EMCa

energy market consulting associates

ATCO Gas Australia Midwest and Southwest Gas Distribution System

REVIEW OF TECHNICAL ASPECTS OF ATCO REVISED ACCESS ARRANGEMENT 2025-29

Report prepared for:

ERA

April 2024

Preface

This report has been prepared to assist the Economic Regulation Authority (ERA) with its assessment of ATCO Gas Australia's (ATCO) Access Arrangement for the Mid-West and South-West Gas Distribution Systems, for the period from 1st January 2025 to 31st December 2029 (AA6), which it is required to conduct in accordance with the National Gas Law (NGL) and the National Gas Rules (NGR) as applied in Western Australia. This report covers a particular and limited scope as defined by the ERA and should not be read as a comprehensive assessment of proposed expenditure that has been conducted making use of all available assessment methods.

This report relies on information provided to EMCa by the ERA and by ATCO up until 19th January 2024. EMCa disclaims liability for any errors or omissions, for the validity of information provided to EMCa by other parties, for the use of any information in this report by any party other than the ERA and for the use of this report for any purpose other than the intended purpose.

In particular, this report is not intended to be used to support business cases or business investment decisions nor is this report intended to be read as an interpretation of the application of the NGR or other legal instruments. EMCa's opinions in this report include considerations of materiality to the requirements of the ERA and opinions stated or inferred in this report should be read in relation to this over-arching purpose.

Some numbers in this report may differ from those shown in ATCO's Access Arrangement Information (AAI) or other documents due to rounding.

Enquiries about this report should be directed to:

Paul Sell
Managing Director
psell@emca.com.au

Prepared by
Mark de Laeter, Gavin Forrest, Mark Cooper, Paul Sell with input from Eddie Syadan

Date saved
24/04/2024 10:05 AM

Version
Final_PUBLIC v4

Energy Market Consulting associates
ABN 75 102 418 020

Sydney Office
L25, 100 Mount Street, North Sydney NSW 2060
PO Box 592, North Sydney NSW 2059
+(61) 2 8923 2599
contact@emca.com.au
www.emca.com.au

Perth Office
contact@emca.com.au
www.emca.com.au

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

Term	Definition
AA	Access Arrangement
AA4	Access Arrangement for the period 2014-2019
AA5	Access Arrangement for the period 2020-2024
AA6	Access Arrangement for the period 2025-2029
AAI	Access Arrangement Information
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AESCSF	Australian Energy Sector Cyber Security Framework
AGIG	Australian Gas Infrastructure Group
AGN	Australian Gas Networks
AHI	Asset Health Index
ALARP	As Low As Reasonably Practicable
ALS	Asset Lifecyle Strategy
AS	Australian Standard
ATCO	ATCO Gas Australia
BS	British Standard
BST	Base Step Trend
CAGR	Compound Annual Growth Rates
CAM	Cost Allocation Method
Capex	Capital Expenditure
CEAR	Capital Expenditure Approval Request
CEIH	Clean Energy Innovation Hub
CFI Rule	Credits (Carbon Farming Initiative) Rule 2015
CIC	Customer Initiated Connection
CIRMP	Critical Infrastructure Risk Management Plan
Core	Core Energy
CP	Corrosion Protection
CPI	Consumer Price Index
DCVG	Direct Current Voltage Gradient
DMIRS	Department of Energy, Mines, Industry Regulation and Safety
EGWWS	Electricity, Gas, Water and Waste Services

Term	Definition
EMCa	Energy Market Consulting Associates
EOL	End of Life
EOM	End of Maintenance Extension
EPWA	Energy Policy Western Australia
ERA	Economic Regulation Authority
ERP	Enterprise Resource Planning
FD	AA5 Final Decision
FTE	Full time Employee
FY	Financial Year
GDS	ATCO's South-West and Mid-West Gas Distribution System
GIS	Graphical Information System
GSSSR	Gas Standard (Gas Supply and System Safety) Regulations 2000
HHV	Higher Heating Value
HPR	High Pressure Regulator
HyP Gladstone	Hydrogen Park Gladstone
HyP Murray Valley	Hydrogen Park Murray Valle
HyP SA	Hydrogen Park South Australia
IAS	International Accounting Standards
IFRS	International Financial Reporting Standards
ILI	In Line Inspection
IR	Information Request
IT	Information Technology
ITSP	Information Technology Strategic Plan
KPI	Key Performance Indicator
MAOP	Maximum Allowable Operating Pressure
ML	Maturity Level
MPR	Medium Pressure Regulator
MRP	Mains Replacement Prioritisation
NGER	National Greenhouse and Energy Reporting
NGL	National Gas Law
NGO	National Gas Objective
NGR	National Gas Rules
NGR (WA)	National Gas Rules (WA)
NMIS	Network Management Information System
NPV	Net Present Value

Term	Definition
Opex	Operational expenditure
PE	Polyethylene
PFP	Partial Factor Productivity
PIG	Pipeline Inspection Gauge
PMD	Pressure Monitoring Device
PMM	Project Management Manual
PPE	Personal Protective Equipment
RAB	Regulated Asset Base
RMC	Routine Meter Change
SA Act	Statutes Amendment (Emission Reductions) Act 2023
SaaS	Software As a Service
Safeguard Rules	Set Out In the National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015
SAMP	Strategic Asset Management Plan
SDRP	Strategic Delivery and Resources Plan
SOCI	Security of Critical Infrastructure (SOCI) Act 2018
SP	Security Profile
SP-1	Security Profile 1
SP-2	Security Profile 2
STEQ	Structures and Equipment
STIP	Short-term Incentive Program
Synergies	Synergies Economic Consulting
TFP	Total Factor Productivity
the NGER Act	National Greenhouse and Energy Reporting Act 2007
UAFG	Unaccounted For Gas
uPVC	Uncoated Polyvinyl Chloride
WA	Western Australia
WP	Works Program
WPI	Wage Price Index

EXECUTIVE SUMMARY

Purpose of this Report

1. This report provides our assessment and findings from our review of ATCO's capex incurred (or to be incurred) in the AA5 period, and its proposed capex and opex allowances for the AA6 period.

2. We have undertaken our review primarily based on ATCO's AA6 Access Arrangement Information document (AAI) and the documents that ATCO provided in support of its proposal, and we have considered these documents to definitively provide its proposal and supporting rationale. To augment these sources, we sought and were provided with a range of additional documents,[1] and we met with ATCO for an onsite meeting at which we provided ATCO with the opportunity to provide clarifications and additional information on its proposal.

Review approach

3. Our review approach is to assess ATCO's proposal based on the methods that it claims to have used in preparing it. We have sought to understand ATCO's expenditure governance and management processes, and the forecasting methods and relevant assumptions it has applied and, with this understanding, to then assess the projects and programs of work that form the basis of its submission.

4. Our review has placed emphasis on assessing those matters that are of greatest significance in driving the level of reference tariffs that the Economic Regulation Authority (ERA) is being asked to approve. Accordingly, we have deepened our assessment process on such components of proposed expenditure, so as to provide the ERA with the necessary supporting evidence and supporting logic on matters of most significance. Our review does not, nor is it intended to, represent an expenditure approval process and the specific projects, programs and activities that ATCO chooses to undertake are matters for ATCO's management judgment.

ATCO's proposal

AA5 capex and opex

5. ATCO reports that it has incurred, or will incur, a total of $413.7 million capex and a total of $355.8 million opex in the AA5 period:

   - For capex, ATCO is proposing that it will incur conforming capex that is $68.8 million (14%) less than the ERA's regulatory capex allowance for the AA5 period. According to ATCO, the variation of actual/estimated expenditure to the ERA's FD is primarily due to
     - lower demand / restricted access to resources,
     - lower (reduced scope) works program, and
     - lower unit costs (including from application of new delivery methods).
   - For opex, ATCO estimates spending $22.1 million (or 6%) less than the ERA's AA5 opex allowance of $377.9 million, with ATCO advising that the impact of COVID-19 is the greatest contributor to spending less than ERA's allowance.

[1] We have sought to take account of all information provided, but we disclaim responsibility for full consideration or acknowledgment in this report, of information that was provided after 19th January 2024 as the information cut-off for completion of our assessment.

  - The main negative variances are to UAFG and Ancillary Services while ATCO's estimated network, corporate and IT expenditure will be $5.6 million (1.7% less than ERA's allowance for this component.

Proposed AA6 capex and opex

6. ATCO has forecast total capex of $465.8 million capex and total opex of $455.9 million for the AA6 period. This represents increases of 12.6% and 28.1% respectively from the actual/estimated opex for the AA5 period.
   - ATCO describes the main driver of its proposed increase in capex during AA6 as being a combination of increased investment in asset replacement and asset performance and safety, with investment in enabling renewable gases a major new component of the latter category; and
   - ATCO describes the main drivers of its proposed increase in AA6 opex compared to the AA5 period as
     - including a new ancillary reference service,
     - greater focus on sustainability initiatives, and
     - a shift in how SaaS ICT expenditure is accounted for.

Our assessment

ATCO's governance and management framework

Areas of weakness in ATCO's governance and management framework are causal factors in its overstatement of its expenditure requirements

7. We observe that ATCO has made few changes to its governance and management practices over the last five years. It continues to apply a largely qualitative approach to benefits identification and to risk management. It applies deterministic criteria to establish the scope and timing of the majority of its programs.
8. In addition to our observations regarding deterministic criteria and the lack of quantitative analysis, we have identified issues with some of the component parts of ATCO's governance and management framework and practices. These include:
   - Insufficient evidence of risk-based investment portfolio development and management;
   - Inadequate links to historical plans, expenditure (including expenditure variances), and performance outcomes in critical documents;
   - Inadequate application of an objective and quantitative ALARP test to investment decisions; and
   - ATCO does not explicitly consider the risk of asset stranding in its asset management documents.
9. Individually and collectively, these issues undermine the credibility of ATCO's expenditure proposals and, in our view, are underlying causal factors that have led to an overstatement of ATCO's requirements both for the remaining years of AA5 and for AA6.

ATCO's forecasting methods, assumptions and regulatory accounting matters

ATCO forecasts a reducing demand for gas

10. ATCO forecasts a continuing decline in gas use per customer and a reduction in overall gas use. We have relied on these forecasts for our assessment, while noting that the ERA is separately seeking advice on ATCO's demand forecast and will make its own assessment of the impact of this on ATCO's capex and opex forecasts.

ATCO has addressed prior concerns with its growth modelling

11. ATCO has addressed two primary concerns from our AA5 assessment of its growth modelling, by reducing the study period to 25 years (from 50 years) and applying the prevailing tariffs (rather than proposed tariffs).

A significant issue with ATCO's capex portfolio forecast is the inclusion of material individual project contingencies

12. ATCO's capex forecasting methodology is essentially a bottom-up project-based forecast. We consider that a significant issue is ATCO's inclusion of project-level contingency amounts in its proposed expenditure requirements. Adjusting for this provision is a major component of our findings regarding ATCO's proposed AA6 capex.

ATCO's BST opex and capitalised overhead forecasting methods are appropriate, though we consider that a number of assumptions that it has made result in overstated forecasts

13. We consider that ATCO's chosen method for opex forecasting, base-step-trend (BST) with specific forecasts for ancillary services costs and UAFG, is appropriate. However, we have concerns with aspects of ATCO's application of BST and some of its underlying assumptions.

14. ATCO has forecast its capitalised overheads also using a BST method. We consider this method to be reasonable for this purpose, though we consider the result to be overstated (as noted under AA6 capex below).

ATCO's AA5 conforming capex

ATCO's proposed AA5 conforming capex allowance is overstated

15. ATCO provided documentation to support its actual and estimated capex in the AA5 period including variance analyses, approved business cases, change-control documents, and project close-out summaries. However, we have found that it has not fully justified its AA5 capex against the capex criteria.

ATCO's AA5 capex includes some projects that we consider are not conforming capex and some projects and unit cost assumptions for the final two years that are not justified

16. At a portfolio level, there is evidence of ATCO prioritisation of the capital works in response to external changes, adjustments in response to new information, and delivered cost efficiency. However, we find issues relating to the estimated capex for 2023 and 2024 and inclusion of projects that do not meet the NGR across all years of the AA5 period, as follows:

- Projects included in the final two years of AA5 without sufficient justification, and which in some cases include project contingency;
- Evidence of lower historical unit rates than have been applied for forecast capex; and
- Projects that do not meet the NGR and which include projects that were previously disallowed for this reason in the ERA's FD.

We calculate that adjustment based on our findings leads to an AA5 conforming capex allowance that is 4% less than ATCO has proposed

17. For AA5 capex, we consider that $398.2 million, compared with ATCO's proposal to allow $413.7 million, is likely to satisfy the capex criteria. This implies an adjustment of minus $15.5 million. The resulting adjustment would represent 4% of ATCO's proposal for conforming AA5 capex.

18. The largest sources of adjustments are in the Network Sustaining (minus $8.9 million) and Information Technology (minus $3.6 million) categories.

19. These adjustments primarily relate to expenditure that ATCO had not yet incurred (at the time ATCO prepared it proposal) and for which ATCO indicated that it would provide updated forecasts in its revised submission to the ERA.

ATCO's proposed AA6 capex

ATCO's proposed AA6 capex allowance is overstated

20. In the absence of quantitative risk analysis by ATCO, we have applied an experienced-based review of the information provided by it to justify the projects/programs. We consider that in a number of respects this proposed expenditure allowance is not justified by reference to the capex criteria.

Our findings on ATCO's proposed AA6 capex allowance result from our review of specific project and program information that ATCO provided to us

21. Key factors in our assessment of individual projects and programs include:

- The extent to which ATCO has demonstrated the current level of risk and the prudent attainment or otherwise of a lower level of risk via its proposed investment;
- Existence or otherwise of adequate justification (such as evidenced option analysis and cost benefit analysis); and
- The basis on which ATCO has determined its cost estimates (including where it has applied contingency amounts).

22. From this assessment, we have resolved findings on individual projects and programs. In some cases this leads us to conclude that a project or program is justified, but that the cost is overstated, while in some cases we conclude that ATCO has not adequately justified the project or program, or the option that it has selected.

We consider that ATCO has inappropriately included individual project contingencies and has overstated real cost escalation impacts and capitalised overhead requirements

23. We consider that it is not reasonable to include in the aggregate AA6 capex allowance the summation of individual project contingencies. At a portfolio level, and with unbiased costing (which we consider to be the case), these should net to zero.

24. Based on our assessment that ATCO has overstated real labour escalation, there is a component of this that is inherent in its capex forecast. We also consider that ATCO's forecast for capitalised overheads is overstated, for reasons that essentially parallel our findings on overstatement of its opex requirements.

We calculate that adjustment based on our findings leads to an AA6 capex allowance that is 15% less than ATCO has proposed

25. Our assessed adjustments to ATCO's proposed AA6 capex allowance have been applied to each capex category, through summing adjustments at the individual project or program level. For AA6 capex, we consider that $406.3 million compared with ATCO's proposed allowance of $465.8 million, is likely to satisfy the capex criteria. This implies an adjustment of minus $59.5 million, including a minus $9.9 million adjustment in accordance with our proposed allowances for real cost escalation and for capitalised overheads.

26. The largest project-based sources of adjustment are to Asset Safety & Performance (minus $29.8 million) and Asset replacement categories (minus $12.4 million).

27. In aggregate, the adjusted capex allowance would be 13% less than ATCO has proposed.

ATCO's proposed AA6 opex

ATCO's proposed AA6 opex allowance is overstated

28. ATCO has proposed a Base Step Trend forecast for all except its UAFG and Ancillary Services costs, using the ERA's AA5 actual opex for 2022 as its starting point, and adjusting and escalating from that point. We consider that its forecast allowance is overstated.

We consider that (negative) adjustments that ATCO has made to its base year opex are understated, while its real cost escalation parameter is overstated.

29. We find that:

- ATCO's 2022 actual opex is appropriately used as the starting point for defining base year opex;
- Whilst we accept ATCO's proposed adjustments to its Base Year, we consider further adjustments are required in establishing the base opex value to reflect an efficient and representative base year; and
- ATCO's proposed real labour cost escalation is overstated through inclusion of a premium above the forecast WPI, which we consider not to be justified.

Some step changes are either not justified or their costs are overstated.

30. A number of proposed step changes are either not justified or would be removed as a consequence of the corresponding capex project/program not meeting the capex criteria. For some step changes, ATCO has not adequately justified the proposed cost.

UAFG allowance should be costed at the price of natural gas

31. For UAFG, we consider that ATCO's estimated volume is reasonable, but that this should be costed at the forecast price of natural gas and should not include assumed purchases of higher cost alternatives to natural gas.

Proposed Ancillary Services costs are reasonable

32. For Ancillary services, we have taken the forecast demand (volume) of ancillary services as provided by ATCO. We therefore focused on the unit costs. After receiving clarification from ATCO on one aspect, we consider the unit rates to be reasonable and therefore the Ancillary services opex forecast to be reasonable.

We calculate that adjustment based on our findings leads to an AA6 opex allowance that is $85.1 million less than ATCO has proposed

33. For AA6 opex, we consider that $370.8 million compared with ATCO's proposed allowance of $455.9 million, is likely to satisfy the opex criteria. This implies an adjustment of minus $85.1 million.

34. The majority of the overall adjustment results from adjustments to Base Year opex (minus $49.0 million over five years) and Step changes (minus $30.4 million).

1 INTRODUCTION

The ERA has asked us to provide technical advice to assist the ERA with its assessment of proposed revisions to the access arrangement for ATCO's South-West and Mid-West gas distribution systems. The requested technical advice covers a range of matters that can affect the capital and operating expenditure proposed by ATCO. Our review is based on information that ATCO provided and on aspects of the National Gas Rules that apply in Western Australia relevant to assessment of expenditure allowances.

1.1 Purpose and scope of this report

35. The Economic Regulation Authority (ERA), in accordance with its responsibilities under the National Gas Law (NGL) and the National Gas Rules (NGR), is reviewing ATCO Gas Australia's (ATCO) revised access arrangement (AA) proposal for the Mid-West and South-West distribution systems (GDS) for the period 1 January 2025 to 31 December 2029 (AA6).

36. In Western Australia, the *National Gas Access (WA) Act 2009* amends and implements the NGL ('the NGL (WA)'). The NGL WA gives effect to a modified version of the NGR as relevant to gas access regulation in WA ('the NGR(WA)'). For simplicity, and unless otherwise designated, references in this report to NGR shall mean NGR (WA).

37. To assist with its assessment of ATCO's AA6 proposal, the ERA has engaged Energy Market Consulting associates (EMCa) to review and provide technical advice on the following aspects:

- The capital expenditure (capex) incurred (or to be incurred) by ATCO in the current AA period of five years, which extends from 1 July 2020 to 31 December 2024 (AA5);
- ATCO's proposed capex for AA6;
- ATCO's proposed operating expenditure (opex) for AA6;
- The governance arrangements, forecast methodology and cost estimation processes employed by ATCO when developing its expenditure proposals; and
- Other specific matters, including ATCO's KPIs and asset lives assumed for depreciation purposes.

38. The results of our technical assessment are set out in this report.

1.2 Scope of our review

39. In regard to ATCO's expenditure, the overarching objective of this review is to assist the ERA to determine whether the actual capex incurred, or to be incurred, by ATCO in AA5 and its proposed capex for AA6 complies with the criteria set out in rule 79 of the NGR and whether its proposed opex for AA6 complies with rule 91(1). To the extent that we consider that such expenditure does not comply, the ERA has sought our technical advice on adjusted expenditures that could be considered to comply.

40. In carrying out this review, the ERA has asked us to evaluate a range of matters that can affect capex and opex including, amongst others:

- ATCO's substantiation and justification for forecast increases in opex and capex;
- ATCO's project governance arrangements (e.g. procurement practices and delivery models), and the methods or models used by ATCO to estimate its expenditure requirements and to prioritise areas of expenditure;

- Observations regarding ATCO's demand forecasts as part of developing its capex and opex forecasts and the impacts of changes to demand forecasts;
- The extent to which ATCO has factored efficiencies into its opex and capex forecasts;
- ATCO's ability to deliver its proposed capex program;
- The asset lives assumed by ATCO when calculating depreciation;
- The Key Performance Indicators (KPIs) used by ATCO to support its capex and opex forecasts including comparison with industry standards and any proposed changes to ATCO's operational and service level performance; and
- Individual assessment of potential non-compliant capex and opex related to the provision of renewable gases into the gas network.

1.3 Our review approach

41. In undertaking our review, we:
    - Completed a desktop review of the information provided to us by the ERA.
    - Prepared requests for information to ATCO to help ensure that we correctly understood the methodology and assumptions that ATCO had applied in estimating its expenditure requirements.
    - Conducted an in-person review meeting with ATCO staff to review elements of its submission.
    - Undertook an assessment of relevant aspects of the expenditure forecast, including by taking into account the responses from ATCO to information requests. Our review considers the requirements of the NGR, specifically the capex and opex criteria and objectives.
    - Documented our findings in this report.
42. We also provided feedback to ERA staff on our preliminary findings, while drafting this report.
43. Our review has placed emphasis on those matters that are of greatest significance in driving the level of reference tariffs the ERA has been asked to approve. Accordingly, we have deepened our assessment process on such components of proposed expenditure to provide the ERA with the necessary supporting evidence and supporting logic on matters of most significance. Our review does not, nor is it intended to, represent an expenditure approval process and the specific projects, programs, and activities that ATCO chooses to undertake are matters for ATCO's management judgment.
44. Where we find that ATCO's forecast expenditure is not reasonable in terms of the relevant requirements of the NGR, we have identified the extent to which the issues we have found have resulted or may result in a higher level of expenditure than what would be required of a prudent and efficient service provider.
45. To the extent that there may be implications for aspects of ATCO's access arrangement that are beyond our scope, we have included additional observations in some areas that we trust may assist the ERA with its own assessment.

1.3.1 Conformance with NGR requirements

46. In undertaking our review, we have been cognisant of the relevant aspects of the NGR under which the ERA is required to make its determination.
47. The provisions the ERA is required to have regard to when assessing ATCO's capex and opex proposals are set out in Part 9 of the NGR.
48. In short, these rules require the ERA to accept ATCO's proposal if:

- The capex complies with the conforming capex criteria in rule 79 of the NGR and any forecasts or estimates underpinning the capex proposal are arrived at on a reasonable basis and represent the best forecast or estimate possible in the circumstances (rule 74(2)); and
- The opex complies with the criteria set out in rule 91(1) of the NGR and any forecasts or estimates underpinning the opex proposal satisfy rule 74(2).

