODUCTION

1.1 BACKGROUND

In December 2021, APA submitted its revised Access Arrangement (AA) for its Victorian Transmission System (VTS) for the period from 1 January 2023 to 31 December 2027 to the Australian Energy Regulator (AER). To assist in the capital expenditure review, the AER engaged Zincara P/L (Zincara) to advise on the augmentation projects related to the Western Outer Ring Main (WORM) and the South West Pipeline (SWP).

The AER published its draft decision in June 2022 and APA has resubmitted its revised proposal in August 2022. The AER has requested that Zincara advise on the capex revision to both projects.

The focus of the advice is to advice the AER on whether the projects meets the requirement of the National Gas Rules (NGR) and in particular Rule 79.

1.2 NATIONAL GAS RULES (NGR)

The relevant section[1] of Rule 79 New Capital Expenditure states:

(1) Conforming capital expenditure is capital expenditure that conforms with the following criteria:

(a) the 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
(b) the capital expenditure must be justifiable on a ground stated in subrule (2); and
(c) the capital expenditure must be for expenditure that is properly allocated in accordance with the requirements of subrule (6).

1.3 APPROACH

Zincara has used a similar approach to its advice prior to the AER's draft decision. The key steps are:

- Review the relevant documents provided by APA in its submission.
- Identify the justification for changes in the proposal.
- Test to ensure that the changes meet the requirement of the NGR.
- Report on Zincara's findings.

Zincara's analysis is based on the APA's submission and Zincara has assumed the data to be accurate. Zincara has not verified the accuracy or veracity of the data.

This paper reports on our findings.

[1] NGR v59

2. WESTERN OUTER RING MAIN (WORM)

2.1 ZINCARA'S REPORT FOR THE AER (MAY 2022)

In our Capital Expenditure Review provided for the AER as part of the Draft Decision assessment process, we concluded that "*the WORM project shows that it will provide significant benefit in the operation of the VTS including:*

- *Unlocking capacity to and from Port Campbell;*
- *Security of supply in the event of temporary loss of supply from production facilities or infrastructure across the VTS;*
- *Improved operability of the VTS by increasing available system linepack and adding the ability to transfer linepack between pipelines that are currently disconnected;*
- *Reducing reliance on the aged and congested Brooklyn Compressor site;*
- *Providing increased capacity and gas flow flexibility to optimise any new sources of gas supply*

In spite of the significant cost increase, we consider that the WORM project remains prudent and efficient as was the case when it was initially accepted as part of the 2018-22 access arrangement".

In our report we noted that APA had advised that "*project costs are still subject to change as a result of the Victorian Planning Minister's assessment of the Environment Effects Statement for the WORM and outcomes from market tenders for construction of the WORM*".

2.2 EXPENDITURE FORECAST INCREASE SINCE AER DRAFT DECISION

The following table shows the variance in each of the WORM project categories between the cost data provided by APA[2] in February 2022 and its more recent cost update[3]. The latest forecast expenditures shows an increase of $28.4 million to $216.8 million, compared to that used in the AER Draft Decision.

Table 2-1: WORM capital expenditure forecast ($ millions)

Category	February 2022[4]	June 2022[5]	Variance
Project management		xxxx	
Design		xxxx	
Commissioning		xxxx	
Sub-total	xxxx	xxxx	xxxx
Land & approvals	xxxx	xxxx	xxxx
Procurement	xxxx	xxxx	xxxx

[2] IR006 response: spreadsheet of actual and forecast expenditure dated February 2022
[3] 2022 updated WORM business case – further cost update: June 2022
[4] IR006 response: WORM financial summary: dated February 2022
[5] Updated WORM business case – further cost update (as at end May 2022): dated June 2022

Construction	xxxx	xxxx	xxxx
Other*	xxxx	xxxx	xxxx
Total	xxxx	xxxx	xxxx

(Source: variance: June 2022 compared with IR006 response)

The annual expenditure commitment is shown in the table below.