49. The ERA's discretion under rules 79 and 91(1) is limited, which means it may not withhold its approval, if it is satisfied the opex and capex proposals comply with the relevant rules and/or provisions in the NGL.

50. We provide our interpretation of the capex and opex criteria in our assessment in Appendix A.

1.3.2 Technical review

51. Our assessments comprise a technical review. While we are aware of stakeholder inputs on aspects of what ATCO has proposed, our technical assessment framework is based on engineering considerations and economics.

52. We have sought to assess ATCO's expenditure proposal based on ATCO's analysis and ATCO's own assessment of technical requirements and economics and the analysis and other information that it has provided to support its proposal. Our findings are therefore based on the available information and, to the extent that ATCO may subsequently provide additional information in a revised proposal, any subsequent assessment may differ from the findings presented in the current report.

53. We have been provided with a range of reports, internal documents, responses to information requests and modelling in support of what ATCO has proposed and our assessment takes account of this range of information provided. To the extent that we found discrepancies in this information, our default position is to revert to ATCO regulatory submission documents as provided on its submission date, as the 'source of record' in respect of what we have assessed.

1.4 About this report

1.4.1 Report structure

54. The following sections of our report are structured as follows:

- In section 2, we present context relevant to our assessment.
- In section 3, we present our assessment of matters pertaining to ATCO's investment governance and management.
- In section 4, we present our assessment of ATCO's forecasting methods, assumptions and regulatory accounting matters.
- In section 5, we present our assessment of ATCO's AA5 capex.
- In section 6, we present our assessment of ATCO's AA6 capex forecast.
- In section 7, we present our assessment of ATCO's AA6 opex forecast.

55. We have also included Appendix A, where we discuss the review framework applied to our assessment and Appendix B where we provide our capex adjustments by asset category based on the assessment included in section 6.

1.4.2 Information sources

56. We have examined relevant documents that ATCO has published and/or provided to the ERA in support of the areas of focus and projects that the ERA has designated for review. This included further information at meetings with ATCO and further documents in response

to our information requests. These documents are referenced directly where they are relevant to our findings.

57. Except where specifically noted, this report was prepared based on information provided to us prior to 19 January 2024 and any information provided subsequent to this time may not have been taken into account.

1.4.3 Presentation of expenditure amounts

58. Expenditure is presented in this report in $2023 real terms, to be consistent with ATCO's AAI, unless stated otherwise. In some cases, we have converted to this basis from information provided by the business in other terms.

59. While we have sought to reconcile expenditure amounts presented in this report to source information, in some cases there may be discrepancies in source information provided to us and minor differences due to rounding. Any such discrepancies do not affect our findings.

2 RELEVANT CONTEXT TO OUR ASSESSMENT

In undertaking our review, we have been cognisant of the relevant aspects of the NGR under which the ERA is required to make its determination.

Across the energy sector, the industry is responding to increasing uncertainty as a part the broader energy transition across society to achieve a reduction in global and local emissions. We outline some key considerations for our review in this context, particularly of the distribution and consumption of natural gas, and impact that increased uncertainty has on forecast investment. We have reviewed, and taken account of relevant regulatory compliance obligations and developments that are expected to apply to ATCO in its management of the GDS.

The Rules encourage assessment by consideration to good industry practice. By extension this includes practice adopted by other gas distribution businesses, and more broadly good technical and regulatory practice provides. We have drawn from these practices, as relevant, in our assessment of ATCOs proposal.

2.1 Transition to alternative fuels

60. In addition to responding to the need to build greater resilience, natural gas currently continues to play a major role in the energy sector for electricity, industry, heating and cooking and is discussed as a potential pathway and transition fuel to support the transition of the electricity and transportation sectors to a low-carbon future. However, the historical reliance placed on natural gas is changing.

61. More recently, policy decisions made in Victoria and ACT have resulted in constraining any further growth of natural gas distribution to end-use customers. Gas prices in the eastern states of Australia are placing increased pressure on finding alternatives for the electricity generation sector to support the energy transition, and this is being assisted by the reducing cost of renewables.

62. Whilst sources of natural gas in WA are plentiful, there are also developments for fuel replacement using forms of energy that are considered to originate from more renewable sources. This includes renewable gases such as biomethane and hydrogen, and fuel substitution using renewable electricity generation from wind, solar and hydro.

63. Customers are now more engaged with their energy system, which is demanding different services in terms of their ability to supply, consume and trade energy. This has implications for investments in energy infrastructure, and digital applications and infrastructure to support changes in how the energy system is used. This will likely result in the need for further deep investments in infrastructure and new technologies, but when this is required, and how the existing infrastructure can best be leveraged in this transition remains uncertain.

64. While we recognise the reality of the energy transition, and de-carbonisation of the sector, we have necessarily undertaken our review in accordance with the current planning and regulatory framework. To the extent that benefits are based on an assessment of a future energy system, or a projection of a future scenario, it is necessary to consider the likelihood of continuing changes to consumer preferences and technologies and also changes to the regulatory and planning framework that may affect justification for projects of this type.

2.2 Developments in the regulatory framework

65. We summarise three key developments to the regulatory framework that are relevant to our review.

2.2.1 Extending the national gas regulatory framework to hydrogen and renewable gases

66. On 28 October 2022, Energy Ministers agreed to extend coverage of the NGL and regulations to 'renewable gases' as well as natural gas, and to classify them as 'Covered Gases.' Covered Gases will initially include:

- Natural gas;
- Hydrogen;
- Biomethane;
- Synthetic methane; and
- Blends of these gases.

67. Amendments to the NGL were introduced to the South Australian Parliament on 27 September 2023 and passed by both Houses, with amendments to the regulations expected to follow.

68. Consequential changes may be required to statutory or regulatory instruments in WA such as the *Gas Supply (Gas Quality Specifications) (WA)* or AS4564 General Purpose Natural Gas and, possibly, to some transportation agreements to be able to fully implement the new regime. These changes could mean, once implemented, that Covered Gases will be treated in the same way as natural gas is currently. However, as at our drafting close-off date of 19 January 2024, this is not yet the case.

2.2.2 Incorporating an emissions reduction objective into the national energy objectives

Contribution to emissions reduction now forms a part of the NGO

69. On 19 May 2023, Energy Ministers agreed to amendments to the national energy laws to incorporate an emissions reduction objective into the National Electricity Objective, National Gas Objective (NGO) and National Energy Retail Objective (the national energy objectives) respectively.

70. The reform to include emission reductions has already been adopted for both the gas and electricity sector as a result of the *Statutes Amendment (Emission Reductions) Act 2023* (SA Act). The SA Act amends the NGO as follows:

> *'The objective of this Law is to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to*
>
> *(a) price, quality, safety, reliability and security of supply of natural gas; and*
>
> *(b) the achievement of targets set by a participating jurisdiction—*
>
> *(i) for reducing Australia's greenhouse gas emissions; or*
>
> *(ii) that are likely to contribute to reducing Australia's greenhouse gas emissions.'*

AEMC is finalising consequential rule changes

71. Following the assent of the *Statutes Amendment (National Energy Laws) (Emissions Reduction Objectives) Act 2023* on 21 September, the National Energy Objectives now include an emissions reduction component.

72. The Australian Energy Market Commission (AEMC) has published a draft determination and draft rules on 26 October 2023 that seek to harmonise the national energy rules with the updated energy objectives.

73. The draft rules would support the incorporation of emissions reduction in the energy regulatory framework by allowing network and pipeline operators to propose expenditure for activities that would contribute to achieving emissions reduction targets.

74. The final determination by AEMC is expected to be published on 1 February 2024.[2]

2.2.3 Commonwealth safeguard mechanism targets highest emitters

75. The Safeguard Mechanism is the Australian Government's policy for reducing emissions at Australia's largest industrial facilities.

76. Approximately 215 facilities are covered by this policy and account for almost 30% of Australia's total emissions. It sets legislated limits, known as baselines, on the greenhouse gas emissions of these facilities. These baselines will decline, predictably and gradually, on a trajectory consistent with achieving Australia's emission reduction targets of 43% below 2005 levels by 2030 and net zero by 2050.

77. The Safeguard Mechanism is enacted through the *National Greenhouse and Energy Reporting Act 2007* (the NGER Act) and other legislation.

78. Much of the detail is set out in the *National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015* (Safeguard Rules), alongside the *Carbon Credits (Carbon Farming Initiative) Rule 2015* (CFI Rule) and the *Australian National Registry of Emissions Units Regulations 2011*.

79. To be subject to the mechanism, facilities must emit more than 100,000 tonnes of greenhouse gases a year — a threshold the government has committed to stand by.

80. Current ATCO GDS emissions fall under this level, however previously ATCO GDS has been subject to this legislation under the previous calculation method of emissions.

2.3 Implications for our assessment

81. We have identified several issues arising from our assessment of the operating context to which ATCO operates, and ATCOs response to the possible changes it might face during the AA6 period, and which leads it to include additional expenditure for the AA5 and AA6 period.

Taking account of uncertainty in investment decisions

82. Given the factors described above, and the reality that investments in gas distribution tend to be both capital-intensive and attract long technical / economic lives, it is necessary to consider option value in assessing deep investments in the network.

83. Considerations of option value and the timeframe over which benefits are adequately able to be modelled, can help to ensure that any network investment is prudent and efficient in accordance with the regulatory objectives. This in turn helps in meeting the objective of ensuring that consumers do not end up paying the risk costs of projects that are developed

[2] The findings included in our report are based on information available to us up to and including 19 January 2024. We note that since this time, the AEMC has published its final rules, and which provides discretion to the ERA in Western Australia to apply the 'new' or existing expenditure objectives in the Rules for current AA determinations to include recognition of expenditure for the purpose of reducing emissions. However, the substantive wording relied upon in our assessment is otherwise largely unchanged.

earlier than required or which become stranded or 'regretted' due to changes in the electricity market, energy system, climate and the technologies deployed there.

84. While we have considered how the factors described above have informed the plans proposed by ATCO, this is an emerging area and which has greater impact to large infrastructure investments associated with transmission pipelines than distribution pipelines. No inference from our assessment should be drawn on the need for or benefit of projects generally or their role in facilitating the energy transition, achievement of emissions reduction targets or adaptation to climate change.

ATCO has adopted an optimistic view of adoption of covered gases and its role

85. We are not aware of a date of adoption in WA for the consequential amendments required to enact changes at the national level, or whether consequential amendments are being proposed to the expenditure criteria included in the NGR which will apply to ATCO, to recognise investments associated with covered gases.

86. This differs from ATCO's position in its AAI that anticipates that this change will apply to AA6, and in fact also applies to investments made during AA5.

ATCO has assumed that its role extends to the provision of blending and de-blending services as a covered service

87. To ensure that these requirements are met, ATCO claims that the design, construction and operation of the gas injection points are best served by ATCO, and requires ATCO to undertake this as a covered service:[3]

> *'In the case of renewable gas supply to the network, the highest asset risk is with ATCO Gas. Renewable gas is an additional supply to an existing network and therefore supply risk is not the highest concern. There are also no transmission pipelines from the gas producer/supplier to the distribution network.*
>
> *The highest concern is the quality of the gas being distributed on behalf of the retailer. As the distribution company, ATCO Gas has a requirement to ensure that renewable gas is maintained at a legislated quality (Australian Standard AS 4564) and is also cost-effective.'*

88. We consider that both assumptions are questionable, and we consider them in the context of our review of the relevant aspects of ATCO's proposed capex.

ATCOs role as operator of the GDS is as a 'taker' of its supply agreements

89. As the operator of the GDS, ATCO will become a 'taker' of whatever blend of Covered Gases a customer wants to deliver into the network, whether from a transmission pipeline or from a production facility.

90. We therefore consider that as ATCO will have the same obligations to connect suppliers and customers, ATCO would likely impose the same obligations on a shipper, supplier, or customer as it currently can. This would apply to gas quality obligations, obligations to install appropriate measurement and control equipment on the delivery facilities, data provision obligations, etc.

ATCO defines risks related to gas quality as resting with the User

91. Section 6 of ATCO's Template Service Agreement for access to the GDS states that it is the responsibility of the User to ensure that Gas delivered into the GDS meets the Gas Quality Specifications set out in Attachment 1 to that document. It further states that ATCO accepts no responsibility for the quality of Gas delivered from the GDS to the User. This position is unlikely to change with the introduction of new gases (and should not in accordance with gas industry practice).

[3] ATCO response to IR EMCa61

92. Our reading of the template service agreement proposed for AA6 seems in conflict with ATCO's claim that the 'asset risk' rests with the operator. The agreement differentiates between categories of risk, so that any consequential asset damage would be claimable against the User. Therefore, contrary to ATCO's assertion, risk related to gas quality appears to rest with the User, not ATCO and expenditure proposed for this purpose would not meet the requirements of the rules to recover the cost from consumers.

93. In accordance with gas industry practice, there is a reasonable basis for ATCO to specify the requirements for a new receipt point and even to construct and operate it. However, as the risk rests with the User, the work should be done at the cost of the User, and most likely as a capital contribution for the construction and an ongoing O&M agreement.

There is absence of a justified regulatory change event or demonstrable need for blending

94. The proposed changes to the regulatory framework suggest that processing facilities used for blending or de-blending of covered gases may be recognised as a potentially contestable activity.[4] However, the changes and their implications to the operator of the GDS and thereby definition of covered services are not yet defined.

95. In the absence of clear policy direction or regulatory changes in place, given the role of other actors in development of covered gases and the immature state of a market in WA, we consider that it cannot be assumed to be the role of the distribution pipeline to undertake this role as a covered service.

Rules to support changes to the NGO are not yet established in WA

96. We have undertaken our review on the basis of established expenditure criteria, and the regulatory compliance obligations that relate to those as criteria identified by ATCO in its submission, or which were established before we completed our assessment. As noted in the preface to this report, our findings are based on information available to us up to and including 19 January 2024. Rules regarding approval of capital (NGR 79) and operating (NGR 91) expenditure are prescriptive and do not currently reference the new objectives referred to in section 2.2.2, including the emissions reduction component.

97. According to the Energy Policy WA (EPWA) website,[5] the Western Australian Government intends to adopt reforms to adopt changes to the rules that apply in WA to enact the new NGO. However, as at the date of completion of our assessment, new regulatory obligations that would apply to ATCO had not been established.

98. The state government of WA has committed to working with all sectors of the economy to transition to net zero emissions by 2050. On 30 November 2023 the State Government introduced the Climate Change Bill 2023 to Parliament to, amongst other things establish targets. However, at the time of our assessment this Bill has not passed Parliament, and the final form of these targets and their applicability are not yet known. We are not aware of an emissions reduction target that has currently been defined to apply to ATCO as a compliance requirement or regulatory obligation in relation to the State Government's emissions-related targets.

99. Since completion of our assessment, the AEMC has published final rules which provide discretion to the ERA in Western Australia to apply the 'new' or existing expenditure objectives in the Rules for current AA determinations to include recognition of expenditure for the purpose of reducing emissions.

[4] https://www.energy.gov.au/sites/default/files/2022-11/Extending%20the%20national%20gas%20regulatory%20framework%20to%20hydrogen%2C%20biomethane%20and%20other%20renewable%20gases%20-%20December%202022.pdf

[5] https://www.wa.gov.au/government/document-collections/national-gas-law-western-australian-adoption-of-amended-national-gas-objective-include-emission-reductions

2.4 Public submissions

100. Public submissions were received by ERA in the course of our review. While our assessment of ATCO's proposal is based on application of expenditure objectives and criteria in the NER and our engineering/economic judgment, and predated public submissions, we nevertheless reviewed public submissions relevant to our scope and areas of focus within our assessment to identify alignment with any aspects of particular public interest or concern.

101. Of particular interest were the regulatory framework, the demand forecast, and the proposed ATCO investment in supporting the introduction of renewable gas into the GDS:

- There is a general acknowledgement of uncertainty in the gas market. Moreover, there is general support for the ERA's position of review against the regulatory framework that is in place at the time of the review – a point in time – and not to determine expenditure based on future conditions or obligations that have a high degree of uncertainty;
- There are mixed views on the accuracy of the demand forecast and which has a direct relationship with ATCO's works program. This will be determined by the ERA and will need to be reflected in possible changes to the forecast expenditure; and
- There is a general lack of stakeholder support for investment in infrastructure to support the introduction of renewable gas.

102. We consider that the views of stakeholders that we have summarised here align with the findings from our assessment, as reported in the sections which follow.

3 GOVERNANCE AND MANAGEMENT MATTERS

ATCO has made few changes to its governance and management practices over the last five years. It continues to apply a largely qualitative approach to benefits identification and to risk management. It applies deterministic criteria to establish the scope and timing of the majority of its programs.

Our experience in other jurisdictions and industries is that moving from a qualitative and deterministic approach to a quantitative risk-cost analysis takes considerable effort but the pay-off is better decision making, typically resulting in less investment without compromising asset integrity, safety and other KPIs.

ATCO has provided evidence that its governance and management approach has led to improved network performance across multiple KPIs. In our view this could be due to the relatively risk-averse approach adopted by ATCO, and which may lead to some degree of over-investment.

ATCO's core asset management documents do not directly address the uncertainty of the enduring use or otherwise of distribution gas pipelines and associated assets given the global de-carbonisation of the energy sector.

3.1 Introduction

103. To inform our assessment of the capex incurred (or to be incurred) by ATCO in the AA5 period and its proposed expenditure for the AA6 period, we have reviewed ATCO's approach to investment governance and management systems, procedures, and practices and compared them to good industry practice. We have also compared what ATCO's governance framework requires and the evidence we have seen, or otherwise, of consistent application of those requirements.

3.2 Investment governance framework

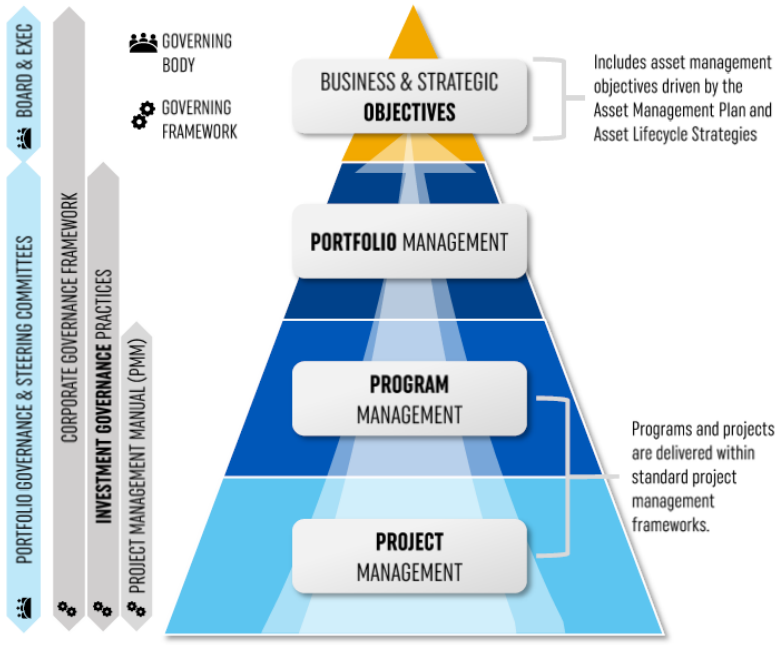
ATCO's investment governance hierarchy has not changed materially over the last five years

104. Figure 3.1 shows ATCO's investment governance hierarchy, the key features of which are:

- Business and strategic objectives set the overall direction for the business;
- Portfolio development and execution oversight by executive, Board and other committees; and
- A suite of investment policies, frameworks, practices, and procedures.[6]

[6] Such as Asset Management Policy, Project Management Policy, and Risk Management Framework

Figure 3.1: ATCO's investment governance hierarchy



Source: ATCO, 2025-29 AAI, Figure 10.3

ATCO's investment governance framework is consistent with good industry practice

105. ATCO's investment governance hierarchy is materially unchanged over the last five years. Based on our experience and our review of the information provided by ATCO, we consider the framework to be consistent with good industry practice. We have further commentary, however, on aspects of ATCO's implementation of this framework.

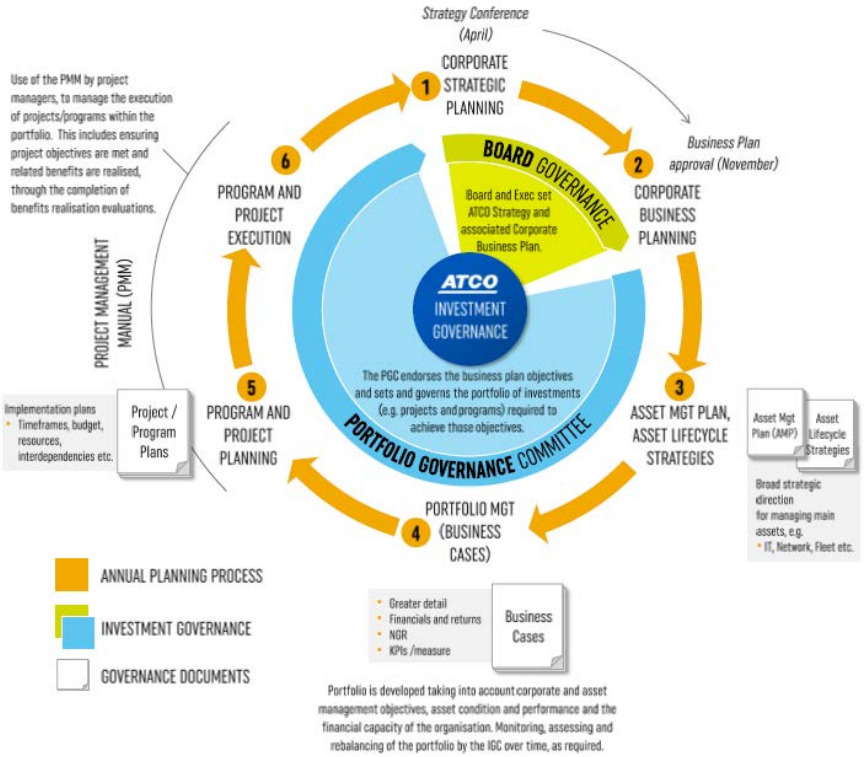
3.3 Annual planning process

3.3.1 Overview

ATCO's annual planning process has not changed materially over the last five years

106. ATCO advises that it has developed the AA6 proposed capex and opex forecast by applying its annual planning process, as shown in Figure 3.2. ATCO identifies and sets strategic and business objectives, sets performance measures and targets, and identifies projects and programs of work (opex and capex, network and non-network) to deliver on the objectives and targets.