Table 2-2: WORM: timing of costs ($ millions)

WORM	2018 - 2021	2022	2023	2024	Total
Feb 2022	xxxx	xxxx	xxxx	xxxx	xxxx
June 2022	xxxx	xxxx	xxxx	xxxx	xxxx
Variance		xxxx	xxxx	xxxx	xxxx

(Source: February 2022 WORM financial summary and 2022 updated)
Note: Variance notes increases since February 2022 cost estimate
(Note: rounding)

The table above shows that the cost is split between the current AA period and the next AA period. It is noted that the that the June submission has increased costs for the current AA period and the next AA period. Details of the cost increase with respect to access arrangement periods are shown in the table below:

Table 2-3: WORM capex and forecast comparison for AA periods ($ millions)

AA period	February 2022	June 2022	Variance
2018 - 2022 AA period	xxxx	xxxx	xxxx
2023 - 2027 AA period	xxxx	xxxx	xxxx
Total	xxxx	xxxx	xxxx

(February 2022: revised cost estimate as provided in February 2022
(June 2022: updated cost estimate (as at end May 2022))

The table above shows that the revised project cost is $216.8 million which is an increase of $28.4 million. This increase in expenditure was approved by the APA Board in late May 2022.

In its Draft Decision, AER approved *"$49.0 million for the WORM project ($2022, excluding overheads)*". This is shown in the above table as $48.5million. With the increase to $60.5million for the 2023 – 2027 AA period, APA is seeking a further $12.0 million.

2.3 ASSESSMENT

APA says that the additional costs are largely caused by:

- Two year delay as a result of needing to prepare an Environmental Effects Statement (EES) and additional requirements arising from the EES;
- Competitive tenders for construction and other services impacted by a squeeze in the labour market and global supply chain backlogs.

APA's latest cost update document shows variances between the expenditure approved by its Board in September 2018 and the Board's recent approval in May 2022. While the reasons for increased cost were provided to the AER prior to its Draft decision, the financial impact was "subject to change" as noted above.

The key cost variances outlined in the further cost update include the following:

- **Project management, design, and commissioning**. Latest estimate is xxxx, compared with February 2022 estimate of xxxx. The latest cost update shows costs for each of these categories, while the February costs summary showed the total of the group.

- **Land and approvals**. Latest estimate is xxxx, compared with February 2022 estimate of xxxx. The main reasons for the cost increase are:
    - Environmental Effects Statement study
    - Additional Net gain Offset costs with the removal of more native vegetation than originally planned. Both state and federal vegetation offset requirements have contributed to the increase in these costs.
    - Higher compensation payments to some landowners arising from land valuations associated with the Land within the Urban Growth Boundary and subject to the Department of Transport's Public Acquisition Overlay (PAO).
    - Higher easement compensation due to the increase in land value over time.
    - More complex cultural heritage surveys were required along with a higher level of salvage works prior to construction.

- **Procurement**. Latest estimate is xxxx, compared with February 2022 estimate of xxxx.
    - Previously noted increases due to higher prices for coated line pipe, pipe and fittings and valves. Increased amount of abrasive resistant coating required for the increased length of horizontal directional drilled sections. Increased sea freight costs due to Covid and Chinese Government removal of its export tax rebate.

- **Construction**. Latest estimate is xxxx, compared with February 2022 estimate of xxxx.
    - Previously noted cost increases due to the number and length of sections requiring horizontal directional drilling, more rock than expected, deeper depth of burial and more concrete slabbing where the pipeline interfaces with Department of Transport's PAOs, increased number of sensitive receptors near the construction works as a result of urban development.

- **Other.** Latest estimate is xxxx. APA did not include this category in the earlier advice. However, in IR006 they show that in the September 2018 APA Board approval "Other" had an estimate of xxxx. While APA have not defined this category they did say "Allowance has reduced as contracts are close to finalisation".

Our review of the variances considers the changes compared to the expenditure data assessed for the AER Draft Decision. In addition, the AER sought additional information (eg. contractual evidence) to support the increased level of expenditure, particularly for Construction and Land and Approvals. APA response to IR029 has included lists of purchase orders and expenditures to date along with current estimates of "uncommitted" costs. They have also included estimates and comments for the key sub-components of Construction and Land and Approval:

The largest increase relates to "**Construction**", an increase of xxxx (xxxx increase) compared to the information available for the AER Draft Decision. APA did advise at the time that its cost estimates were subject change as its construction tenders process had not been finalised.