Figure 3.2: ATCO's annual planning process



Source: ATCO, 2025-29 AAI, Figure 10.4

3.3.2 Corporate and business planning

107. Steps 1 and 2 in ATCO's annual planning process shown in Figure 3.2 are designed to deliver an updated business plan that converts the strategic goals at the 'corporate' or global ATCO Group level into business objectives and activities for the GDS. ATCO applies an iterative process to update its work program. It has applied this process to develop its AA6 proposal, which we discuss further in section 4. Other aspects of its planning process are discussed below.

ATCO has introduced a Sustainability Strategy

108. ATCO has developed a standalone Sustainability Strategy and Renewable Gas Delivery Strategy to respond to changes in its operating context, as discussed in section 2 including:[7]

- Climate change legislation that ATCO expected to be introduced by the WA Government in 2023 to establish a framework for responsible emissions reduction to meet WA's net-zero targets;
- Safeguard Mechanism – which requires Australia's largest GHG emitters to keep their emissions below a limit, with these limits to be gradually reduced over time. The recent reforms will directly influence ATCO Gas Australia's requirements to decarbonise our distribution network; and
- Changes to reporting frameworks.

Declining gas demand reinforces a growing risk of stranded assets

109. ATCO's forecast is for continuing decline in overall demand for gas with declining volume of gas demand per existing and new residential customers, despite forecast growth in net residential connections.[8] We note also that the Victorian government has recently

7 ATCO, Attachment 03.003 - ATCO Gas Australia Sustainability Strategy, page 5

8 ATCO, Attachment 07.001, Core Energy – Gas Demand Forecast, Figure 5.3

introduced a ban on new gas connections from 1 January 2024 in response to green house gas emissions and other concerns.[9] We discuss ATCO's demand forecast assumptions further in section 4.2.

110. We consider that there is therefore a risk of gas network assets being stranded at some time in the future. ATCO appears to acknowledge this uncertainty in its 2025-29 AAI, wherein it proposes to manage this risk in two ways: proactively investing in renewable gas blending and transport, and through accelerated depreciation of its network investment.

111. ATCO has positioned its Sustainability Strategy as both responding to the expected requirements arising from the expected changes to legislation and managing stranded asset risk. We consider ATCO's proposed AA6 renewable gas investments in section 6.4.2 and in section 7.4.3. Assessment of accelerated depreciation as proposed by ATCO is not within our scope of work.

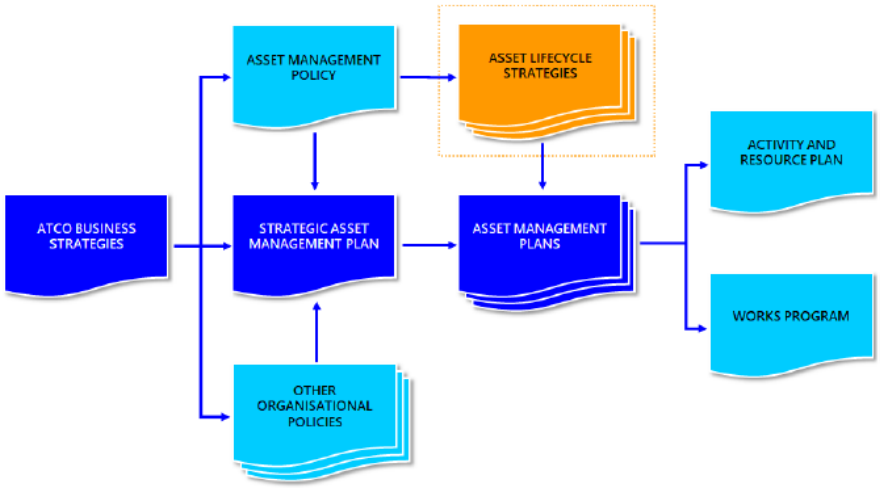
ATCO is responding to the worsening cyber security threat landscape

112. ATCO's IT Strategy incorporates a response to changed legislation pertaining to mandated minimum cyber security measures and to the worsening threat landscape. We assess its proposed cyber security investments in sections 6.6 and 7.4.5.

3.3.3 Asset Management Plan and Asset Lifecycle Strategies

113. As shown in Figure 3.3, ATCO has developed a series of documents '*designed to address ATCO's network asset management responsibilities and ensure that asset management objectives are clearly traceable to organisational vision*.'[10]

Figure 3.3: ATCO's asset management document framework



Source: ATCO, Strategic Asset Management Plan, Figure 1

114. ATCO's asset management framework focuses on gas network and STEQ assets (which we discuss in ATCO's IT management approach in section 6.6.2). We note that ATCO's asset management framework and the documents within it are materially unchanged since its AA5 submission. We consider that the framework is consistent with good industry practice.

115. ATCO's Strategic Asset Management Plan (SAMP) outlines the long-term strategy for the GDS and alignment to the corporate strategies. It describes ATCO's Asset Management System and Asset Management Plans and Strategies. It is the cornerstone of ATCO's asset management approach. The SAMP does not explicitly deal with network stranding risk as a result of the energy transition described in section 2. Whilst separate ATCO

9 https://www.planning.vic.gov.au/guides-and-resources/strategies-and-initiatives/victorias-gas-substitution-roadmap

10 ATCO, Strategic Asset Management Plan, page 5

documents focus on its Sustainability Strategy and accelerated depreciation, we consider that for completeness, the SAMP should acknowledge stranded asset risk in the context of the different asset classes, and its implications for current and future investment decisions for those asset classes.

116. The Asset Lifecyle Strategy (ALS) documents have many of the typical features of good quality documents of this sort, providing insights into the more detailed work activity and expenditure and the drivers of the expenditure. However, the ALS documents do not clearly provide the following:

- Clear statements about how asset stranding risk has been managed – this is not surprising given the absence of acknowledgement of investment uncertainty in the SAMP. Again, stranding risk varies for different asset classes – for example assets with relatively short asset lives have a lower potential stranding consequence than assets with long technical lives such as pipelines. At the very least we consider there should be cross-references to documents in which stranded asset risk is identified and explicitly managed;
- Clear identification of the planned versus actual historical activity and expenditure for each asset class;
- Discussion of the variance and the reasons for variance between planned and delivered work and expenditure; and
- Discussion of the outcomes (i.e. safety, risk, service performance, etc.) from what has been done (and expenditure incurred) and how this aligns with the expected benefits or otherwise.

117. Further to deficiencies resulting from the absence of links to stranded asset risk, the absence of the clear links to historical plans, expenditure (including variances) and performance outcomes, frustrates attempts to understand fully the basis for the planned work and is not reflective of good industry practice.

3.3.4 Portfolio Management

118. In Step 4 of Figure 3.2, ATCO manages 'portfolio construction', portfolio prioritisation, and applies portfolio 'governance', where the portfolio is comprised of the programs and projects identified in the Business Plan.[11]

119. To enable development of the portfolio construction, ATCO needs to consider the delivery capability of the organisation plus external suppliers (of materials and services). To this end, ATCO has developed a Strategic Delivery and Resources Plan (SDRP). It is a new document that covers network and non-network expenditure (such as IT): [12]

> *'..outlines the continuous improvement of ATCO's Works Program (WP) delivery…and to ensure 'clear alignment between ATCO's target of delivering an efficient Works Program and ATCO's internal and external resource planning approach.'*

120. With the exception of the delivery risk of ATCO's proposed approach to replacement of its Enterprise Resource Planning (ERP) system, which we discuss in section 6.6.3, we consider that ATCO's approach to deliver its AA6 program, once determined, is likely to support efficient delivery of the projects and programs.

121. However, we comment on what we consider to be a shortcoming in ATCO's portfolio construction, and prioritisation process in section 4.3.2, as it has been applied to development and review of the capex forecast.

3.3.5 Program and project planning

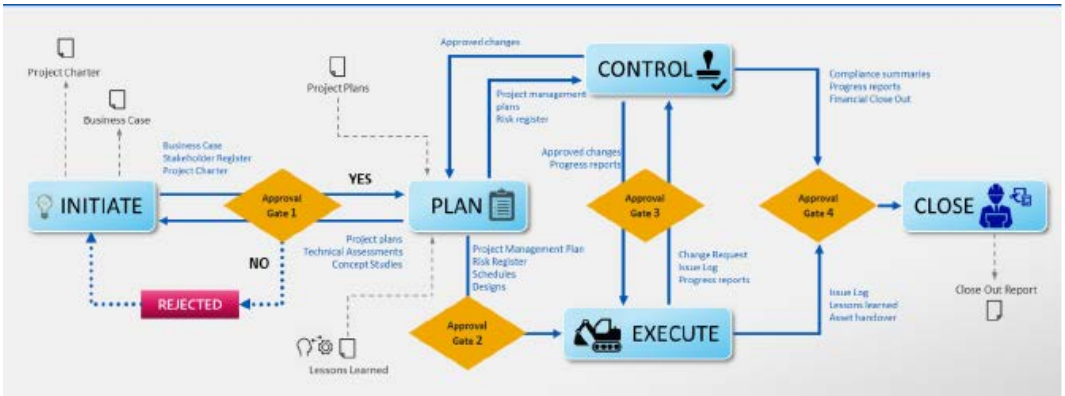
122. Figure 3.2 shows that ATCO has developed a Project Management Manual (PMM) to help it manage the planning and delivery of its projects. It has also developed a Portfolio and

[11] ATCO, Attachment 10.001 - Portfolio and Investment Governance Practice, pages 8-9

[12] ATCO, Attachment 10.025 Strategic Resource Delivery Plan, page 5

Investment Governance Practice document which, in combination, have elements consistent with good industry practice, including the project management lifecycle phases shown in Figure 3.4.

Figure 3.4: Overview of ATCO's project management lifecycle



Source: ATCO, Attachment 10.001 - Portfolio and Investment Governance Practice, Figure 5

123. The approval gates are intended to represent progressive refinement of a project or program of work through to close out of a successfully completed project.

There are weaknesses in ATCO's business cases

124. In our experience, business cases are a critical governance tool, ensuring that the proposed investment is likely to be prudent and efficient (i.e. in regulatory terms and for the business more generally).

125. We understand that the business cases provided to us for the proposed AA6 projects / programs are largely not in their final approved form because the project lifecycle timing often does not align well with the access arrangement review cycle. This, among other things, will likely give rise to inevitable changes to the project scope, timing and cost as business cases are refined throughout the next regulatory period.

126. Our observations from our review of the business cases provided are that many (but not all) exhibit the following characteristics:

- There is little or no consideration of the risk of stranded assets with the forecast continuing decline in gas demand (refer to section 4.2);
- Risk analysis is qualitative, including for demonstration that the ALARP test is satisfied (where relevant);
- There is little or no link provided between the proposed expenditure and previous expenditure (i.e. linking AA6 expenditure to that incurred in the AA5 period);
- Benefits analysis is qualitative - the 'NPV' spreadsheets provided in support of the business cases do not contain net present values because only costs are included in the analyses – they are therefore present cost analyses; and
- Lack of alignment between business cases and cost estimates, regarding (i) contingency amounts, and (ii) where, made, capitalisation of overheads.

127. We discuss our assessment of ATCO's risk management approach, including with respect to the risk of stranded assets further in section 3.4 where we consider it relevant. We provide further comments on our assessment of ATCO's cost estimation methodology and other matters pertaining to capex forecasting in section 4.3.

3.3.6 Program and project execution

ATCO has provided evidence of its expenditure governance steps

128. As part of the supporting documentation to its access arrangement submission, ATCO provided a summary of AA5 project/program level variances (with high level explanations), AA5 project/program compliance summaries, multiple change control ('CEAR') documents and approved business cases.

129. Whilst we needed to ask for some further specific information, ATCO has provided evidence that it applies good project delivery disciplines to execute its work program, in accordance with its framework.

ATCO has a sound approach to procurement

130. ATCO leverages off the ATCO Group Purchasing Practice, which we consider to be consistent with good industry practice. ATCO discussed improvements to its procurement practices at our on-site meeting and we found evidence of application of good procurement practices in its business case documents.

3.4 Risk Management

ATCO does not use quantified risk-cost analysis

131. ATCO does not quantify benefits nor monetise risks in its business cases. Where we found evidence of quantitative techniques, it is applied to determining the likelihood of a pipeline leak leading to a fatality, but it does not take this a step further by determining the cost of that risk manifesting (i.e. it does not determine the probabilistic risk-cost of pipeline leaks). In all other cases, ATCO applies deterministic criteria and qualitative analysis to select its preferred option and the timing of the work.

132. It is now common practice for electricity utilities to monetise benefits and risks to enable one or more of the following:

- Quantitative comparative analysis of options – the technically feasible option with the highest NPV is typically selected
  - This analysis can include sub-options in which the same technical approach is used but with different volumes
  - A comprehensive counterfactual is defined (typically the 'business-as-usual' case);
- Determination of the economically optimum timing for implementing the project;
- Undertaking sensitivity analyses, to demonstrate that the proposed project has a robust NPV despite reasonable negative variances to key inputs; and
- Satisfying the economic test required as part of demonstrating that the proposed investment reduces the risk to As Low As Reasonably Practicable (ALARP) where required to do so.

133. We consider that the developments in the management of risk in electricity networks, and specifically adoption of quantified risk-cost analysis are equally relevant for gas networks. We asked ATCO to explain why it does not adopt a quantitative approach to its risk analysis (noting the semi-quantitative approach described above). We summarise ATCO's response as follows:[13]

- Methodologies for risk-cost analysis are complex, not widely adopted in the gas industry, and would require substantial resources to develop;

[13] ATCO response to Information Request EMCa55

- Qualitative risk assessment methodologies and criteria are highly prescriptive, well established, accepted by the Department of Energy, Mines, Industry Regulation and Safety (DMIRS), and do not require risk-cost analysis to justify;
- ATCO's subject matter experts assess whether reasonably practicable measures are available to reduce risk; and
- ATCO's risk management actions are considered in line with good industry practice, which provides a level of assurance that proposed actions are reasonably practicable.

134. We note that the approach applied by ATCO in managing risk is the same as applied in the AA5 period for similar programs to address similar risks. We consider that the broader energy infrastructure industry has made significant investment in development of quantitative risk assessment, to ensure that services are provided safely and cost effectively to customers, and do not see these same developments in ATCO's approach.

ATCO has not provided a quantitative assessment of ALARP

135. As noted above, a quantitative assessment is typically applied to demonstrate that the proposed investment reduces the risk to ALARP. This is reflected in the normative requirements of AS4645.1 to demonstrate ALARP which requires:[14]

> *'[s]ubstantiation that the sacrifice (including cost) of further risk reduction measures is grossly disproportionate to the benefit gained from the reduced risk that would result.'*

136. We have not seen evidence of quantification of this 'test' in the information we have reviewed to objectively meet this requirement, but rather ATCO relies on qualitative arguments. In absence of quantitative analysis, it is difficult to objectively determine whether the ALARP test has been met in accordance with the governing Australian Standard.

137. Given the tacit acceptance of the technical regulator, DMIRS, of the current approach and in the absence of a priori requirement from the ERA for application of quantitative risk analysis to be undertaken by ATCO to base our assessment, we have not sought to develop alternative analyses to cross-check ATCO's risk analysis. Rather, we have worked from an experienced-based review of the information provided by ATCO in justifying its projects, and specifically demonstration of the level of risk and ALARP.

ATCO applies British Standard risk criteria for its Mains Replacement Program

138. One of the few cases in which ATCO applies a form of quantitative risk analysis is in its AA6 PVC mains replacement business case. ATCO applies a combination of its Mains Replacement Prioritisation (MRP) Tool outputs and its own level of risk tolerance.

139. ATCO has combined the MRP Tool outputs (which provide the likelihood of a fatality from a gas leak occurring) with a risk tolerance derived from British Standard (BS) PD8010-3.

140. We asked ATCO to explain the rationale for adoption of the risk criteria in BS PD8010-3 rather than from AS/NZS 4645 or AS/NZS 2885. In response, ATCO advised that:[15]

- The quantitative criteria provided within AS/NZS 4645 were deemed by ATCO to not be suitable due to the presence of errors and inconsistencies with the Australian Standards;
- Network Operators are permitted to adapt the risk matrix descriptors and values in accordance, so long as it is documented and approved;
- The risk criteria in its Safety Case, were developed in consultation with and accepted by DMIRS; and
- Quantitative guidance provided within AS/NZS 2885 was not deemed suitable due to being two orders of magnitude more conservative than ATCO's risk tolerance criteria.

[14] AS4645.1:2018, page 84

[15] ATCO response to Information Request EMCa23

141. This explanation is satisfactory and we have not applied alternative risk criteria in our assessment of relevant ATCO projects.

3.5 Key Performance Indicators

3.5.1 ATCO's approach to setting KPIs and targets

The updated set of KPIs nominated for AA6 are reasonable

142. ATCO has selected 11 KPIs for the AA6 period to '*align with the strategic pillars of safe, reliable, affordable, and sustainable. These KPIs reflect our performance and are important drivers for AA6 network investment*.'[16]

143. We note that in deriving its updated set of KPIs for the AA6 period, ATCO has:

- Taken on board feedback from stakeholders;
- Aligned the KPIs to its four 'strategic pillars'; and
- Retained most of the AA5 KPIs and has introduced a new SAIDI KPI and carbon emissions KPI.

144. We consider the changes to be a reasonable reflection of ATCO's strategic direction and its presentation of stakeholder feedback.

ATCO's approach to setting KPI targets is reasonable

145. ATCO describes its approach to setting KPI targets as:

- Using a five-year average of historical performance for KPIs retained from AA5;
- Setting others based on AA6 forecast expenditure, customer numbers, and length of mains; and
- Setting the UAFG target based on demand forecasts, historical performance, and its commitment to reducing greenhouse gas emissions.

There is no incentive scheme to encourage ATCO to outperform the ERA's Final Decision

146. In the absence of an agreed incentive scheme, in which performance is measured against agreed KPI targets, and rewards or penalties applied accordingly, the KPIs nominated by ATCO are a reporting tool only. Nonetheless, they provide valuable information about the overall performance of ATCO.

3.5.2 Safety KPIs

ATCO's safety KPI targets are reasonable

147. Table 3.1 shows ATCO's proposed safety KPI targets and performance. We note that ATCO has progressively ratcheted down its 'total reportable gas leaks per km of mains' target from 0.70 in AA4 to 0.62 in AA6. As shown in its AAI, ATCO has either met or exceeded its AA4 and AA5 targets for performance to date for this KPI. Whilst the AA6 target may be outperformed again given ATCO's investment in replacing leaky mains, other mains are ageing and may leak more than they are currently. We consider the targets to be reasonable.

[16] ATCO 2025-29

Table 3.1: ATCO's Safety KPIs

KPI	AA5 target	AA5 performance[17]	AA6 target
Total public reported gas leaks per 1km main	<0.65	<0.65	<0.62
Attendance to broken mains and services within 1 hour	>99.9%	>99.9%	>99.9%
Attendance to loss of gas supply within 3 hours	> 99.9%	>99.9%	>99.9%
Total recordable injury Frequency Rate (TRIFR)	<1.2	0.5	<1

Source: ATCO 2025-29 AAI, Table 5.1 and Table 8.2

3.5.3 Reliability KPIs

ATCO's reliability KPI targets are reasonable

148. Table 3.2 shows ATCO's proposed reliability KPI performance and targets. The AA6 SAIDI KPI and target has been introduced because it is an industry-standard measure.

149. ATCO states that the AHI measure: [18]

> *'assists in prioritising maintenance activities, helping to improve reliability and reduce costs and risk.'.*

150. We heard at the on-site meeting that ATCO does not use the AHI measure in practice for this purpose, and which may also cast a level of doubt on the robustness of the underlying data and trends.

151. Based on our experience, the use of an AHI measure can provide some indication of the overall health of assets and show trends indicating improvement or degradation that may be broadly related to the level of investment. We question how the AHI, as implemented by ATCO, is assisting with its asset management decisions. However, its targets indicate that ATCO is seeking to outperform the component targets to achieve a value higher than 100.

152. We consider that ATCO's targets for AA6 are reasonable given previous performance.

Table 3.2: ATCO's reliability KPIs

KPI	AA5 target	AA5 performance[19]	AA6 Target
Asset Health Index	100	>100	100
System Average Interruption Frequency Index	<0.0041	<0.0041	<0.0035
System Average Interruption Duration Index	<2.00	<2.00	<1.60

Source: ATCO 2025-29 AAI, Table 5.1 and Table 8.2

3.5.4 Affordability KPIs

ATCO's affordability KPIs are expected outcomes of its expenditure forecast

153. Table 3.3 shows ATCO's proposed affordability KPIs, AA5 performance and the targets for the AA6 period. The targets have been set to reflect the expected expenditure and are therefore adjusted for the increase in opex proposed by ATCO, including as a result from the change in accounting standards for IT expenditure.

17 2020-2022 except for TRIFR for which the result is for 2022 only

18 ATCO 2025-29 AAI, page 102

19 2020-2022

154. We have assessed ATCO's expenditure forecast and consider that ATCO has likely overstated the opex required for maintaining the safety and reliability of the GDS across the AA6 period. If the ERA accordingly sets a lower opex allowance for AA6 then this would lead to improved affordability performance against these KPIs, and the targets should be adjusted accordingly.