Table 2-4: WORM – Construction

Revised forecast: xxxx Committed PO: xxxx Uncommitted: xxxx
Comment on uncommitted (approximate) costs: • xxxx – Pipeline construction based on tenders received, actual contract value is approximately xxxx excluding risk items • xxxx – Facility construction based on tenders received, actual contract value is approximately xxxx • xxxx – Construction labour, accommodation and travel based on resource labour forecast

(Source: IR 029 response)

There has been much reporting of market volatility both within Australia and overseas causing significant impact on availability and cost of labour. While the cost increase of xxxx is significant, market volatility is such that such increases are being regularly reported. We consider that APA's competitive tendering processes can be expected to ensure the most effective cost outcomes for the works, and therefore we consider that the costs are prudent and efficient in the circumstances.

"**Other**" shows a cost of xxxx. In its IR029 response APA noted that this component is "*a provision for potential variances*". APA says that this provision had been incorporated in project components in its earlier documents (ie. IR006). The updated cost estimate shows that it has reduced since the initial Board approval in September 2018, from xxxx to xxxx at the May 2022 Board meeting. Given the full value of the project and its current status, a provision of xxxx representing xxxx of total project cost, would be considered to be prudent in the circumstances.

"**Land and approvals**" shows a xxxx increase compared to the information provided prior to the AER Draft Decision. Costs are associated with the Environmental Effects Statement, higher new gain offset costs, higher compensation to landowners, and more complex cultural heritage surveys.

Table 2-5: WORM – Land and Approvals

Revised forecast: xxxx Committed PO: xxxx Uncommitted: xxxx
Comment on uncommitted (approximate) costs: • xxxx – LO Legal and LO Comp based on independent valuation • xxxx – Net gain Offset based on current negotiation status of offset sites • xxxx – Cultural Heritage Salvage based on current labour rates and forecast salvage production • xxxx – legal and other approval items based on previous projects of this nature • xxxx - access and approval labour based on resource labour forecast

(Source: IR 029 response)

2.4 SUMMARY AND RECOMMENDATION

Following the AER Draft Decision, APA has provided updated cost estimates for the WORM project which have been submitted to, and approved, by the APA Board in late May 2022. The project cost estimate has increased by $28.4 million from $188.4 million approved by the AER in the Draft decision to $216.8 million. The revised cost estimate impacts both current and next AA periods:

- For the 2018 - 2022 AA period there is an increase of $16.5 million to $156.3 million.

- **For the 2023 - 2027 AA period there is an increase of $12.0 million to $60.5 million.**

In our earlier report we noted that APA had advised that "*project costs are still subject to change as a result of the Victorian Planning Minister's assessment of the Environment Effects Statement for the WORM and outcomes from market tenders for construction of the WORM*".

The following categories represent the largest cost impacts compared to the earlier cost information provided to the AER:

- "Construction" cost estimate has increased by xxxx to xxxx million. The change largely results from market volatility impacting APA's competitive tender process.

- "Land and approvals", has increased by xxxx to xxxx, with increased landowner compensation, higher net gain offset costs, more complex cultural heritage surveys and EES study costs.

- "Other". This category shows a cost of xxxx and was not included as a separate component in earlier costing provided by APA. However, in its IR029 response, APA noted that this component is "*a provision for potential variances*" and had been incorporated in project components in its earlier documents. The provision/ contingency has reduced as the project has progressed and currently represents xxxx of the total project cost. Given the project status and revisions in the capital estimates, we question the need for this extra contingency. However, we acknowledge the project is complex and the contingency has progressively reduced. We, therefore, recommend accepting this contingency "Others" as part of the overall project cost.

The benefits of the WORM project as outlined in the AER Draft Decision, still apply and the project continues to be prudent. The cost increases, subsequently approved by the APA Board in May 2022, while significant, relate mainly to the competitive tender process leading to the award of construction contracts, which has occurred during a period of high market volatility. This unusual volatility has been experienced across many sectors of the economy and internationally. We consider APA's procurement and tendering processes are sound and can be expected to achieve the best prices in the circumstances.

In conclusion, we recommend that the AER accept the revised project costs of $216.8 million, including "Other", as efficient.