Table 3.3: ATCO's affordability KPIs

KPI	AA5 target[20]	AA5 performance[21]	AA6 target[22]
Opex per km of main	$5,196	$5,219	$6,204
Opex per customer connection	$98	$96	$111

Source: ATCO 2025-29 AAI, Table 5.1 and Table 8.2

3.5.5 Sustainability KPIs

The sustainability KPI targets are reasonable

155. Table 3.4 shows ATCO's proposed sustainability KPIs, AA5 performance and the targets for the AA6 period. ATCO introduced a KPI for reduction of net emissions in 2022 to be consistent with its Sustainability Strategy. ATCO describes the calculation of its net emissions (scope 1) to the National Greenhouse and Energy Reporting (NGER) Scheme and Safeguard Mechanism in its AAI. It has set its 2029 target to match its 2020 emissions level less 30%, although we note that ATCO appears to have inconsistent targets, with one appearing to be an error.[23] We assume based on the explanation of its calculation method, that its 2029 target is 51,901 tonnes.

156. The AA4 and AA5 (performance to date) has outperformed the UAFG targets and accordingly it has reduced its AA6 target to align with the trend more closely.

157. We consider the UAFG target to be reasonable and will contribute to the achievement of ATCO's carbon emissions target. We comment on the regulatory basis for ATCO's other proposed emissions reduction initiatives in sections 2, 5.3, and 6.4.2.

Table 3.4: ATCO's sustainability KPIs

KPI	AA5 target[24]	AA5 performance[25]	AA6 target
Unaccounted for gas (UAFG) rate	2.40%[26]	1.14%	1.64%
Carbon emissions	76,991	n/a	51,901

Source: ATCO 2025-29 AAI, Table 5.1 and Table 8.2

20 2022 target

21 2022 actual

22 AA6 average

23 ATCO, 2025-29 AAI, page 107 (51,901) and Table 8.2 (54,482)

24 2022 target

25 2022 actual

26 For 2022

3.6 Implications for our review

158. ATCO has provided a governance and management framework and document architecture in support of that governance and management framework for the AA6 period which is largely unchanged from that submitted with its AA5 submission, five years ago.

159. We have identified a number of issues with some of the component parts of ATCO's governance and management framework and practices which individually and collectively undermine the credibility of ATCO's expenditure proposals, and accordingly we consider are systemic in nature. These include:

- Insufficient evidence of risk-based investment portfolio development and management;
- Inadequate links to historical plans, expenditure (including expenditure variances), and performance outcomes in critical documents;
- Absence of comparative risk-cost analysis and cost-benefit analysis;
- Inadequate application of an objective and quantitative ALARP test to investment decisions; and
- Does not explicitly consider the risk of asset stranding in its asset management documents, including the SAMP, ALS, and business cases (with the exception of its renewable gas business case).

160. We have reflected the implications of these findings in our assessment of expenditure in Sections 5, 6 and 7.

4 FORECASTING METHODS, ASSUMPTIONS AND REGULATORY ACCOUNTING MATTERS

ATCO's demand-related forecasts have been determined by an external party and which nominates a continuing decline in gas use per customer and a reduction in overall gas use. We have relied on these forecasts for our assessment.

ATCO's capex forecasting methodology comprises a combination of bottom-up and top-down approaches. We consider that inclusion of a risk-based assessment of the forecast capex for the AA6 period would be beneficial, helping to provide assurance that the scope and cost of the AA6 portfolio was set at the optimal level, balancing cost and risk. We also consider that ATCO's inclusion of contingency amounts in its project and program expenditure has led to an over-estimation of the efficient level of required expenditure.

ATCO's opex forecasting methodology is appropriately based on the Base Step Trend approach with specific forecasts for UAFG and Ancillary Services. However, we consider that its application of this method has resulted in an overstated opex forecast, for reasons that we describe in section 7.

While we find that although ATCO has applied real cost escalation appropriately, its proposal is overstated due to an overstated assumption. ATCO's approach to applying capitalised overheads for AA5 and AA6 period is similarly reasonable though, based on our findings on ATCO's proposed opex, we consider that its proposed AA6 capitalised overheads are also overstated.

4.1 Introduction

161. In this section we describe and assess the forecasting methods and assumptions that ATCO has applied in developing its capex and opex forecasts, its real cost escalation assumptions, and asset life assumptions. We have not been asked to assess ATCO's demand forecasts. However we make observations in relation to the demand forecast provided by ATCO on areas that are material to our assessment. Finally, we comment on the implications of our assessment for ATCO's proposal.

4.2 Demand and connection forecast assumptions

162. ATCO's opex and capex forecasts are both dependent on its demand forecast, with the primary driver, in both cases, being growth in new connections. Its volume forecasts are relevant in determining its tariffs.

163. ATCO has also produced growth forecasts for Ancillary services which we have taken into account in our assessment in section 7.7

164. Assessment of ATCO's demand forecasts was not within our scope and, for alignment reasons, we have therefore undertaken our assessment of ATCO's expenditure forecasts on the basis of its demand forecast. We are aware that ERA is separately assessing that demand forecast and would therefore need to consider any implications for ATCO's

proposed capex, opex and tariffs if it was to adopt a forecasts for parameters that affect these expenditure requirements.

4.2.1 Overview of ATCO's demand forecast

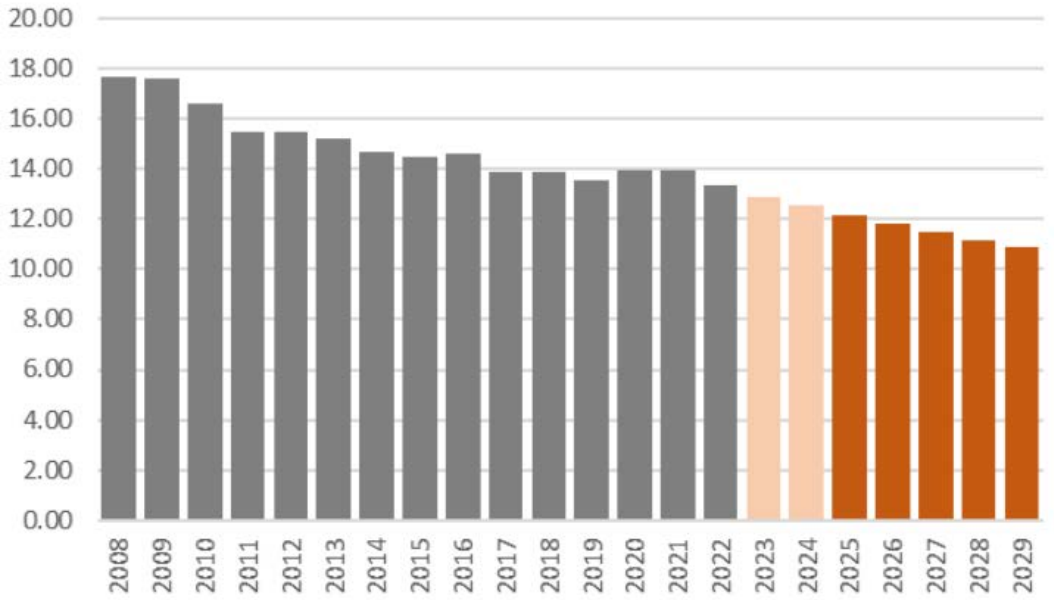
165. ATCO has based its demand and connection forecasts on advice from Core Energy (Core), which is contained in a report provided by ATCO as part of its submission.[27]

166. Normalised demand across all tariff classes has fallen by an average of -0.23% between 2008 and 2019 (up to but excluding those years impacted by COVID-19 and the recovery period, being 2020 to 2022 inclusive).[28] During AA6, the number of customers is forecast to grow at a rate of 1.1% p.a. but as consumption per customer is forecast to continue to decline, overall consumption is forecast to decrease at 0.8% pa.[29]

167. B3 residential customers represent the biggest tariff class by number and by demand. The average annual demand per B3 customer fell by 2.4% over the same period, between 2008 and 2019. Core considers this rate of decline to be the basis for the best estimate of future demand per B3 customer (or connection), noting that the demand/customer in 2020-2022 was distorted by COVID-19.

168. Figure 4.1 shows a steady decline of ATCO's actual and forecast B3 volumes per customer. ATCO's total volumes for B3 customers are projected to fall further in AA6, despite a forecast net increase in new customer connections.

Figure 4.1: Trend of ATCO's actual and forecast B3 volumes per customer



Sources: ATCO, Attachment 07.001 – Core Energy – Gas Demand Forecast, Figure 5.8

4.2.2 Incremental revenue test relies on ATCO's demand forecast assumptions

Incremental revenue test applies to forecast growth capex

169. As we describe in Appendix A, the NGR requires application of an 'incremental revenue' regulatory test to determine whether capex for new connections can be rolled into the Regulated Asset Base (RAB). If ATCO was to connect customers only to the extent that the

27 Attachment 07.001 – Core Energy – Gas Demand Forecast

28 07.001 - Core Energy - Gas Demand Forecast, page 25

29 ATCO, 2025-29 AAI, page 83

associated capex meets this test, then this could imply a constraint on 'demand growth' to the extent that any such capex does not meet the required test.[30]

170. ATCO has claimed that its proposed AA6 growth capex meets the incremental revenue test. ATCO provided two models in support of this claim, one each for its AA6 forecast greenfield and its forecast brownfield B2 and B3 connections.

Key modelling assumptions have been updated

171. ATCO has addressed our two primary concerns from our AA5 assessment of ATCO's greenfield and brownfield growth modelling:

- The study period is 25 years (c.f. 50 years in its AA5 model provided with its AA5 submission); and
- Prevailing tariffs have been applied (whereas proposed tariffs for the AA5 period were applied previously and represented significant increases for its B2 and B3 customers).

172. We discuss these models further and our assessment of the corresponding forecast capex in sections 5.4 and 6.5. We note that changes to the demand and connection forecast assumptions relied upon by ATCO, have an impact on these models and our assessment.

4.3 Capex forecasting

4.3.1 ATCO's approach

173. ATCO has forecast its capex requirements using a 'bottom up' approach by aggregating individual projects and programs for each capex category, in which:

- Unique capex project expenditures are identified and costed based on assessed building blocks or market-based costs, with expenditure phased over the project time-frame to meet the required commissioning dates; and
- Volumetric capex project/program expenditures are projected based on forecasts of the volumes and unit costs for each volume project type.

174. ATCO stated that it incorporates labour escalation and overheads. We discuss ATCO's derivation of labour escalation in section 4.5 and of overheads in section 4.7.

4.3.2 Our assessment

Top down challenge process for developing the AA6 capex forecast does not adequately consider risk or other service performance outcomes

175. ATCO initially developed its forecasts using a bottom-up build process by incremental aggregation of detailed activity. Based on our experience, aggregate forecasts derived from such a process are more likely than not to overstate the expenditure requirements that will ultimately be delivered to meet the service performance outcomes of the business.

176. We would expect to see senior management challenge the bottom-up result developed by a range of top-down indicators. The final expenditure position should demonstrably result in a balance between risk, service performance, tariff impacts and stakeholder returns (or similar criteria).

177. Whilst ATCO has presented evidence that it has deployed a financial model to help understand tariff and shareholder impacts,[31] and that several iterations of its expenditure forecast were reviewed by senior management, we have not seen evidence of the impact on overall risk levels and related KPIs of different expenditure levels.

---

30 Noting that ATCO could choose to levy a capital contribution on customers for which the connection is non-complying with the incremental revenue test

31 ATCO response to Information Request EMCa53

178. Absent this top-down review, businesses are more likely to overstate the prudent and efficient level of expenditure that seeks to maintain operating risk whilst meeting the demands for new connections. As a consequence, customers may be paying for a higher level of investment on the network, and/or improvements in service beyond that which customers are willing to accept.

179. Whist our assessment has considered the justification for individual projects and programs included in the capex portfolio, we consider that a bias to include projects / programs in the portfolio in absence of adequate top-down methods, and which may lead to an over-statement of its expenditure requirements. As discussed in sections 5 and 6, we have identified projects/programs which we consider do not fully comply with the NGR expenditure criteria.

The aggregate of contingency amounts in cost estimates is likely to lead to an overstatement of forecast capex

180. ATCO provides a unit rates document,[32] a cost estimate template document,[33] a project cost estimation procedure,[34] and cost estimate spreadsheets (as companions to its business cases) to help explain the capex cost forecasts for its programs and projects.

181. ATCO's cost estimation documents include an explanation of its approach to determining and applying contingency at a project-level to: [35]

- '*[r]eflect the confidence and reliability of the information used in preparing the estimate…*' and to
- '*[t]ake into consideration the risks associated with the project*.'

182. Provided that the contingency amount is set at an appropriate level for the degree of risk, this is an accepted project-level cost management tool. ATCO has included contingency allowances of between 5% and 30% for almost every ATCO non-volumetric project/program for the AA6 period that we have reviewed.[36]

183. The lower range of contingency (i.e. 5% - 10%) is typically applied to projects where the cost estimates are based on a bottom-up build, which ATCO describes to '*accounts for specific nuances and variables within each component, resulting in a more precise overall cost projection.*'[37] This accords with the cost estimates with a high confidence level. Conversely contingency of 20-30% are applied to project-level cost estimates with Medium confidence level.[38] ATCO also advises that contingency is added in some cases to account for time sheeting improvements.

184. Whilst we acknowledge the need for project contingencies to be included as a part of internal project management governance, so as not to burden governance committees with un-necessary review of project expenditure, the same does not apply to development of cost estimates for forecast of the aggregate capex portfolio. When viewed across a portfolio of capital expenditure, in our experience, the aggregate of contingency amounts across all the projects/programs will lead to an excessive expenditure forecast, as not all risks will be realised. Moreover, we consider that it is reasonable to assume that:

- Some projects may require less expenditure in the AA6 period (e.g. because of deferment or rescoping or lower unit costs) and some may require a higher level of expenditure.

---

32 ATCO, Attachment 10.023 - Unit Rates Forecast

33 ATCO, Attachment 10.003 - Cost Estimate Template Procedure

34 ATCO, Project Cost Estimation Procedure, provided in response to IR EMCa78

35 ATCO, Attachment 10.003 - Cost Estimate Template Procedure, page 10

36 The exceptions are Greenfields and brownfield new connections (0%) and EOL replacement – PVC ad hoc – Coastal (0%) per ATCO's response to IR EMCa58

37 ATCO response to Information Request EMCa58

38 ATCO, Project Cost Estimation Procedure, Table 5

- Given what we understand to be the confidence level of the majority of the project/programs, across the whole portfolio underspends and overspends are likely to approximately balance out.

185. We therefore consider that contingency amounts should be removed at the project/program level to help derive a capex forecast that is more likely to be set at the efficient level. This is further supported by the fact that:

- The majority of the work ATCO proposes undertaking is work which it is familiar with and therefore should be able to estimate the cost with a high degree of confidence; and
- The unit costs are derived from actual costs incurred, which when delivered by external suppliers, is generally established through competitive tender, which is good practice.

The contingency amounts are not presented consistently

186. We have noticed discrepancies between the stated application of contingency in the business cases provided and the companion cost estimate spreadsheets. We have therefore used the contingency amount used in the cost estimate spreadsheets to determine our adjustment as part of our assessment of AA5 and AA6 project/program capex.

Unit costs are not presented consistently

187. ATCO's Unit Cost Forecast document presents summary tables of the historical and forecast unit costs which we have compared with the unit costs in the business cases, companion cost estimate spreadsheets, and the capex models. We have noticed discrepancies between the three sources. For our assessment of AA5 and AA6 project/program capex, we have relied in the first instance on any relevant advice in responses to our Information Requests. Our second priority source is ATCO's business cases, and our third level source is ATCO's cost estimate spreadsheets.

4.4 Opex forecasting

4.4.1 ATCO's approach

188. ATCO has developed its AA6 opex forecast for the aggregate of its network, corporate and IT requirements, using a Base Step Trend (BST) approach. It has developed specific category forecasts for its proposed AA6 costs for provision of UAFG and ancillary services, based on volumes forecasts and unit rates.

189. ATCO has also sought to support its proposed opex by reference to inter-company benchmarks, and productivity analysis.

4.4.2 Our assessment

Appropriate choice of opex forecasting methods

190. We consider that the methods that ATCO has chosen, namely BST with category forecasts for UAFG and ancillary services costs, are appropriate approaches for the components that ATCO has applied them to. We have concerns with aspects of ATCO's application of BST, and of some assumptions it has proposed, which we describe in our assessment of the proposed opex in section 7.

ATCO has overstated the implications of its benchmarking and productivity analysis

191. ATCO has incurred less opex to date in AA5 than in AA4, less than it proposed to the ERA for AA5, and expects to incur $22.1 million less than ERA's FD for this period.[39] Given that it has also increased the number of customers served in this time, this is presented by

[39] EMCa analysis from ATCO responses to Information Requests EMCa49 and EMCa52 and from ATCO 09.020 - Base Step Trend Opex Forecast Model - Clean

ATCO as evidence of improved efficiency and improved productivity. ATCO states that its benchmarking evidence also indicates that its costs are low compared with its peers.

192. ATCO has referred to its 'outperformance' against the ERA FD and its benchmarking results as evidence that '*confirms that we are acting efficiently*'.[40] It is possible, however, to interpret ATCO's performance against the FD as being contributed to by other factors, including favourable UAFG and which we explore in further detail in our assessment of opex.

193. We note also from the productivity analysis that ATCO commissioned, that from 2014 to 2022 it has essentially not improved productivity. ATCO has proposed no productivity improvement offset in its AA6 opex forecast because it maintains that it cannot improve productivity as it is fully efficient.

194. While ATCO's claimed 'outperformance' and its apparently favourable benchmarking could be taken as indicators of efficiency, we are not convinced that benchmarking is an indicator of absolute efficiency and therefore we have examined each component of ATCO's proposed opex to ensure that it is efficient, and which we do in Section 7.

4.5 Real cost escalation factors

4.5.1 ATCO's approach

195. For all capex and opex that ATCO has based in $2023, ATCO has applied an escalator to allow for its forecast of real cost increases; in other words, its forecast of the extent to which its costs will increase above the general rate of inflation measured by CPI. ATCO has applied an average forecast of 1.06% per annum for real labour cost increases and has estimated that 62% of its opex is labour, as it did in the equivalent calculation in its AA5 submission.

196. ATCO has assumed that materials costs do not increase in real terms.

197. The net impact of ATCO's labour escalation assumption is for opex to escalate at 62% of 1.06%, that is, by 0.66% per annum.

4.5.2 Our assessment

Adopting a more reasonable basis for labour cost escalation

198. ATCO has relied on a report by Synergies Economic Consulting (Synergies) to support its proposed real labour cost escalation assumption.[41] In the report, Synergies state that the 20-year average for Electricity, Gas, Water and Waste Services (EGWWS) Wage Price Index (WPI) is 3.43% and for All Industries WPI is 3.03% (i.e. a premium of 0.4%).[42] Synergies considers that:[43]

> *'this reflects the relatively high skills of EGWWS workers and their substitutability in relation to comparable work performed in other key sectors like mining and construction.'*

199. Figure 4.2 shows that the EGWWS WPI and the All Industries WPI are currently very close and that over the last five years have, on average, been relatively close.[44]

40 ATCO, 2025-29 AAI, page 112

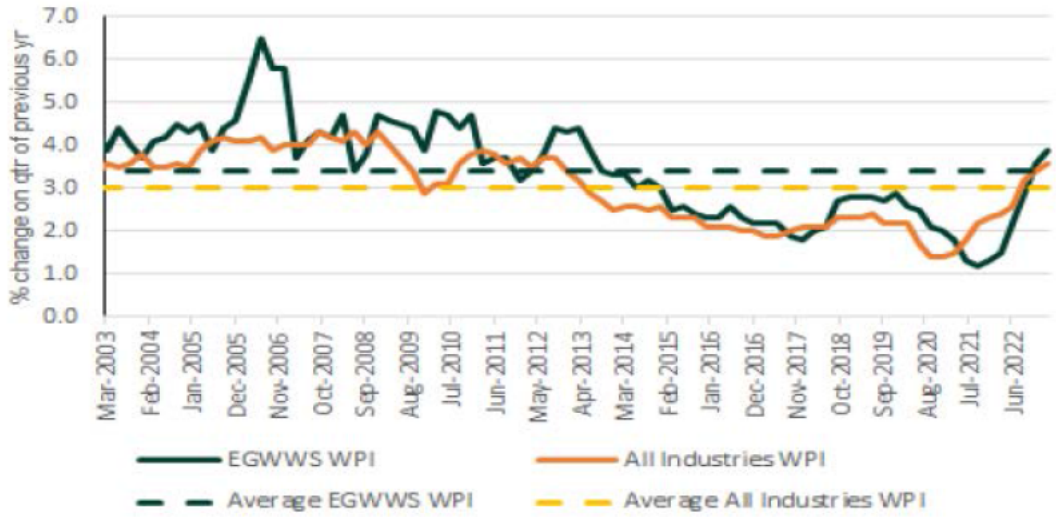
41 ATCO Attachment 09.001 - Synergies - AA6 Labour and Cost Escalation Forecast

42 ATCO Attachment 09.001 - Synergies - AA6 Labour and Cost Escalation Forecast, page 23

43 ATCO Attachment 09.001 - Synergies - AA6 Labour and Cost Escalation Forecast, page 24

44 Synergies calculations form ABS data shows that over the last 5 years the EGWWS to All industries premium has been -0.27% (ATCO Attachment 09.001 - Synergies - AA6 Labour and Cost Escalation Forecast, Table 7)

Figure 4.2: Percentage changes in All Industries wage price indices (corresponding quarter of previous year)



Source: ATCO Attachment. 09.001 – Synergies – AA6 Labour and Cost Escalation Forecast, Figure 4

200. With real wage growth in 'All Industries' and in the EGWWS sector currently close to zero, the 1.06% per annum real wage growth assumption that Synergies has recommended to ATCO essentially relies on wages in the EGWWS sector regaining a premium of 0.4% over 'All Industries'. However, between 2018 and 2023 the average wage 'premium' has been minus 0.27%.

201. We refer instead to recent analysis by KPMG for the Australian Energy Regulator (AER) which concludes that:[45]

> *'[t]here is no material difference between utilities WPI and general WPI.'*

202. Accordingly, we consider that no premium of EGWWS WPI is needed as there is no material difference between it and the general WPI nor evidence that such a premium will develop and persist over AA6. In Table 4.1 we compare Synergies' approach for ATCO in deriving labour cost escalation with and without a Premium of EGWWS WPI over All Industries WPI.

Table 4.1: Real labour escalation inputs and outcomes

Real labour cost escalation	Average per annum	
	ATCO	EMCa
Annual Average of Western Australian WPI	3.50%	3.50%
Plus Premium of EGWWS WPI over Australian WPI	0.40%	0.00%
Equals Nominal Labour Escalation Forecast per annum	3.54%[46]	3.50%
Less Forecast Inflation/CPI per annum	2.81%	2.81%
Equals labour escalation factor	1.06%	0.67%[47]

Source: EMCa analysis of ATCO Attachment. 09.001 - Synergies - AA6 Labour and Cost Escalation Forecast, Table 9

203. Applying ATCO's opex labour weighting of 62% to its proposed annual labour escalation of 1.06% results in an overall opex real cost escalation forecast of 0.66% per annum, whereas

45 KPMG Report used by AER for ElectraNet Final Decision (March 2023), pages 10 -11

46 Note that this figure is as presented in Synergies' report however it is an error, and should be 3.90%

47 Derived by using the Fisher equation, not subtraction

using EMCa's proposed labour escalation factor and ATCO's weighting of 62% gives an overall opex real cost escalation forecast of 0.42% p.a.

Adjusting for real cost escalation

204. ATCO's opex model provides for real cost escalation as an input assumption. Accordingly, we are able to adjust this assumption based on our assessment, and we have done so in Section 7.

205. ATCO's capex model also includes its real cost escalation assumptions, and in its model, ATCO has assessed the result of this through estimates of the relative components of labour and materials at the individual project level. In Section 6 we show this as a component of our overall capex adjustment for each of ATCO's capex categories in AA6.

4.6 Depreciation – asset life assumptions

4.6.1 ATCO's proposal

206. Table 4.2 compares the asset lives that ATCO has used when calculating depreciation in AA6 and the range of corresponding expected 'useful asset lives' applied by a selection of gas utilities in the rest of Australia. We note that the documents we have relied upon for the other utilities do not have consistent descriptions of the asset categories.

Table 4.2: A comparison of the economic asset lives proposed by ATCO and selected other gas utilities

Asset categories	Asset lives (years)	
	ATCO	Other gas distribution utilities[48]
HP mains - steel	80	50-80[49]
HP mains - PE	60	50-80
Medium and low pressure mains	60	50-60
Regulators	40	15-50
Secondary gate stations	40	15-50
Buildings	40	35-50
Meter and service pipes	25	n/a
Meters only (for comparison purposes)	n/a	15
Service pipes only (for comparison purposes)	n/a	15-60
Equipment and vehicles	10	5-15
Information technology	5	4-5
Telemetry	10	10-20

Sources: ATCO 2025-29 page 206; Ausnet Services Gas access arrangement review 2024-28, page 165-166; Multinet Gas AAI Final Plan 2023/24 – 2027/28, page 105; AGA Victoria and Albury Final Plan 2023-2028, page 105; Jemena AAI 2020-2025, page 84; Australian Gas Networks – AGIG SA AAI 2021-2026, page 109

48 Asset descriptions vary from utility to utility; AusNet has standardised on 20 years for pipelines installed after 1998, however it formerly used 50 year asset lives, which we consider more representative of the asset life; Jemena has recently reduced its standard asset lives for new investments – we refer instead to the current standard lives for key assets which we consider to be more representative of asset lives

49 Other utilities do not distinguish between steel and PE mains lives

4.6.2 Our assessment

207. ATCO has proposed the same asset lives for AA5 as those approved by the ERA in its FD.

208. Based on our assessment of asset lives from a range of other gas businesses, with the exception of 'Meter and services pipes', ATCO's AA6 asset lives are within the range of the corresponding asset lives applied by other utilities. We do not propose any changes to the expected useful asset lives.

209. We infer from ATCO's AAI that 'Meters and services pipes' refer to the expected asset lives both of its meters and of the service pipes that connect from the mains to the meter, however ATCO does not define this category explicitly.

210. All the utilities that we have reviewed have reduced their meter asset lives from 20 – 30 years assumed in previous regulatory submissions, to 15 years. ATCO appears to assume 25 years asset life for its meters, and we note that ATCO has been able to extend the asset lives for some domestic meter classes to 25 years (from 18 years), as discussed further in section 6.3.3.

211. Services pipes' asset lives assumed by other utilities are in the range 50-60 years, whereas if, as it appears, ATCO has bundled these with meters, it has allowed only 25 years.

4.7 Overheads capitalisation

4.7.1 AA6 capitalised overheads

212. ATCO describes overheads as the necessary indirect costs of delivering the capex program, except for the labour and materials costs that can be directly allocated.[50] Further that the overhead costs are costs that are not directly attributable to capex projects and activities via a source document such as a work order, invoice or a timesheet, but are incurred as a result of delivering the capex program.

213. ATCO has provided Attachment 09.002 Overheads methodology and a report by Cutler Merz to review of the methodology and estimated costs for AA6 (Attachment 10.024).

214. ATCO has forecast to capitalise overhead costs of $64.4 million in AA6.

215. ATCO uses the BST method to calculate its capitalised overheads applying the 2022 actual result as the base year, adjusting it for recurrent and non-recurrent step changes, growth and price escalation. A breakdown of the calculation method is provided in Attachment 10.056, Base Step Trend - Overhead Forecast Model.

216. The capitalised overheads ATCO proposes for AA6 are summarised in Table 4.3.

Table 4.3: Capitalised overheads for AA6

	2025	2026	2027	2028	2029	Total
Base Year	11.4	11.4	11.4	11.4	11.4	57.2
Recurrent step changes	0.5	0.5	0.5	0.4	0.4	2.2
Non-recurrent step changes	0.0	0.0	0.1	0.3	0.2	0.6
Forecast growth	0.3	0.4	0.5	0.6	0.7	2.3
Forecast price growth	0.2	0.3	0.4	0.5	0.6	2.0
Total	**12.4**	**12.6**	**12.9**	**13.2**	**13.3**	**64.4**

Source: ATCO AAI Table 10.32

[50] ATCO AAI, page 197

4.7.2 AA5 capitalised overheads

217. ATCO states that:[51]

> *'The final AA5 decision approved a forecast reference capital expenditure of $410.3m within the AA5 period, of which $58.4m related to capitalised overheads equating to a rate of 20% on network capex costs excluding overheads.'*

218. In this statement, ATCO refers to reference network capex excluding overheads of $294 million, which results in $58.4 million of capitalised overheads at an average rate of 20% across AA5.[52]

219. The FD for AA5 included an average overhead rate of 19.4% over the AA5 period, and which is lower than the average of 20% claimed by ATCO as shown in Table 4.4.

Table 4.4: Capitalised overheads calculation from ERA Final Decision, $2019

	2020	2021	2022	2023	2024	Total
Overhead calculated per BST methodology - exclude labour escalation	12.01	12.02	12.11	12.20	12.15	**60.49**
Total exc. AIC	70.69	59.48	65.08	58.96	57.65	**311.86**
AIC rate	*17.0%*	*20.2%*	*18.6%*	*20.7%*	*21.1%*	**19.4%**
Proportion of AIC assumed labour - as per Opex BST assumptions	*62.0%*	*62.0%*	*62.0%*	*62.0%*	*62.0%*	**n/a**

Source: AA5 Capex model for Final Decision – Shared with ATCO, Finance input worksheet

220. ATCO engaged Cutler Merz to review its methodology for capitalised overheads. In its report provided as Attachment 10.024, it records a capex allowance of $60.5 million ($2019) for overhead costs to be incurred over the AA5. ATCO's actual/estimated capitalised overheads for AA5 sum to $57.7 million (in $2019), as shown in Table 4.5.[53]

Table 4.5: ATCO overhead expenditure and ERA's AA5 capex allowance, $2019

	2020 Actual	2021 Actual	2022 Forecast	2023 Forecast	2024 Forecast	Total
Actual qualifying capex ($ millions)	45.9	53.3	59.1	60.5	62.7	**281.5**
ERA AA5 overhead allowance decision ($ millions)	12.01	12.02	12.11	12.2	12.15	**60.49**
Actual capitalised overhead allocation ($ millions)	9.3	10.6	11.7	13.0	13.1	**57.7**
Implied ERA overhead allocation (% of qualifying capex)	*17%*	*21%*	*19%*	*21%*	*21%*	***20%***
Actual expenditure overhead allocation (% of qualifying capex)	20%	20%	20%	21%	21%	20%

Source: ATCO Attachment 10.024, Table 4-1

51 ATCO Attachment 09.002 Overheads Methodology, page 2

52 ATCO Attachment 09.002 Overheads Methodology, Figure 8

53 10.024, page 6

221. In its report to ATCO, Cutler Merz also state:[54]

> *'ATCO's overhead allocation of 20% in AA5 is high compared to other gas distribution networks but is towards the lower end of the range when compared to electricity network businesses.'*

4.7.3 Our assessment

Total capitalised overheads for AA5 are reasonable

222. ATCO expects to incur a lower level of overheads than provided for in the capex approved as a part of the FD (in dollar terms) due to what it describes as a lower actual/estimated level of capex. The average capitalised overhead rate of 20% as reported by ATCO is within a tolerable level of accuracy when compared with the average rate of 19.4% that we understand was included in the FD (see Table 4.4). Importantly, the rate of overheads is consistent with the basis on which its opex forecast for AA5 was determined, and therefore does not suggest that ATCO is seeking to over-recover the level of overheads that it expects to incur.

223. We therefore consider that the level of capitalised overheads for AA5 is reasonable and generally in accordance with the ERA's FD.

Applying the same methodology in AA6 (as for AA5) is reasonable and provides reasonable outcomes

224. For AA6, ATCO has applied the BST methodology, similar to that applied for AA5 to determine the level of capitalised overheads. ATCO has relied on the base year capitalised overheads incurred in 2022, being also its base year for forecasting opex. This applies a consistent method to forecasting overheads in total (of which part are expensed within opex and part capitalised), with the base year providing the proportionate split between overheads that are expensed and those that are capitalised.

225. Noting that this is a continuation of the method that ATCO used in AA5, we consider that it is appropriate to use this method. The application of time-sheeting will have also provided ATCO with a reasonable base year capitalised overheads value.

226. We undertook a further cross check, comparing capitalised overheads with level of capex that 'qualifies' for overheads allocated to it, and which ATCO identifies. Relative to the 20% capitalisation rate (relative to qualifying capex) that ATCO reported in AA5, its AA6 forecast will result in a 19.25% capitalisation rate, and which we consider to be broadly consistent with its AA5 base. When we apply ATCO's capitalised overheads method after adjustments (to capex, opex and capitalised overheads) that we propose later in this report, the derived allocation of capitalised overheads is 18% of qualifying capex and which we consider similarly provides a reasonable cross check of ATCO's method.

At a cost centre level, high rates of capitalisation are not adequately explained

227. We note comments made by Cutler Merz in its review of individual cost centre codes, and share the concerns raised by Cutler Merz regarding the high rate of capitalisation evident for call centre and control room activities. However, we do not have sufficient information to review the impact of changes to individual cost centres in the determination of these percentages. We have not proposed any adjustments to these factors and have relied on ATCO's method of calculation for its proposed capitalised overheads using the BST methodology and which is consistent with the principle of 'revealed cost'.

A lower rate of capitalised overheads in the AA6 period is reasonable

228. ATCO's AA6 forecast of overhead expenses of $64.4 million represents an increase compared to the AA5 period.

[54] ATCO, Attachment 10.024 page 3

229. In its report to ATCO, Cutler Merz concludes that:[55]

> *'The allocation rate of overheads has declined since AA5, given widespread use of timesheeting labour which has led to more accurate allocation of direct costs and less costs smeared over capital projects as overheads.'*

230. We would expect to see a reduction from AA6 where improvements have been made to the method of capturing direct costs and attribution directly to the capital program. This may be offset in part due to growth in operations, and corresponding growth in the indirect costs of supporting the delivery of the capex program.

231. Given the top-down methods used to determine the level of capitalised overheads, and ATCO's description of the calibration steps it has undertaken using the bottom-up forecast of capitalised overheads to ensure alignment of the quantum of capitalised overheads, the methodology as described by ATCO appears reasonable and, as noted above, does lead to a slight reduction.

Total capitalised overheads are overstated

232. For AA6 we have reviewed the calculation steps for ATCO's BST model for capitalised overhead costs. Given the relationship between the input assumptions adopted by ATCO in its BST model and the quantum of overheads to be capitalised, any downward adjustments to the opex BST input assumptions also result in a consequent adjustment to the level of overheads to be capitalised. These input assumptions relate to the level of capitalised overheads that were present in the base year, and a proportion of any base year adjustments, trend adjustments and step change adjustments as applied to determination of an efficient level of opex.

233. In assessment of ATCO's forecast opex in section 7, we conclude that ATCO's forecast opex is overstated due to understatement of base year adjustments and a degree of overstatement of some trend parameters and some opex steps. In section 7.8 we have derived an alternative opex forecast that adjusts for these findings and we have made parallel and equivalent adjustments to ATCO's proposed capitalised overheads, while still utilising the BST method that ATCO has based its forecast on.

234. These adjustments to ATCO's BST model result in a reduction to the total overhead capitalisation amount of $8.7 million over the AA6 period. We have applied this in our proposed AA6 capex adjustment, which we record in section 6.8.

4.8 Implications for our review

235. We have identified issues with ATCO's forecasting methodology and assumptions as presented which in aggregate lead to an overstatement of its required capex and opex. These include:

- The top-down challenge process for developing the AA6 capex forecast does not adequately consider risk or other service performance outcomes. In principle, this may lead to an over-statement of its expenditure requirements, however we have considered ATCO's justification for its proposed capex on a project by project basis.
- ATCO's cost estimation methodology is likely to lead to an overstatement of the efficient level of expenditure required for the remaining years of AA5 and for the AA6 period because of the additional contingency provisions added at a project and program level and which we expand on in sections 5 and 6.
- ATCO has applied a real cost escalation premium for EGWWS sector wages growth (relative to WPI) which we consider is not supportable. We consider that a reasonable real wage growth escalation rate is lower than has been applied by ATCO, resulting in a

[55] ATCO, Attachment 10.024 page 8

corresponding reduction in ATCO's capex and opex forecasts, as presented in Sections 6 and 7.

- ATCO has overstated the implications of its benchmarking and productivity analysis and which it claims to indicate that ATCO's historical performance is favourable. We are not convinced that this benchmarking is an indicator of absolute efficiency, noting also that ATCO's claim is contradicted by its consultant's report on its productivity. Therefore, we have examined each component of ATCO's proposed opex in Section 7.
- We have accepted ATCO's methodology for estimating its capitalised overheads, and which is similar to AA5 and is an application of the BST method that it uses to forecast opex. However, for the same reasons that apply in our consideration of its proposed opex, we consider that its forecast capitalised overheads is also overstated. We have reflected an alternate estimate of capitalised overheads in our capex adjustments in Section 6.

5 ASSESSMENT OF AA5 CAPEX

We find that ATCO has not fully justified its AA5 capex against the capex criteria.

We have found instances of projects included in the AA5 expenditure that were excluded from the FD by the ERA for the AA5 period and which do not qualify as conforming capex. We also found evidence of overstated estimated capex for projects in the final two years of the AA5 period, relative to the historical expenditure incurred in those projects, and projects that appear to have been brought forward into the AA5 period earlier than may be prudent.

The aggregate impact of our assessed adjustments would imply a reduction to ATCO's AA5 capex of $15.5 million, or 4% of ATCO's actual/estimated capex of $413.7 million.

These adjustments primarily relate to expenditure that ATCO had not yet incurred (at the time of our review) and is the subject to updated forecasts that ATCO has indicated that it will make to the estimated capex for the final two years of the AA5 period in its revised submission to the ERA.

5.1 Introduction

236. We have reviewed the information provided by ATCO to support the capex incurred (or to be incurred) by ATCO in the AA5 period. Our focus is to assess the extent to which the actual and estimated capex is likely to satisfy the capex criteria for the purposes of determining the level of conforming capex under the NGR.

237. In this section, we have undertaken:

- A review of those aspects of ATCO's AA5 capex program where there has been a material deviation between the expenditure incurred (or to be incurred) by ATCO and the ERA's FD; and
- A high-level review of the other areas of ATCO's AA5 capex program.

238. We have included additional observations to assist the ERA with its review, where issues we have identified may extend beyond the scope of our review and require further review by ERA staff.

5.2 ATCO's proposed conforming AA5 capex

5.2.1 Information provided

239. The information provided by ATCO to support its AA5 capex includes:

- Compliance summaries for each of the major projects and programs;
- Examples of project governance documentation including business cases, CEAR and project close outs; and
- Variance analysis of expenditure compared with the actual/estimated capex for AA5 to the ERA's FD. This was escalated to real $2023 and which we have relied on as the basis for our assessment.

240. In most cases ATCO has explained variances to the ERA's FD at the project or program level in its supporting information with the level of evidence we would normally expect to see. However, there are instances where we required additional information to understand

the driver of the variances and to reconcile the proposed expenditure in the supporting documents.

241. In response to our requests, ATCO provided additional project-level information which we have taken into account to understand whether the variances to the ERA allowance present an underlying issue of investment governance, and therefore whether the capex incurred or intended to be incurred during the AA5 period is likely to satisfy the capex criteria.

5.2.2 Comparison between ATCO's expenditure and the ERA approved allowance

242. ATCO estimates incurring $413.7 million capex by the end of AA5 as shown in Table 5.1, being $68.8 million (14%) lower than the ERA's FD of $482.5 million.

Table 5.1: Summary of proposed confirming AA5 capex compared with ERA's FD ($m Dec 2023)[56]

Capex by category	ERA's FD	Actual/ estimate	*Variance*
Network Sustaining	242.6	214.6	-28.0
Asset replacement	222.2	189.4	-32.8
Asset performance and safety	20.4	25.3	4.9
Network Growth	171.5	142.9	-28.6
Customer initiated	169.6	141.5	-28.1
Demand initiated	1.9	1.4	-0.5
Information Technology	41.0	34.6	-6.4
Structures and equipment	27.4	21.5	-5.9
Total	**482.5**	**413.7**	**-68.8**

Source: EMCa analysis of AA5 capex model

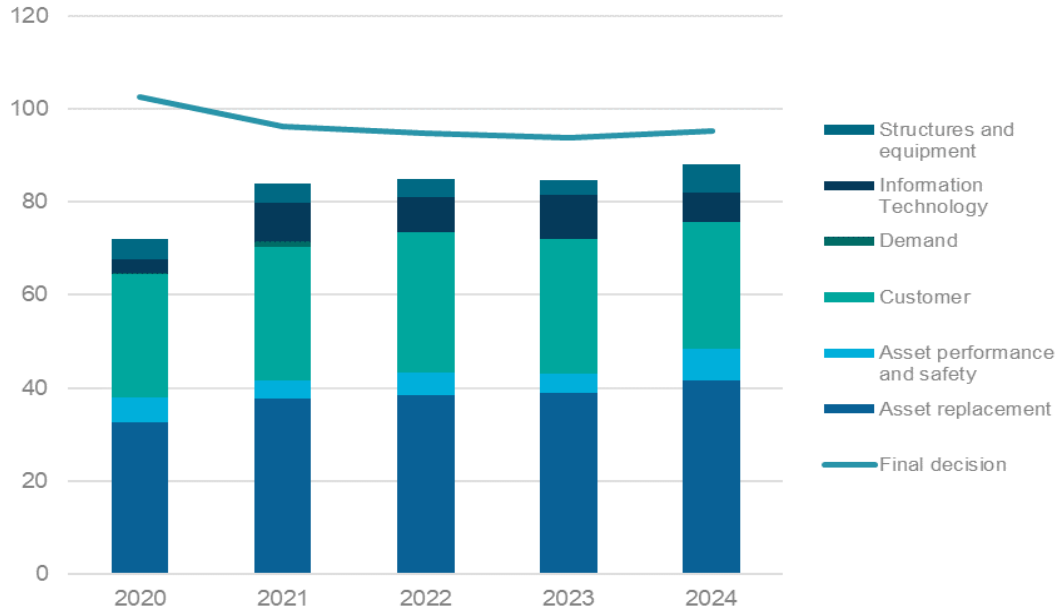
243. All major categories of expenditure are lower than the ERA's FD. With the top three projects contributing to the total AA5 variance of -$68.8 million being:

- $29.1 million (20%)lower for EOL replacement – PVC;
- $9.2 million (75%) lower for growth development; and
- $8.5 million (29%) lower for routine meter change (domestic).

244. In Figure 5.1 we show the variance between the proposed AA5 capex by year compared with the ERA's FD by expenditure category. The underspend against the ERA's FD is largest in the year 2020, which ATCO explains as a result of COVID-19.

[56] We have relied on the AA5 capex model provided by ATCO for our analysis, specifically the 'AA5 Capex Real$ Summary (2023)' worksheet for actual/estimated capex and 'AA5 FD project list' worksheet for the final decision.