3. SOUTH WEST PIPELINE (WINCHELSEA COMPRESSOR)

3.1 AER DRAFT DECISION

In its Draft Decision, AER approved *"$22.8 million ($2022, excluding overheads), reflecting our assessment that only one compressor is prudent at this time given AEMO's 2022 GSOO demand forecasts*". In addition, the Draft Decision said "*We are still reviewing some elements of the SWP costings. To assist us to finalise the assessment we seek the following information from APA in its revised proposal:*

- *Explanation of, and demonstration of the efficiency of, the 65 percent increase in project management capex in the revised proposal ($3.3 million) compared with APA's initial proposal.*
- *Explanation of, and demonstration of the efficiency of, the increase in land and approvals cost in the revised proposal*."

3.2 ZINCARA'S ADDENDUM REPORT FOR AER

The AER had requested that Zincara provide an assessment of the efficiency of the proposed project costs associated with the installation of an additional compressor at Winchelsea before winter 2023.

Our assessment of the efficiency of the proposed capital expenditure was based on a review of each of the project categories. APA's business case included the basis of their estimates such as using actual costs from the earlier Winchelsea compressor project, budget costs provided by vendors, recent contractor pricing of similar projects and allowance for the fact that the works will be undertaken on a brownfields site. We acknowledge that the fast-tracked nature of the project would impact costs. The following table shows the annual and total expenditure for each of the project categories:

Table 3-1: Winchelsea 2nd compressor unit ($2022 millions)

Categories	2022	2023	Total
Project Mgt	4.28	3.93	8.21
Land & Approvals	2.45	0.53	2.98
Design	4.39	1.23	5.62
Procurement	17.12	2.56	19.69
Construction	8.57	13.91	22.48
Commissioning	0.39	0.64	1.03
Total Direct cost	**37.20**	**22.81**	**60.01**

(Source: APA Business Case – Winchelsea 2nd unit: Table 7.1)

Based in our assessment of the project components we considered them to be efficient in the circumstances, apart from "Project Management" and "Land and Approvals". With respect to these two categories, we did not have sufficient information to support their costs as being efficient. In particular, we noted:

- Project Management. While we anticipated that additional effort associated with the fast-tracked nature of the project, could contribute to the cost of this category, its increase compared to the initial two compressor proposal appeared excessive.
- Land and Approvals. The cost estimate was almost identical to the initial two compressor business case. This did not appear to be reasonable given the fact that the Winchelsea proposal was at an existing site and hence did not include costs associated with the acquisition of an additional new site.

We recommended to the AER that APA provide further explanation and clarification of these categories to demonstrate that the cost estimate of was efficient in the circumstances. APA had also indicated that they would update the project estimate and schedule as more accurate information became available, including a more complete design.

3.3 APA REVISED PROPOSAL

In its Revised proposal APA did not provide the information requested by the AER in its Draft Decision. The AER therefore issued a further request for response. APA's response to IR024, noted that subsequent to its revised proposal, expenditure for project activities have been refined with better information. APA said that the latest "*allocation of costs is reflective of the split seen with recent projects executed by APA, scaled to match the tight delivery schedule for the project*".

The following table shows the annual split and total of each project category, along with a comparison to the costs provided in the earlier Winchelsea compressor business case.

Table 3-2: Revised Winchelsea compressor allocation of capex ($2022 millions)

Category	2022	2023	Total	Initial	Variance
Project Mgt	xxx	xxx	xxx	xxx	xxxx
Land & Approvals	xxxx	xxxx	xxxx	xxxx	xxxx
Design	xxxx	xxxx	xxxx	xxxx	xxxx
Procurement	xxxx	xxxx	xxxx	xxxx	xxxx
Construction	xxxx	xxxx	xxxx	xxxx	xxxx
Commissioning	xxxx	xxxx	xxxx	xxxx	xxxx
Total direct cost	**32.13**	**27.87**	**60.00**	**60.01**	**0.01**

(Source: IR024 and Business Case 601: Table 5.5)

In the above table "Initial" refers to APA's Winchelsea business case. The "variance" shows the difference between the initial business case cost estimate and the costing provided in IR024.

APA noted that its Board has approved a budget of $60 million for the project.

3.4 ASSESSMENT

The first observation is that the total project costs have not changed between the initial Winchelsea compressor business case and the IR024 response. However the allocation of costs have changed.