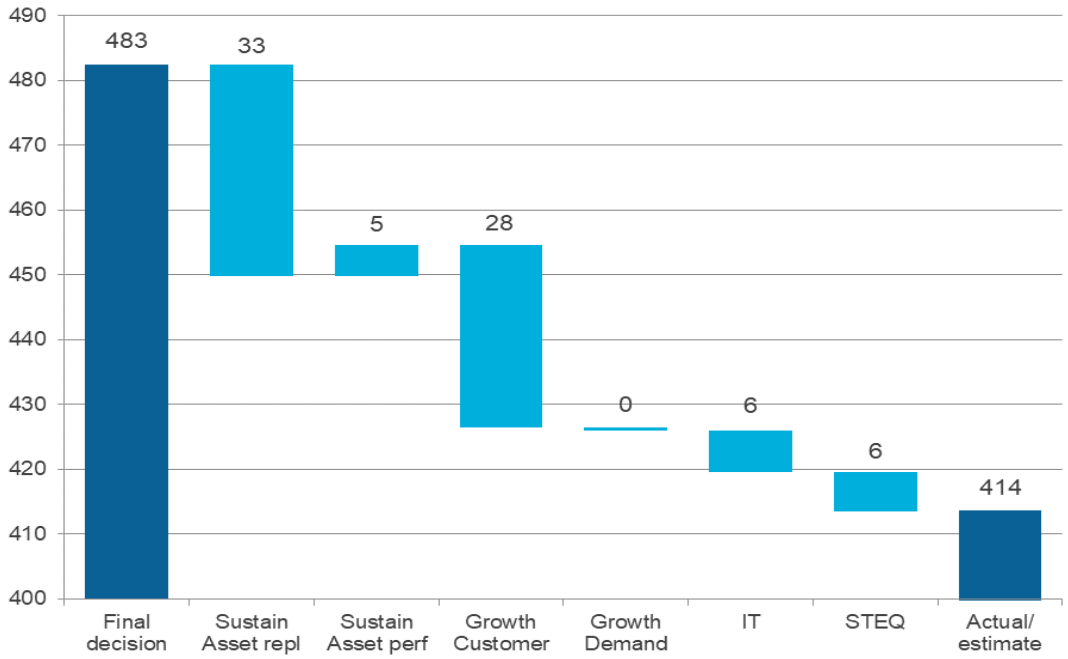
Figure 5.1: Summary of proposed confirming AA5 capex compared with ERA's FD ($m Dec 2023)



Source: EMCa analysis of AA5 capex model

245. In Figure 5.2 we show the variance between the proposed AA5 capex and the ERA's FD by expenditure category. The largest variance is in sustaining asset replacement capex ($33 million) following by growth customer-initiated capex ($28 million).

Figure 5.2: Variance analysis of proposed confirming AA5 capex compared with ERA's FD by expenditure category ($m Dec 2023)



Source: EMCa analysis of AA5 capex model

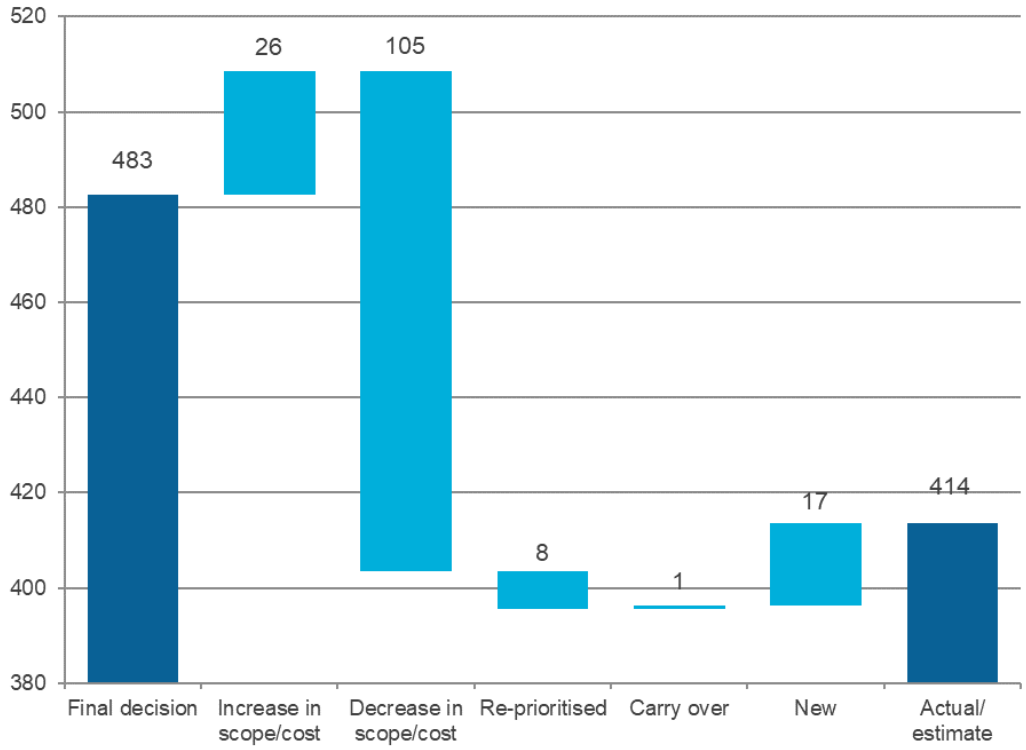
246. According to ATCO, the variation of actual/estimated expenditure to the ERA's FD is primarily due to:

- Lower demand / access to resources;
- Lower (reduced scope) of works program; and

- Lower unit costs (including application of new delivery methods).

247. In Figure 5.3 we show the variance between the proposed AA5 capex and the ERA's FD by cause of the variance. The largest and dominant cause of the variance is a decrease in scope/cost for individual projects.

Figure 5.3: Variance analysis of proposed confirming AA5 capex compared with ERA's FD by cause ($m Dec 2023)[57]



Source: EMCa analysis of AA5 capex model

248. Of the projects identified as new to AA5, these are predominantly due to new asset-related information introduced after the ERA's FD. Examples include:

- Safety related infrastructure (AC mitigation);
- Facility upgrades (over pressure shut-off);
- Facility upgrades (renewable gas injection points);
- Pressure Vessel replacement; and
- Depot upgrades.

249. At a portfolio level, there is evidence of prioritisation and cost efficiency. However, the basis for forecast capex to be incurred in 2023 and 2024 is not well explained. In addition, we found evidence of:

- Inclusion of at least 10% contingency included in forecast capex for the final two years; and
- Lower unit rates for current / historical projects than have been applied for forecast capex.

250. We investigate these issues in each of the categories of expenditure.

[57] The variance was calculated by a combination of comments from ATCO that indicated an increase / decrease in scope or cost, and determination of the capex variance against the FD. Reference to carry-over amounts relate to projects carried over from AA4 and comprise less than $1 million in total.

5.2.3 Impact of restrictions on resources during AA5

251. ATCO has advised that in response to restrictions on access to resources during COVID-19 (2020 and 2021) it modified its approach to project delivery and resourcing, which has contributed to variances in actual/estimated AA5 capex.

252. We considered the impact of each of the initiatives described by ATCO in our assessment of each of the AA5 capex categories, noting that some of the nominated strategies were also evident during the AA4 period and contributed in some way to the underspend that occurred during that time. It would be reasonable to expect that ATCO would have planned to continue these initiatives through the AA5 period.

253. That said, the impact of COVID-19 was unprecedented. In addition to the impact to ATCO's internal resources, it would have prevented mobilisation of local resources, changed the way that ATCO interacted with customers and hindered importing of resources from other jurisdictions for specialised works.

5.2.4 Carry-over to AA6

254. During the onsite discussion ATCO presented a number of projects that were included as carry-over works to be delivered in AA6.

255. In response to our request for information,[58] ATCO has identified 13 projects that carry over from AA5 into AA6 (2025 and 2026). The projects are shown in Table 5.2. The estimated capex carryover is $17.0 million which is forecast to be completed over 2025 and 2026.

Table 5.2: List of carry-over projects from AA5 to AA6 ($million Dec 2023)

Project	2025 Forecast	2026 Forecast
Network sustaining capex - Asset replacement		
2024 - EOL Replacement - PVC mains	2.1	0
2024 - EOL Replacement – CBD Mains	0.7	0
2024 - EOL Replacement - Regulator Set Lids	0.2	0
2024 – EOL Replacement – MPR	0.1	0
2024 – EOL Replacement – Telemetry	0.1	0
2024 – EOL Replacement – Warning Signs	0.004	0
Network sustaining capex - Asset performance and safety		
2024 - Facility Upgrade - Pigging Infrastructure	3.7	3.8
Reinforcement - Secret Harbour	1.3	0
2023 - Confined Space Removal	0.2	0
2024 – Facility Upgrade – CP Test Points	0.001	0
Growth capex		
2020 - New Depot - Malaga (Building)	1.1	3.3
2023 - CIC - Metersets - [redacted]	0.3	0
2024 - Growth Development Projects	0.2	0
TOTAL	**9.9**	**7.1**

Source: ATCO response to IR EMCa64

256. We note the impact of these works on a reduced capex program for AA5 and have included the proposed works as a part of our assessment of the forecast capex for AA6 in section 6.

[58] ATCO response to IR EMCa64

5.2.5 Updated estimate of AA5 capex

257. During our onsite discussion we asked ATCO whether, following submission of the AA5 proposal to the ERA, and given the passage of time, it had updated the estimate of capex expected to be incurred during the AA5 period. In response to our request, ATCO has provided updated estimates for 2023 and 2024 capex, which has further reduced the total AA5 capex by $3.0 million to $410.6 million.

- Reduction of $4 million in 2023; and
- Increase of $1 million in 2024.

258. ATCO did not provide a breakdown of individual projects. However, ATCO has separately updated the estimated capex for projects in response to individual information requests, and we have taken this revised information into account in our assessment.

5.3 Network sustaining capex

5.3.1 Expenditure variance analysis

259. ATCO estimates it will incur $214.6 million capex by the end of AA5, being $28.0 million lower than the ERA's FD, as shown in Table 5.1.

260. The major programs that comprise over 80% of the network sustaining capex are:

- Mains replacement, $133 million (or 62%);
- Routine meter change, $21 million (or 10%);
- Variable volume, $14 million (or 7%); and
- EOL replacement, $10 million (or 5%).

261. The majority of these programs continue from the AA4 period. There are some examples of newly identified requirements since the AA5 submission and which relate to new information not available at time of submission (e.g. arising from a safety assessment).

262. We have focussed on the variances to the ERA's FD in our analysis.

Asset replacement

263. ATCO estimates to incur $189.4 million by the end of AA5 for asset replacement capex, being $32.8 million (or 15%) lower than ERA's FD of $222.2 million.[59]

264. Mains replacement and routine meter change are the largest programs of this category, and also represent the largest areas of underspend against the allowance, resulting from reductions in scope.

265. A component of the mains replacement program has been estimated to carry over into AA6, with the largest component, PVC Replacement ($2.1 million), due to factors such as delays with gaining approvals to work within heritage areas (e.g. in Fremantle), completion of services replacement activities on mains installed in late 2024 and the subsequent decommissioning and final reinstatement activities.[60] We infer that the reference to 'mains installed in 2024' refers to the mains planned to be replaced in 2024 rather than new mains.

266. The mains replacement odd size steel program has been completed as planned, and the majority of the mains replacement metallic mains program is expected to be completed by the end of AA5.[61] Approximately 1km of metallic mains has been identified in the Perth CBD that does not have cathodic protection which has been planned for replacement commencing in 2024 and with completion in 2025.

---

59 Inclusive of $3.2 million for Buildings

60 ATCO response to IR EMCa64

61 With the exception of 3 railway crossings carrying over into 2025 (AA6).

Asset safety and performance

267. ATCO estimates it will incur $25.3 million by the end of AA5 for asset safety and performance capex, being approximately $4.9 million higher than the ERA's FD. There are several notable reasons for this variance, being:

- Increase in capex due to inclusion of new safety programs, primarily Step Touch and AC Mitigation;
- Reduction to the scope and timing of projects, including pigging infrastructure, Security of Supply at Caversham, Network Monitor and SCADA related projects; and
- Inclusion of Reinforcement project expenditure, as a result of reclassification of expenditure (previously Growth capex). Similarly for Fencing-related infrastructure, the allowance was included as a part of the Structure and Equipment category.

5.3.2 Our assessment of asset replacement

ATCO has responded to resource impact / challenges resulted in delays to program

268. As the asset replacement programs are large, ATCO was materially impacted by the lack of availability of key resources during the AA5 period and was unable to complete all the projects.

269. In response to resource shortages, ATCO introduced innovative solutions to recover the delays to its PVC replacement program at reduced scope and lower than forecast cost, by:[62]

- Increased implementation of pipe insertion methodology (leading to lower asset locating, site set up, and installation costs as it utilises its existing pipe as a sleeve for a new main);
- Undertaking complex and costly works in the Fremantle CBD during periods of reduced business activity (due to lockdowns);
- Maintaining a relatively steady delivery model, including contractor rates, throughout AA5 with limited major cost swings outside of inflation through engagement under long-term contractual agreements; and
- Improving works coordination with Water Corporation (PVC Replacement in Fremantle)) and Western Power (Metallic Mains Replacement in East Perth) to reduce costs.

270. In some cases, this has led to lower unit rates for the delivery of the program, and we have looked for evidence of these reductions in the unit rates that ATCO has assumed for the balance of its AA5 program and AA6 forecast.

271. We are satisfied that ATCO's responses to the challenges during the AA5 period for these programs are reasonable, and the expenditure that ATCO intends to incur is likely to be prudent and efficient.

Addition/removal of projects as a result of review of safety risk

272. During the AA5 period, ATCO has introduced a small number of new projects that it had not identified in its proposal for AA5 and consequently were not reviewed at the time of the AA5 decision.

273. We are satisfied that these projects are in response to safety risks and asset condition information that were not identified at the time of the ERA's FD, and in accordance with ATCO's governance and management framework represent reasonable investments that reflect good practice.

274. For example, the Step Touch hazard mitigation program was developed from detailed assessments of the hazard mitigation measures for 40 pipelines with the results not available at the time of the ERA's FD. ATCO advised that following review, 58 specific high-

[62] ATCO 2025-29 AAI, page 58

risk sites were identified, which has increased the volume and complexity of mitigation measures required exceeding the initial forecast capex.

Inadequate consideration of asset lives

275. In the case of pressure vessels, ATCO has reviewed compliance of its fleet of pressure vessels on the network. It identified that for 12 vessels (six 'in-use', and six 'not flowing gas' (not in use)) it did not have sufficient information or the information required to determine their remaining life and to have them certified as "Safe to Operate" under WA legislation was missing. Pressure vessel fatigue cannot be calculated accurately without complete design information, nor can the determination of condition from inspections be compared to corrosion allowances that are not known. These factors coupled with an average 25-year vessel age, led ATCO to assess these 12 vessels as being at their End-Of-Life (EOL).

276. Based on this information, we were concerned that ATCO had not taken sufficient consideration of the enduring need of these assets by replacing vessels not in use. We sought clarification from ATCO on this topic. In its response to our information request, ATCO clarified that: [63]

> *'The pressure vessels termed "not in use" are filter vessels on pressure reduction stations (PRS) which are currently not actively reducing pressures, however are anticipated to become operational at a future time.'*

277. Whilst we remain concerned that insufficient consideration was given to the option to remove the affected pressure vessels from service, rather than replace them based on a future need, we find that the capex is more likely than not to meet the needs of the Rules.

278. We also requested that ATCO confirm the costs attributed to non-regulated services, and whether these costs have been removed from the AA5 capex model. In its response, ATCO confirmed that expenditure had been included for non-regulated assets and which would be removed in its subsequent forecast submission. We have therefore made an adjustment for this amount.

Increase in programs for remaining years of AA5 period are not sufficiently justified

279. We found evidence of projects that had large increases in the final two years of the AA5 period relative to the expenditure that had been incurred during the first three years, and which impacts a number of the EOL programs. ATCO did not provide sufficient explanation of these increases to determine the drivers of the increases.

280. From our analysis, notwithstanding the potential for increases in the volume of work that may be determined to be at a prudent level, we did not find evidence that supported the increases assumed to the unit rates or project contingency. We suspect that the assumptions or the final two years reflected assumptions in the original business case and did not reflect reductions in unit costs that had been achieved since that time and removed project contingency from the forecast. Accordingly, a level of activity aligned with historical levels is more likely to reflect the level of activity that ATCO will undertake, and the prioritisation of work and unit costs that are evident in the historical expenditure.

5.3.3 Our assessment of asset safety and performance

Increase in programs for remaining years of AA period are not justified

281. We found evidence of programs where the estimated capex for 2023 and 2024, being an increase from the historical volume of replacement levels in AA5 was not adequately justified. For example, lower volumes had been delivered and had incurred a lower unit cost in the Vehicle protection and HPR Vehicle program.

63 ATCO response to IR EMCa91

Requirements for reinforcement of the network is overstated

282. ATCO identifies areas of its network where an increase in demand on existing pipelines is likely to reduce the safe operating pressure to a point where an upgrade to the pipeline is required. ATCO has proposed that from 2022, these projects are classified as Asset Performance and Safety driven projects due to the safety driver, rather than as demand driven.

283. Notwithstanding the change in classification, ATCO is proposing three sites for completion in 2024 – Atwell, Secret Harbour and Queens Park. Given the need for detailed planning and design, and the previous history of completing these types of projects, we asked ATCO to provide the justification for the need and timing of the three reinforcement projects located at Atwell, Queens Park and Secret Harbour planned for completion in 2024.

284. In its response, ATCO stated:[64]

> *'Three reinforcement projects are currently proposed for 2024 (Atwell, Secret Harbour and Queens Park). These projects are currently undergoing scoping and options review, with Business Cases in early stages of development. The key needs and timing of these projects, which will be further reviewed and justified within subsequent Business Cases is summarised below.'*

285. The Queens Park project responds to a specific trigger, being an alarm in 2022 which indicated that the system minimum pressure (3 kPa) was almost met. We have not independently reviewed the system modelling that ATCO has relied upon to determine that the demand will continue to increase, and which requires reinforcement of this network. We consider that on the balance of probability, there is a reasonable case for this project to be undertaken in 2024 as proposed by ATCO.

286. For the Atwell and Secret Harbour projects, the projects have been raised to improve the network design as the networks are supplied by a single HPR and are not currently back-gassed. ATCO has not indicated how long these networks have been operating in this way, or the trigger for reinforcement to occur in 2024, or why this timing is prudent. ATCO does state that:[65]

> *'Modelling has indicated that interlinking/merging with their adjacent networks (which will occur in the future as the network grows) will still not provide adequate capacity to provide suitable supply back up. The proposed reinforcement aligns with good industry practice.'*

287. As a part of ATCOs response to IR EMCa64, ATCO has included capital expenditure associated with the project to reinforce the network around Secret Harbour in its carry-over works. This will involve a steel mains extension and installation of an HPR.

288. ATCO states that the project was planned for commencement and completion in 2024, however due to the complexity of the project scope, a longer planning and design phase is required and therefore completion of construction will be in 2025.

289. We consider this reinforces our view that the reinforcement project proposed at Secret Harbour and the additional project at Atwell will likely be subject to further planning and design and be deferred until a later time, and outside of the AA5 period. Accordingly, we have made an adjustment that reflects the deferral until after the AA5 period. We have made an adjustment to the forecast capex for AA6 to take account of this.

Justification for pigging infrastructure for Bunbury pipelines has been demonstrated

290. During our onsite discussion with ATCO, the scope and timing of pigging infrastructure for the three Bunbury pipelines was discussed.

64 ATCO response to IR EMCa88

65 ATCO response to IR EMCa88

291. We asked an information request to provide justification for the inclusion of the Bunbury pipeline (HP047, HP089 and HP104) in AA5 of $1.5 million, based on comments made during the onsite discussion that this project was under review and unlikely to proceed.

292. In its response, ATCO nominated the updated estimated capex as being nil in 2023 and $0.06 million to be incurred in 2024, with the balance to be progressed as a part of carry-over works in the AA6 period.[66] We have incorporated this adjustment to the estimated capex for the AA5 period.

293. As a part of ATCOs response to IR EMCa64, received at a similar time, ATCO has confirmed inclusion of capex associated with the in-line inspection (ILI) (Pigging) associated with three Bunbury pipelines (HP104, HP089 and HP047) in its proposed carry-over works (refer to section 5.2.4). We consider this in our assessment of AA6 capex in section 6.4.3.

Compliance program for enclosed spaces is not adequately justified

294. In its documentation, ATCO describes the Confined Space project as unlikely to proceed. We asked ATCO to provide details of the risk assessment to determine the need and timing of the AA5 program of works.

295. ATCO describes the need for the project to address a change in compliance requirements arising from *Work Health and Safety (General) Regulations 2022, Part 4.3 - Confined spaces*. ATCO states that the strategy and planning for any remediation of existing confined spaces has not yet been determined and that:[67]

> *'ATCO intend to resolve outstanding change management actions and conduct this review in 2024, at which point in time the scope and timing of the project will be refined and finalised. A risk assessment will be conducted as part of the development of the program of works.'*

296. On the basis that planning is likely to be undertaken throughout 2024, the identification and design of any remediation actions to be completed as capex are unlikely to proceed during the AA5 period. In fact, ATCO has listed this project as a part of its carry-over works to the total of $0.2 million in 2025.[68] However, ATCO has not detailed the reason for the delay or breakdown of the expenditure compared with the original estimate.

297. In absence of information to confirm the requirements for this project, in accordance with the NGR, this project does not meet the requirements of the NGR for capex to be incurred during AA5.

298. Adjustments to the estimated AA5 capex to reflect these changes are therefore necessary to align with the requirements of the Rules.

Removal of projects that do not meet the NGR

299. ATCO has included projects in AA5 associated with its ESG program, including the Clean Energy Innovation Hub (CEIH) and blending of hydrogen in the GDS. As a part of the ERA's FD, the ERA considered that the capex for the CEIH submitted at that time was non-conforming capex.[69] The additional projects proposed by ATCO for its ESG program were not identified at the time of the FD.

300. As a part of its justification for the CEIH, ATCO considered that the Hub would yield a range of non-quantifiable benefits associated with future gas network service provision, including the potential addition of hydrogen into the gas supply. However, specific investments for the addition of hydrogen into the GDS were not proposed.

---

66 In response to EMCa90 ATCO refer to Pigging Infrastructure (Bunbury Pipelines HP104, 47, 87), whereby pipeline 87 is used rather than 89 as used in other responses. We have assumed that this was an error, and that all responses on this topic refer to the same three pipeline sections.

67 ATCO response to EMCa93

68 ATCO response to IR EMCa64

69 ERA, GDS – ATCO – Final Decision, paragraph 591, page 165

301. ATCO proposed to introduce an incentive mechanism – the Network Innovation Scheme – in its initial proposal. ATCO submitted that the innovation expenditures to be funded by the proposed scheme would also enable it to achieve greater operational efficiency. Expenditure included:[70]

- Handling different blends of gas (including hydrogen and biogas, as opposed to just natural gas) as part of the decarbonisation of the energy supply; and
- Providing enhanced services, such as energy storage, to meet the evolving needs and expectations of current and prospective customers.

302. When considered against other parts of its proposal, this scheme appeared to be the vehicle that ATCO proposed to fund research and development projects, such as those considered for hydrogen blending.

303. The ERA's draft decision did not approve the proposed network innovation scheme and required ATCO to amend the proposed access arrangement by deleting the proposed scheme.[71]

304. ATCO accepted the decision and removed the scheme from its revised proposal. Accordingly, the scheme or provision for any innovation expenditure was not included in the capex allowance for AA5.

305. ATCO has not proposed a scheme or mechanism for the treatment of research and development or innovation expenditure for AA5 or AA6. We are therefore guided by the requirements of the existing regulatory framework, and specifically the relevant capex rules.

306. For completeness we asked ATCO to provide justification of inclusion of projects relating to ESG and blending project during AA5, relating to the following line items (net of grants):

a. CEIH;
b. Facility Upgrade - Blending network control systems (ESG);
c. Facility Upgrade - Renewable gas injection points (ESG); and
d. Blending Project.

307. In its response, ATCO state that:[72]

- For CEIH, the expenditure is consistent with the amended National Gas Objective (NGO) which requires the ERA to consider the contribution of the expenditure towards the likely reduction of Australia's greenhouse gas emissions; and
- For the blending facilities, the expenditure on the project is built on the foundation created through the CEIH to blend hydrogen into the gas supply at ATCO's Jandakot depot for use on premise. Further, ATCO claims that the project provides readiness of the GDS for injection of renewable gases in the future, consistent with the change to the NGO that occurred in 2022.

308. In Table 5.3 we show the capex corresponding to these projects.

70 ERA, GDS – ATCO – Final Decision, paragraph 1795, page 388

71 ERA, GDS – ATCO – Final Decision, paragraph 1835, page 398

72 ATCO response to IR EMCa94

Table 5.3: Renewable gas project expenditure ($m, real Dec 2023)

Project Name	2020	2021	2022	2023F	2024F	Total AA5
2021 - Blending Project (net of Government grant)	-	-	0.4	-0.1	-	**0.4**
2024 - Facility Upgrade - Blending network control systems (ESG)	-	-	-	-	0.1	**0.1**
2018 - Clean Energy Innovation Hub	0.1	0.1	0.1	0.0	0.0	**0.2**
2025-29 - Facility Upgrade - Renewable gas injection points (ESG)	-	-	-	-	1.3	**1.3**
Total renewable gas projects	**0.1**	**0.1**	**0.5**	**-0.1**	**1.4**	**2.0**

Source: ATCO response to IR EMCa94. Totals may not add due to rounding

309. We do not consider that ATCO has sufficiently demonstrated that it has addressed the areas of concern raised by the ERA in its FD for the AA5 period, determining that the capex associated with the CEIH project was not conforming with the capex criteria; or that the governing regulations have been altered such that the proposed capex for all projects, when assessed against the new requirements, is now conforming.

310. As discussed in section 2, ATCO has made assumptions concerning the application of new Rules, which at the time of our assessment, remain in draft and require consequential amendments to be established for application in WA for which the scope and timing remain uncertain. We are similarly not aware of any proposed retrospective application of the proposed Rules if and when they are implemented in WA. ATCO had also made assumptions concerning its role, and which we consider has not sufficiently addressed whether the proposed activities should be recognised as covered services, to be recovered from gas customers as it has proposed.

311. For the reasons summarised above, we do not consider that the proposed capex in Table 5.3 is conforming capex.

5.4 Network growth capex

5.4.1 Expenditure variance analysis

312. ATCO estimates that it will incur $142.9 million by the end of AA5 for growth capex, being approximately $28.6 million lower than the ERA's FD.

Customer initiated growth

313. ATCO describes the customer-initiated programs in network growth capex as broken down into the following sub-categories:[73]

- Connection of residential (B3) and small commercial customers (B2) within its existing network (Brownfield New Connections);
- Connection of residential (B3) and small commercial customers (B2) in new subdivisions bordering existing areas of its network (Greenfield New Connections). This program also includes associated network expansion (mains extensions and mains in new subdivisions) necessary to facilitate the connection of new customers;
- Connection of new commercial customers (AL18 connections and Customer Initiated (CIC) Metersets); and

[73] ATCO 2025-29 AAI, page 66

- Commercial customers requiring a mains extension or bespoke gas metering facilities are termed Growth Development projects. These typically have a high level of customer capex contribution to ensure the connection cost has a positive present value.

Demand initiated growth

314. ATCO has an obligation to maintain adequate capacity to deliver gas safely to customers. In areas of the network experiencing high growth and increasing new customer connections, reinforcement projects are initiated where ATCO's modelling indicates supply security may be at risk.

5.4.2 Our assessment

Overall connection volume has been lower than forecast

315. Over AA5, ATCO reports that the volume of new connections has been lower than forecast due to:[74]

- External factors that include changes in the housing market, property zonings and population growth; and
- More significantly, the impacts of the COVID-19 pandemic could not have been reasonably foreseen, nor predicted in forecasting models.

316. The connection volumes are shown in Table 5.4.

Table 5.4: New Brownfield & Greenfield Connection volumes, AA5 Performance against ERA's FD

Program	Type of connection	2020-2024 Actual	ERA's FD	Variance
Brownfield Connections (no. of connections)	Residential Customer (B3)	5,053	3,701	Higher (30%)
	Small Commercial Customer (B2)	370	472	
Greenfield Connections (no. of connections)	Residential Customer (B3)	53,168	61,462	Lower (-14%)
	Small Commercial Customer (B2)	731	1,377	
Network Expansion (metres)	Mains Extensions	15,058	10,328	Lower (-20%)
	Common Trench	445,225	549,246	
	Feeders	177,354	240,549	

Source: ATCO 2025-29 AAI, Table 5.16

Lower demand impacts viability of growth projects

317. The volume of Greenfield New Connections is below forecast in the ERA's FD, along with network expansion trenching, which is linked to the growth of greenfield lots. This is primarily due to resourcing challenges and construction delays in the building industry.

318. We requested the NPV models to understand the impact of the lower connection volumes on the resulting assessment. We can observe that the revised connection volumes have been included, and which reduce the NPV outcome. For example, in 2022 the NPV model for greenfield connection is marginally positive with a 23-year discounted payback period.

319. Notwithstanding the long pay-back period based on ATCOs assumptions, the capex can be considered conforming.

[74] ATCO 2025-29 AAI, page 67

Higher demand in lower cost meter replacements seems reasonable

320. Brownfield B3 New Connections exceeded the ERA's FD forecast. ATCO describes the reason for this as a higher volume of Meter Only connections for which the service infrastructure is still active at the property.

> *'This activity was not included in the ERA's FD as the increased volume of these activities has only been realised in AA5, where there has been a high number of new connections following large-scale retailer requests for meter removals towards the end of AA4. The removal of these meters ensured retailers received no further standing charges for the gas connections. Meter removal is generally requested by retailers following several years of no gas usage.'*

321. This change in activity also impacted the average unit rate, as the cost of these connections is significantly lower than standard residential connections as the gas service pipework is already installed.

Impact of increased contractor rate rises is minimal

322. ATCO advised that the contractor rates were renegotiated in 2022 due to higher than predicted inflation in 2022, affecting multiple components of all construction industries (labour, materials, consumables). This resulted in an increase to the Greenfield New Connections expenditure, however overall this remained in line with the ERA's FD forecast.

CIC meterset capex does not recognise known customer delay

323. Based on information provided by ATCO, we observed a marked increase in the meterset replacement volume from the approved levels in 2023. We asked ATCO to provide the basis for the estimated volume and expenditure included for 2023 and 2024.

324. In ATCO's response, the forecast for 2023 provided in the submission was explained as being higher than the approved CEAR as it reflects:[75]

> *'the reforecast to completion using actuals available to date at time of the submission. There is variability in this customer driven program as it is dependent on the number and type of new connections as well as the customer capital contribution per installation. During execution all new commercial and industrial connections are evaluated case by case to ensure the Net Present value (NPV) is positive so the contribution level can vary between connections.'*

325. Based on this response, and the inclusion of analysis prior to project execution of a positive NPV for each project, the actual expenditure is likely to meet the requirements of the rules.

326. We did not see recognition of the carry-over work included by ATCO for the CIC meterset project of $0.31 million for [redacted]. In its response to our request to clarify the treatment of this project, ATCO stated that the timing and scope of the works forecast for completion in 2025 remain uncertain as discussions with the customer are still ongoing. We therefore consider that this project should be removed from the estimated capex for AA5 until such time as the timing becomes more certain. [76]

Reinforcement projects have been reclassified as sustaining capex

327. In AA5, ATCO completed reinforcement projects in Doubleview, Hamilton Hill and the North Metro area. These projects involved mains extensions and for the North Metro area project, also involved a capacity upgrade to the regulating facility. The north metro project was under the forecast included in the FD. Doubleview and Hamilton Hill projects were identified subsequent to the FD. We find the basis for proceeding with these additional projects reasonable.

---

75 ATCO response to IR EMCa97

76 ATCO response to IR EMCa64

328. In addition, ATCO has removed reinforcement projects relating to HPR upgrades included in the FD where updated network modelling has not confirmed the requirement to proceed with the project.

329. From 2023, ATCO has reclassified this expenditure as sustaining capex. ATCO states that following review of reinforcement projects, it found that the key driver is safety risk reduction.[77] We have therefore included our assessment of the balance of works for reinforcement projects as a part of asset performance and safety capex in section 5.3.

5.5 Structures and equipment capex

5.5.1 Expenditure variance analysis

330. ATCO estimates it will incur $21.5 million by the end of AA5 for structures and equipment, being approximately $5.9 million lower than the ERA's FD. The primary reasons for this variance include:

- Lower fleet costs due to extension of the lifecycle of light vehicles from 5 to 6 years, and shortage of heavy vehicle body builders and supply restraints; and
- Deferral of the new depot at Malaga to AA6, which was offset in part to additional depot works for existing sites during AA5 to meet growth.

5.5.2 Our assessment

Fleet expenditure is reasonable

331. The costs of fleet are the dominant source of structures and equipment capex during AA5, comprising almost 60% of the estimated capex. We consider that the reasons for the capex being below the ERA's FD are reasonable, and in line with good industry practice. The capex expected to be incurred in AA5 is likely to meet the requirements of the rules.

Additional capex required for existing depots following internal review

332. In the ERA's FD, the establishment of a new depot at Balcatta and Osborne Park was included. ATCO found what it considered to be a more suitable location for a depot in Malaga and purchased the land in 2019. Following review of ATCO's requirements, and impact to operations following COVID-19, ATCO deferred construction of the Malaga depot. Following further review, the depot will not be progressed until the AA6 period.

333. As a result, and in response to the change in working methods resulting from COVID-19, ATCO increased the minor works that it undertook at its existing depots. We therefore reviewed this expenditure.

Depots and other building related works not justified

334. We observed a number of inconsistencies in the claimed expenditure for the structures and equipment projects/programs, and asked ATCO to reconcile the list of projects across its submission and supporting documents to explain the capex to be incurred. For example, the compliance summary includes the completion of Jandakot Phase 3, comprising office extensions and extensions to the car parking facilities at the Jandakot depot. We found conflicting references as to whether this project was going to proceed with a larger value of $1.1 million included in the AA5 capex model.

335. During the onsite meeting, the project was confirmed on the premise that growth of the workforce was driving the need for greater space, including adoption of new roles arising from identified changes in regulations.

[77] ATCO 2025-29 AAI, page 70

336. In its response to our information request, ATCO has explained that:[78]

- $0.22 million had been incurred to extend the shared workspace program, and early planning work (i.e. design and preparation of planning approval) for the larger project;
- $0.22 million was identified for the extension work to meet its forecast growth, however this has been put on hold. ATCO Australia has since made other arrangements to increase corporate office space at its Mill Street office to alleviate pressure at Jandakot; and
- The balance of $0.69 million was for extension to main staff parking, which, following the decision to relocate staff to Mill St, is also not required.

337. ATCO has also clarified that the capex estimated for the Malaga building, and minor depot capital works require adjustment. Specifically:

- An additional $0.1 million to account for actual costs incurred for the building design revision, FIRB extension and planning approval for the Malaga (Building) works; and
- A reduction of $0.36 million as a result of reprioritised and deferred works, taking account of latest pricing and capacity info from suppliers, changes in operational needs and advice from third party contractors.

338. ATCO advised that a formal change request will be raised in 2024 and which reflects the above adjustments and which should be removed from the forecast AA5 capex.

Depot improvement works expected to result in ongoing benefits to opex

339. As a part of our review, we identified investments that were made by ATCO that are expected to result in ongoing savings to ATCO's operating expenditure. We have not seen how ATCO has taken account of these savings into its forward forecasts. For example, statements made by ATCO regarding savings indicate opex savings arising from initiatives such as:

- **Office space changes**: Shared workspace project and office reconfiguration works to improve capacity and productivity, and which is expected to reduce reactive works and *'savings of $120k per year in saved (sic) office leasing costs*';[79]
- **Equipment upgrades**: Predicted power usage savings in 2023 resulting from the Solar installation Project and LED Lighting upgrades completed in 2022,[80] and other related equipment upgrades such as air-conditioning. For example, the Solar installation Project and LED Lighting upgrades were estimated to result in $6,900 per year in opex power usage cost savings and will have an estimated 16-year payback period for the total Project cost, in addition to reductions in emissions.[81]

340. ATCO does appear to include savings such as these in its economic analysis for the individual projects, and which we would expect can therefore be realised as opex reductions. However, we did not see evidence of how these benefits, in aggregate, are treated in its forecast of opex requirements in AA6. We comment on this in our review of the AA6 forecast operational expenditure in section 7.5.

ESG related projects assessed as a part of sustaining capex

341. ATCO has included projects in AA5 associated with its ESG program, including blending of hydrogen in the GDS and CEIH. We assessed this as a part of our assessment of related projects included as sustaining capex in section 5.3.

78 ATCO response to IR EMCa65

79 ATCO response to IR EMCa98. It is not clear from the information provided by ATCO as to whether this is an avoided cost or actual opex reduction

80 ATCO response to IR EMCa98

81 ATCO response to IR EMCa98, 2022 Solar System Installation – All Depots – CEAR – Approved.pdf

342. In response to a related information request, ATCO added further statements in regard to its claim for capex for the Clean Energy Innovation Hub, where it stated:[82]

> *'The ERA disallowed the expenditure on the CEIH because the ERA was not satisfied that the proposed AA4 capital expenditure for the project 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, as is required under rule 79(1)(a) of the NGR. ATCO is not seeking to re-open the CEIH decision from AA5 for this final expenditure items. Instead ATCO will seek for Energy Policy WA to include transition provisions for the CEIH when Western Australia adopts the renewable gases changes to the regulatory framework.'*

343. This statement reinforces our assessment that this project is not conforming capex.

5.6 Information technology capex

5.6.1 Expenditure variance analysis

344. ATCO estimates that it will incur $34.6 million by the end of AA5 for IT, being approximately $6.4 million lower than the ERA's FD.

5.6.2 Our assessment

Proposed delivery profile is not likely to be achieved

345. ATCO has described the primary reasons for the variance to the ERA's FD include:

- Re-profile of IT projects to focus on out of support/at-risk systems; and
- Delays due to change of provider that occurred in 2021, and impact of COVID-19 resulted in resource restrictions and re-prioritisation of its IT capex portfolio.

346. We observe that these reasons have contributed to a back-ended investment profile, driven by the timing of specific projects. Re-profiling of expenditure in response to an updated risk assessment is reasonable.

347. Based on ATCO's own delivery performance, and the proposed re-profiled composition of the IT program, we consider that it is unlikely that the projects, as estimated, will be achieved in 2023 and 2024.

348. A large number of bespoke applications are included in the forecast to be completed over the final two years of the AA5 period. Replacement of bespoke applications is complex, and the integration, stakeholder engagement and change management processes take time. Given that the business case was not approved until mid-2023, and accounting for the additional complexity, we consider that this program will more likely than not be delivered at a slower pace than ATCO has forecast its estimated remaining AA5 capex.

ATCO has reduced its estimate of IT capex for the remaining years of AA5

349. More recent updates to the estimated IT capex expected to be incurred in 2023 and 2024 by ATCO has reduced the estimated capex by a further $1.1 million, and which we consider supports our view of the delivery issues identified, and fairly represents the likely delivery risk. We have therefore included this reduction in our adjustment of the AA5 capex.

Accounting treatment has not affected estimated capex for AA5

350. During the AA5 period, the IT accounting treatment has changed based on advice from the AASB, whereby cloud-based IT system implementation costs have been included in statutory accounts (per IFRS) as operating expenditure. However, given this information

[82] ATCO response to IR EMCa65

was not available at the time of the ERA's FD, the costs are reclassified as capital expenditure for regulatory accounting purposes, and therefore do not impact assessment of the IT capex for AA5.

351. However, the change of treatment will directly impact the assessment of AA6 opex and capex, and which requires a review of totex to understand the movements in expenditure.

Lack of justification for change in level of 'improvement projects' from historical levels

352. In the Digitisation – CI project included by ATCO, we observed a large ramp up in expenditure in 2023 and 2024 only. On review of the supporting information provided by ATCO, this increase was linked to a re-allocation of capex associated with its 'program of digital work'. In its compliance summary, ATCO states:[83]

> *'Whilst only initially allocated $0.88M (in 2023 dollars) at the start of the AA5 period, the business needs changes and following the governance framework in place, re-prioritisation of funds was conducted to ensure that investment in IT projects was in line with the changing business needs. $1.8M of the re-allocated funds was made to support the Agile BI Project (Program of Digital Work), which began in 2022 and funds a program of digital work to develop and implement business improvement initiatives.'*

353. The basis for the allocation to the GDS is not clear, and the full amount is not sufficiently justified from the information we were provided. The supporting information includes a single CEAR approval for $200k. However, this does not adequately explain the increase in both 2023 and 2024, for what appears to be a much larger amount. Our review of this CEAR indicates that the program of digital work includes forecast cost savings that more than offset the proposed capex and have immediate pay-back.

354. The cost of initiatives such as this should not be borne by customers when there is no corresponding mechanism to provide the savings to customers. Accordingly, we consider that the additional capex estimated to be incurred by ATCO is self-funding through the cost savings delivered by these initiatives, and any continuous improvement capex would therefore revert to the ERA's FD levels.

5.7 EMCa adjustment assessment

5.7.1 Compliance with capex criteria

355. Our assessment of the capex incurred and to be incurred in the AA5 period has been based on ATCO's AAI and supporting information.

356. At a portfolio level, there is evidence of ATCO prioritisation of the capital works in response to external changes, adjustments in response to new information, and delivered cost efficiency. However, we find issues relating to the estimated capex for 2023 and 2024 and inclusion of projects that do not meet the NGR across all years of the AA5 period, as follows:

- Projects included in the final two years of AA5 without sufficient justification, and which in some cases include project contingency;
- Evidence of lower historical unit rates than have been applied for forecast capex; and
- Projects that do not meet the NGR and which include projects that were previously disallowed for this reason in the ERA's FD.

357. Whilst we had previously found that ATCO's forecasting approach for volume-based activities was generally appropriate for these types of activities, ATCO does not appear to adequately review its assumptions pertaining to the volumetric inputs or economic analysis. We understand that as a part of ATCO's governance framework in place for AA5, annual reviews are planned to be undertaken of program base activities. However, we did not see

[83] ATCO 05.016.00 - IT Compliance Summary

consistent evidence that these reviews had been applied to update the forecast volumes of activities throughout the AA5 period. In the absence of demonstration of these reviews, there is a risk that some investments may proceed that would otherwise be uneconomic should the revised assumptions be taken into account.

358. We find evidence of project contingency being included in some costs for projects and programs that are planned for the remaining years of the AA5 period. As considered in section 4.3.2 of the proposed AA6 capex, we do not consider it prudent to retain project contingency amounts in the forecast capex for revenue determination purposes. We observe that project contingency is not applied to all projects, and we have limited evidence to definitively determine the level of contingency included in the estimated capex at a project level, which may not be realise in the actual incurred capex. We observe for example, this varies between 10% and 30%, with 30% used for the 2024 capex estimated for the Step Touch Mitigation program, and which is already in excess of the expenditure incurred in prior years and unlikely to be incurred. We therefore propose that the contingency amounts are removed from the estimated capex for 2024.

359. Benefits arising from AA5 capex do not appear to be evidenced in the submission, particularly the mechanism to realise these benefits and to take account of this value in the opex to be incurred by ATCO. We identify this also in our assessment of the forecast opex for AA6 in section 7.

360. Our adjustments for AA5 capex arise directly from our assessment of projects and programs where we consider from the information ATCO has provided that the expenditure does not satisfy the conforming capex criteria in rule 79(1), in accordance with Appendix A. We have taken a strict view of our obligations to advise the ERA based on the information that ATCO has provided to us. It is possible therefore that further information from ATCO may, if provided, lead us to different conclusions.

5.7.2 Aggregate adjustment assessment

361. Our assessed adjustment to ATCO's AA5 capex has been applied to each capex category. We have made an adjustment for all or part of specific project or program expenditures, where we consider that the information ATCO has provided for our assessment does not demonstrate that the expenditure satisfies the capex criteria.

362. We were not able to readily identify the individual projects and programs for which contingency has been retained in ATCO's estimated capex for the final two years of the AA5 period. Accordingly, we have made an aggregate adjustment to the network sustaining and IT capex in the final two years of 5% to account for 50% of projects attracting a contingency amount of 10% on average (where we found evidence of contingency amounts having been included).

363. In the absence of better information, we have tended to default to the ERA's allowance where the project or program was previously considered by the ERA as part of its AA5 decision process. Where a relevant project or program was not proposed in nor considered by the ERA in its AA5 FD, we have proposed an adjustment based on our assessment of the information provided in ATCO's supporting documentation. The reasons for adjustments vary across individual projects, as detailed in the assessment of the respective capex category.

364. We have produced our adjustments based on the timing of the projects and programs where possible and have sought to reflect any delays to the project against the capex allowance.

365. The aggregate impact of our assessed adjustments would imply a reduction to ATCO's AA5 capex of $15.5 million to $398.2 million, which represents a reduction of 4% of ATCO's actual/estimated AA5 capex proposal of $413.7 million. The adjustments are shown in Table 5.5.

366. These adjustments primarily relate to expenditure that ATCO had not yet incurred and is subject to updated forecasts that ATCO has indicated that it will make to the estimated capex for the final two years of the AA5 period.