With respect to each of the project categories:

Project Management. The total cost has reduced significantly with "organisation resources and project management support functions" rather than external resources. At 5% of the project total we consider the cost to efficient.

Lands & Approvals. With the project being undertaken at an APA owned site this reduced cost is considered to be efficient.

Design. Using internal and external resources to meet the tight time constraints on this project. With a reduced cost this category is considered to be efficient.

The AER sought additional (eg. contractual evidence) to support the increased level of expenditure for the following cost categories. In its response to IR029, APA provided lists of purchase orders extracted from its Procurement system and provided further comments for currently uncommitted costs:

Procurement. The cost estimate has increased by xxxx compared to the business case estimate to xxxx, a xxxx increase. However, most of the expenditure is expected to occur during 2022 including most of the cost increase and if so, APA should be able to provide more definitive expenditure details to support the cost of this category. By way of comparison, for this category Stonehaven was $17.3 million, Pirron was $18.3 million and initial Winchelsea business case was $19.7 million. In IR029 response, APA has listed its "committed" purchase orders and provided comments on uncommitted costs as summarised in the following table:

Table 3-3: SWP – Procurement costs

Revised forecast: xxxx Committed PO: xxxx Uncommitted: xxxx
Comment on uncommitted (approximate) costs: • xxxx – Logistics for large overseas equipment delivery (after cooler ad compressor). Forecast based on tenders received from the market. • xxxx – Remaining procurement activities yet to be awarded. Estimates based on similar projects executed by APA

(Source: IR 029 response)

Based on the additional information provided by APA we consider that the procurement cost estimate has been developed using the best information available and is therefore considered efficient in the circumstances.

Construction. The cost estimate has increased by xxxx to xxxx, a xxxx increase. APA notes that the cost "*reflects market conditions and rates for construction based on similarly sized projects, due to post-Covid supply labour and material shortages. Costs are reflective of execution strategies which will likely call for higher rates/manning in order to meet the compressed project timeline*". In IR029 response, APA has listed its "committed" purchase orders and provided comments on uncommitted costs as summarised in the following table:

Table 3-4: SWP – Construction costs

Revised forecast: xxxx Committed PO: xxxx Uncommitted: xxxx
Comment on uncommitted (approximate) costs: • xxxx – Structural mechanical, piping, electrical and instrumentation construction costs yet to be awarded. Forecast is based on estimate from construction contractor validated with estimates based on similar sized APA projects. • xxxx – Road maintenance works for site access. Forecast based on contractor proposal. • xxxx – Higher civil works costs; amended civil scope pricing based on changed design drawings. Forecasts based on contractor pricing to date. • xxxx – additional fabrication due to change in design. • xxxx – Vendor support during construction • xxxx – Provision for risks including wet weather and night works

(Source: IR 029 response)

While the cost increase of xxxx is significant, the impact of market volatility and tight timeframe for construction activities can be expected to drive costs higher. With the additional information provided by APA's IR029 response, we consider the cost to be reasonable in the circumstances.

Commissioning. An increase of xxxx to xxxx. At xxxx of the total project cost, we consider this cost to be efficient.

3.5 SUMMARY AND RECOMMENDATION

The overall project capital expenditure remains unchanged at $60.0 million and the APA Board has approved this amount.

It is noted that the reduction in Project Management and Lands & Approvals totalling $7.78 million has been fully offset by increases in Procurement and Construction totalling $8.4 million.

With the cost increases in "Procurement" and "Construction", the AER sought additional information from APA to explain the increased level of expenditure for these categories. In its response to IR029, APA provided purchase order details and additional explanation of currently uncommitted costs.

As with the WORM project the cost increases in the procurement and construction categories of the project appear to reflect high market volatility, which has been and continues to be experienced across many sectors of the economy and internationally. In addition, this project is subject to very tight timeframes which can be expected to adversely impact project cost.

Given the range of pressures on this project, and the fact that APA has sound procurement and tendering processes which can be expected to achieve the best prices in the circumstances, we consider the costs to be efficient.

It is also noted that the cost reallocation has moved $5.06 million expenditure from 2022 into 2023, thereby increasing capital expenditure for the 2023 – 2027 AA period from $22.81 million to $27.87 million.

In conclusion, we recommend to the AER that they accept the project costs of $60.0 million to be efficient.