Table 5.5: Adjustment table for AA5 capex ($m Dec 2023)

Capex category	2020	2021	2022	2023	2024	Total
Network Sustaining	**37.8**	**42.0**	**43.7**	**42.7**	**48.4**	**214.6**
less EMCa project adjustments	*-0.1*	*0.0*	*0.0*	*-2.0*	*-6.8*	***-8.9***
Adjusted Network sustaining	*37.7*	*42.0*	*43.7*	*40.7*	*41.7*	***205.8***
Network Growth	**26.5**	**30.1**	**30.2**	**29.1**	**27.1**	**142.9**
less EMCa project adjustments	*0.0*	*0.0*	*0.0*	*-0.9*	*-0.4*	***-1.3***
Adjusted Network Growth	*26.5*	*30.1*	*30.2*	*28.2*	*26.7*	***141.6***
Structures and Equipment	**4.8**	**3.8**	**3.4**	**3.5**	**6.0**	**21.5**
less EMCa project adjustments	*-0.1*	*-0.1*	*-0.5*	*-0.3*	*-0.8*	*-1.8*
Adjusted Structures and Equipment	**4.8**	**3.7**	**2.9**	**3.2**	**5.2**	**19.7**
Information Technology	**2.9**	**8.2**	**7.6**	**9.5**	**6.4**	**34.6**
less EMCa project adjustments	*0.0*	*0.0*	*0.0*	*-2.1*	*-1.5*	***-3.6***
Adjusted Information Technology	*2.9*	*8.2*	*7.6*	*7.4*	*4.9*	***31.0***
ATCO proposed total actual/estimate	**72.0**	**84.1**	**84.9**	**84.7**	**88.0**	**413.7**
less EMCa project adjustments	*-0.1*	*-0.1*	*-0.5*	*-5.3*	*-9.5*	*-15.5*
Adjusted Total	**71.8**	**84.0**	**84.4**	**79.5**	**78.6**	**398.2**
EMCa project adjustments (%)	*0%*	*0%*	*-1%*	*-6%*	*-11%*	***-4%***

Source: EMCa analysis

6 ASSESSMENT OF PROPOSED AA6 CAPEX

We find that ATCO has not fully justified its AA6 capex against the capex criteria.

At a project level, we find some projects and programs proposed by ATCO that are either partially or fully non-compliant with the conforming capex criteria. We also find opportunities for significant capex to be deferred, perhaps indefinitely. Thirdly, we find evidence that the cost estimates are higher than an efficient level, primarily due to contingency amounts that ATCO has included for most projects.

In addition to our project and program-level assessments, we have considered the impact of ATCO's assumptions regarding real labour cost escalation and capitalised overheads, which we consider to be overstated.

The aggregate impact of our assessed adjustments would imply a reduction of $59.5 million, or 13% of ATCO's proposed capex of $465.8 million for AA6.

6.1 Introduction

367. This section contains our assessment of the forecast capex allowance proposed by ATCO for the AA6 period. We have undertaken the review using the assessment framework set out in Appendix A, and with regard to our findings in Sections 2 - 5 of this report.

368. In this section, we describe our review and assessment of what ATCO has proposed, and our overall findings on the extent to which the proposed capex satisfies the capex criteria for the purposes of determining the level of conforming capex to be allowed under the NGR (WA).

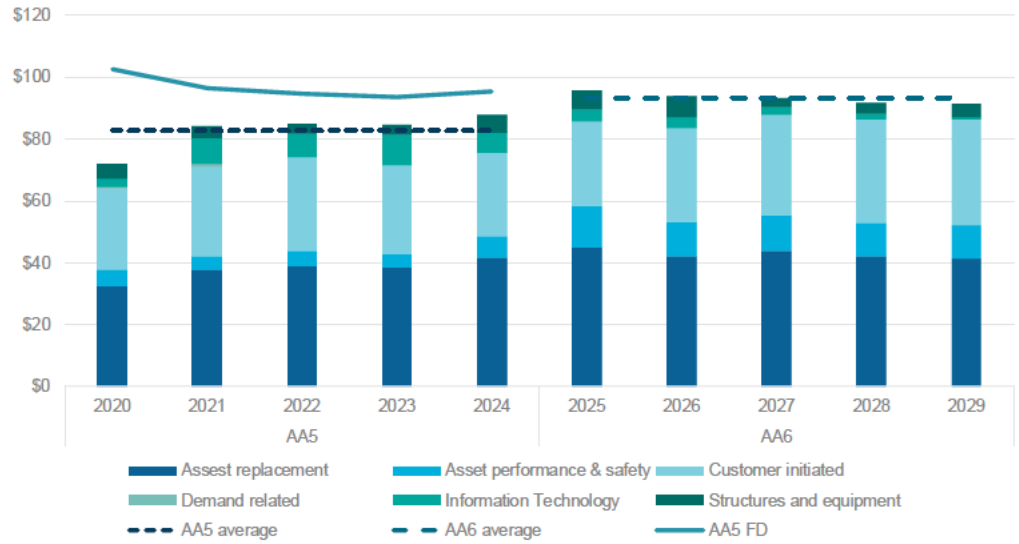
369. Please refer to the adjustment table in section 6.8.2 for the total forecast capex adjustments that we consider aligns with the findings from our assessment.

6.2 ATCO's proposed AA6 capex

6.2.1 Capex trend and drivers

370. In Figure 6.1, we show ATCO's AA5 capex (actual and estimated) and its forecast AA6 capex by category, with AA5 capex compared with ERA's FD for this period.

Figure 6.1: AA5 vs AA6 capex by capex category ($m, real Dec 2023)



Source: EMCa analysis from ATCO 2025-29 AAI, Tables 5.5 and 10.1 and ATCO AA5 - Capex Model – clean

371. The annual average capex proposed by ATCO in the AA6 period is 13% higher than in the AA5 period. Some of this difference is attributable to a transfer of IT capex to opex. As discussed in section 5, ATCO expects to underspend its ERA's AA5 FD capex by 14%.

6.2.2 AA6 Proposed capex

372. In Table 6.1, we show ATCO's proposed expenditure in AA6 by capex category and by year. The major increase from the AA5 period is the proposed $57.2 million (27%) increase in network sustaining capex. ATCO explains this increase being due to: [84]

> *'the return to a normal activity level following the COVID-19 pandemic, the addition of our sustainability initiatives, and the increase in the real cost of labour and materials.*

373. The reduction associated with IT capex of $21.6 million is largely due to an accounting change transferring capex to opex.

Table 6.1: AA6 forecast capex versus AA5 capex by capex category

Capex category	Total AA5	AA6						Variance
		2025	2026	2027	2028	2029	Total	
Network sustaining	**214.4**	**58.2**	**53.1**	**55.3**	**52.7**	**52.2**	**271.6**	***27%***
Asset replacement	189.3	45.1	41.9	43.7	42.0	41.3	214.0	*13%*
Asset performance & Safety	25.1	13.1	11.2	11.7	10.7	10.9	57.6	*129%*
Network Growth	**143.0**	**27.3**	**30.2**	**32.2**	**33.5**	**34.2**	**157.4**	***10%***
Customer initiated	141.5	27.3	30.2	32.2	33.5	34.2	157.4	*11%*
Demand-related	1.5	0.0	0.0	0.0	0.0	0.0	0.0	*-100%*
Information Technology	**34.6**	**4.0**	**3.7**	**2.7**	**1.9**	**0.7**	**13.0**	***-62%***
Structures and equipment	**21.6**	**6.3**	**6.9**	**2.8**	**3.8**	**4.2**	**23.9**	***11%***
TOTAL	**413.7**	**95.8**	**93.9**	**93.1**	**91.9**	**91.3**	**465.8**	***13%***

Source: EMCa analysis from ATCO 2025-29 AAI Tables 5.5 and 10.1

[84] ATCO, 2025-29 AAI, page 141

6.3 Proposed asset replacement capex

6.3.1 Introduction

374. ATCO proposes Asset replacement programs totalling $214.0 million for AA6 as shown in Table 6.2. We review each of the programs in the subsequent sections.

Table 6.2: ATCO proposed asset replacement program expenditure ($m, real December 2023)

Category and Programs	2025	2026	2027	2028	2029	Total
Mains Replacement Program	28.2	28.1	29.8	28.1	27.5	**141.7**
Meter Replacement Program	6.3	6.1	5.7	5.7	5.2	**29.1**
Other asset replacement programs:						
Risers and Services	3.2	3.2	3.2	3.3	3.3	**16.3**
Regulator sets and metering facilities	3.2	2.3	2.2	2.2	2.6	**12.5**
Telemetry equipment	0.9	0.9	1.4	1.4	1.4	**6.0**
Mechanical fittings	0.9	0.9	0.9	0.9	1.0	**4.7**
Metallic mains	1.8	0.0	0.0	0.0	0.0	**1.8**
Isolation valves	0.5	0.3	0.3	0.3	0.3	**1.6**
Warning signs	0.1	0.1	0.1	0.1	0.1	**0.4**
Total Asset Replacement Capex	**45.1**	**41.9**	**43.7**	**42.0**	**41.3**	**214.0**

Source: EMCa analysis of ATCO, Attachment. 10.022-AA6 Capex Model-Spreadsheet-Clean and 2025-29 AAI, Tables 10.4 and 10.9

6.3.2 Mains Replacement Program

Overview of the program

375. The program cost of $141.7 million comprises:

- 2025-29 - EOL Replacement - PVC mains [redacted]
- 2025-29 - EOL Replacement - PVC Ad-hoc – Coastal [redacted] and
- 2024 - EOL Replacement - PVC mains [redacted].

376. ATCO's AA6 Mains Replacement Program is a continuation of a long-term program to replace low pressure cast iron, low and medium pressure unprotected steel, and PVC mains due to safety risk. By the end of 2025, all of the 'High' risk mains will have been replaced.[85]

377. The proposed AA6 program includes replacement of 290km or 17% of the remaining PVC mains with fully fused PE pipe and services. These mains are in suburbs assessed by ATCO to present the highest risk, poorest condition, and leakiest PVC mains. The risk rating of the mains is 'Medium (non-ALARP)' according to ATCO's analysis and the work will maintain the overall risk rating.

378. ATCO also includes [redacted] million for ad-hoc replacement of PVC mains and a further [redacted] million to complete the AA5 PVC replacement program in 2025 that is running behind schedule.

379. We first focus our assessment on the AA6 mains replacement program and then consider the other two 'minor' programs.

[85] Refer to section 6.3.5 regarding carry-over work on metallic mains

Assessment of ATCO's case for investment in PVC mains replacement

380. The main driver for the AA6 program is stated by ATCO as: [86]

> *'potential asset failure of poor condition PVC mains with an unacceptable risk of an ignition event caused by a gas leak, impacting the safety of our customers and the public.*

381. ATCO derives the risk of a fatality from individual pipe sections (expressed as fatality risk per km per year) using its MRP Tool. ATCO has assigned a severity class of 'Major' assuming a single fatality. This is a reasonable classification. Table 6.3 shows the results of the application of ATCO's risk management framework and MRP Tool to its PVC mains. We also compare the ATCO likelihood, severity, and risk level with the corresponding definitions in AS4645.1.

Table 6.3: ATCO's PVC pipeline risk assessment vs application of AS4645.1:2018

Likelihood of a fatality (per km p.a.)	ATCO				AS4645.1:2018		
	Likelihood class	Severity class	Risk rating	Length of PVC pipe[87]	Likelihood class	Severity class	Risk rating
[redacted]							
[redacted]							
[redacted]							
[redacted]							

Source: EMCa analysis of ATCO Attachments. 10.045.00 - End of Life Replacement - PVC Mains - Business Case and 10.045.07 - End of Life Replacement - PVC Mains - Risk Assessment, and AS4645.1

382. The safety-risk mitigation (via gas leak reduction) benefit afforded by mains replacement is a reasonable basis for ATCO to consider continuation of the program in the AA6 period.

Assessment of ATCO's options analysis for the mains replacement program

ATCO considers nine options of which five are feasible and two stand out

383. ATCO identifies five feasible options, with the results summarised in Table 6.4. We consider that this represents a reasonable range of options for analysis. ATCO also identifies four other options that it did not consider to be feasible. Based on ATCO's analysis, Options 2 and 3 are superior to Options 1, 4, and 5. We consider these two options further.

86 ATCO 2025-29 AAI, page 152

87 MRP Tool output

Table 6.4: ATCO's options evaluation – mains replacement program ($m, 2022)

Options	Present Cost[88]	Km pipeline replaced	Benefits	Residual risk rating	*ATCO evaluation*
1. Do nothing – no further EOL replacement of PVC mains	[redacted]	0 km	No extra cost	Intermediate (not ALARP)	*Not recommended*
2. Semi-Quantitative Risk Assessment (SQRA)	[redacted]	260	Replace highest risk pipe	Intermediate (not ALARP)	*Not recommended*
3. Suburb Based Replacement	[redacted]	**290**	**Replace in highest risk areas. Highest efficiency**	**Intermediate (ALARP)**	***Recommended***
4. Condition Based Replacement	[redacted]	1,163	Replaces high leak mains	Intermediate (not ALARP)	*Not recommended*
5. Proactive Fitting Replacement	[redacted]	290[89]	Reduced excavations	Intermediate (not ALARP)	*Not recommended*

Source: Based on ATCO Attachments. 10.045.00 - End of Life Replacement - PVC Mains - Business Case

Option 2 is based on the criteria applied in AA5 but costs more than Option 3

384. Options 2 and 3 are based on replacing PVC pipe with PE pipe. Option 2 is based on applying the following criteria:

- Intermediate Risk (between 10^{-4} and 10^{-5} fatalities per km per year);
- Poorest condition (condition score above the average for intermediate risk pipes); and
- Interconnecting mains regardless of condition (to avoid revisiting the sites).

385. This is essentially the criteria applied by ATCO to initially determine the AA5 program scope. However, it addresses less PVC pipeline than Option 3 and at a higher total cost than Option 3 and is not cost-efficient compared to Option 3.

Option 3 is based on the lessons learned from the delivery of the AA5 program

386. The scope for this option is based a suburb-based replacement strategy which ATCO applied in the AA5 period to reduce costs, moving away from the assessment criteria it applied at the start of the AA5 period. The suburbs in which the PVC pipe will be replaced in the AA6 period have been selected based on the following criteria:

- Risk rating is above the average risk of the Intermediate risk suburbs;
- Condition score is above the average for intermediate risk suburbs (poor condition rating); and
- Recorded suburb leak rate is above the network average.

387. Option 3 offers three advantages over Option 2, being: (i) lower capital cost and higher present cost (PC), (ii) replaces 30km more pipeline and 43% more customer services, and (iii) bundling of work reduces disruption to the public over the long term.

388. ATCO states that Option 3 will reduce the risk to ALARP and that: [90]

[88] ATCO refers to the costs as NPV, however, as quantified benefits are not included, the comparison is of discounted costs

[89] 290km of pipeline fittings addressed, not pipeline replaced

[90] ATCO Attachment 10.045.00 - End of Life Replacement - PVC Mains - Business Case, page 25

'[t]he cost in terms of both of [sic] dollars and effort to deliver the proposed program is considered proportionate to the risk reduction afforded.'

389. Due to the absence of quantitative analysis of ALARP, we are not able to determine that the amount of pipeline and services to be replaced under Option 3 is optimum from a risk versus cost perspective. However we consider that:

- The selection criteria applied to its options analysis are reasonable;
- The cost per kilometre of pipeline offered by Option 3 is significantly better than Option 2; and
- The resulting amount of PVC pipe and services being replaced does not appear to be an excessive proportion of the total PVC population.

Consideration of stranded asset risk is not explicit

390. ATCO does not explicitly consider stranded asset risk, which in this case is the risk that the investment in new pipeline sections with technical lives of more than 50 years is at least partially wasted because they *may* have a much shorter economic life because of the diminished requirement for reticulated natural gas.

391. However, we consider stranded asset risk should be subordinate to safety risk in this case because (i) ignoring leaking pipes would be operationally inconsistent with the requirements of ATCO's Safety Case, and (ii) there would be higher ongoing opex for leak repairs and higher UAFG.[91]

392. Overall we consider that the proposed scope of Option 3 is likely to satisfy the Rules.

PVC ad hoc and carry-over mains replacement programs is likely to be reasonable

393. The ad-hoc replacement program is an ongoing component of the PVC replacement program, typically for '*small replacement sections identified during operational activities, where mains have suffered damage due to various factors*.'[92] We consider it reasonable for ATCO to make provision for this component of the program given that it is an experience-based approach and involves relatively modest expenditure.

394. ATCO has also included carry-over work from its AA5 PVC replacement program, that it could not complete in 2024. The length of pipeline to be replaced in 2025 is not clear from the AA6 business case, however we consider that it is prudent to conclude the program given it is based on the same criteria as Option 3 for the AA6 program.

Assessment of ATCO's cost estimates

395. ATCO has based the cost estimate for the ad-hoc work on the 2020-22 historical average spend with no added contingency.[93]

396. The cost estimate for the majority of the AA6 program is derived from a bottom-up build including experience from the AA5 program taking into account assumptions about (i) interconnectivity requirements, (ii) ground conditions, (iii) unit rates, (iv) service frequency, (v) construction methodology, (vi) night works and traffic management, and (vii) availability of materials, contractors, and internal resources. We sought further information about the bases for the assumptions provided in the business case and, with the exception of inclusion of a contingency amount, we are satisfied with ATCO's responses.[94] In particular, we are satisfied that ATCO has used unit costs which reasonably reflect the cost reduction strategies deployed in the AA5 period.

397. For ATCO's proposed carry-over work from its AA5 PVC replacement program, we assume the cost forecast is based on the same rate (and assumptions) as applied to the AA6

91 Noting that ATCO has not included a quantified cost in its Option 1 (do nothing) analysis

92 ATCO response to IR EMCa19

93 ATCO response to IR EMCa58

94 ATCO response to IR EMCa33 and EMCa58

program. On this basis, we consider the underlying cost estimate to be reasonable, but the addition of the contingency amount is not.

6.3.3 Meter Replacement Program

Overview of the program

398. ATCO's AA6 Meter Replacement Program is a continuation of a long-term program to replace meters at the end-of-life (EOL) at a forecast capital cost of $29.1 million, comprising:

- Routine Meter Change (RMC) – addressing 110,116 domestic meters ($27.3 million); and
- EOL replacement – Billing Commercial Meters – addressing 64 billing commercial meters ($1.8 million).

Assessment of ATCO's case for investment

ATCO has an obligation to replace domestic meters at the end of their service life, in accordance with its regulations

399. In accordance with the Gas Standard (Gas Supply and System Safety) Regulations 2000 (GSSSR), ATCO must ensure domestic gas 'master meters' are accurate. The GSSSR also includes a proposed lifetime for different meter sizes and in the case of basic domestic meters, meter life must not exceed 18 years unless approval to extend the life is given based on evidence that the accuracy is within tolerance provided in the GSSSR.[95]

400. ATCO has received approval from DMIRS to: [96]

> *'extend the life of extend the life of* [redacted] *meter type and meters at least equal in quality to* [redacted] *in service meters to 25 years, with older* [redacted] *meters maintaining a replacement interval of 18 years.'*

401. In our view, the relatively short lifetime of meters means that risk-cost associated with stranding of meter assets is likely to be low. We therefore consider that ATCO has a reasonable basis for considering replacement of domestic meters that will not be compliant with the GSSSR in the AA6 period.

Billing commercial meters are similarly required to be replaced in accordance with the GSSSR

402. ATCO's commercial meters are replaced with refurbished meters that have been re-calibrated and re-certified under ATCO's opex program until it is no longer practical to do so. ATCO has determined failure ages (based on historical records) and recommended replacement/refurbishment cycles and EOL ages for the four commercial meter types which it has applied to its population of 14,933 commercial gas meters.

403. We consider that ATCO has a reasonable basis for considering replacement of commercial meters that will not be compliant with the GSSSR in the AA6 period.

Assessment of ATCO's options analysis

ATCO considers five options for its RMC Program with its Option 2 preferred

404. ATCO identifies five feasible options in determining its preferred path for the AA6 RMC program. ATCO also considered a sixth option which ATCO considers to be infeasible.

405. Whilst ATCO could have considered an option to extend the life of the meters, this would likely not satisfy the GSSSR and would therefore not achieve the compliance objective. Therefore, in our view, ATCO has considered a reasonable range of options. ATCO has

95 ATCO, Attachment 10.044.00 - End of Life Replacement - Routine Meter Change - Business Case, page 8

96 ATCO, Attachment 10.044.00 - End of Life Replacement - Routine Meter Change - Business Case, page 9

focussed its assessment on Options 2 and 5 as the other options are either infeasible or do not exhibit sufficient benefits to offset their significantly higher capital cost, and which is reasonable.

406. ATCO's rationale for selecting Option 2 ahead of Option 5 is sound, with Option 2 selected because it achieved the investment driver at the lowest forecast cost of the options assessed. Based on the information provided by ATCO, Option 2 is likely to represent the prudent approach.

ATCOs preferred option for its Billing Commercial Meter EOL replacement program is reasonable

407. ATCO considered three options for its Billing Commercial Meter EOL replacement program. Option 1 is to do nothing and therefore does not fully comply with the GSSSR in the AA6 period. We do not consider it to be the prudent option. Option 2 is based on replacing gas meters at the prescribed intervals with refurbished meters until they reach their maximum refurbishment cycle (which is age-dependent and based on past failure analysis), and which ATCO has selected.[97] ATCO also identified a third option to extend the meter EOL age, which it concluded is not supportable due to lack of data, and which is reasonable.

408. ATCO has identified 64 meters for the AA6 program as part of its Option 2 for which it is no longer practical to refurbish due to either (i) their condition, or (ii) unacceptably high possibility of failure due to age, or (iii) there is no refurbished meter available. This program ensures that the regulatory approved replacement intervals as outlined in GSSSR 2000 are performed, hence meeting the compliance requirement.

409. The preferred Option 2 includes '*additional telemetry to enable gas temperature measurement'* at 54 of the 64 identified sites.[98] The remaining meter sites already include an existing telemetry system. For completeness, we consider that ATCO should have considered a further option that excluded the cost of additional telemetry, however it appears that including telemetry is an established practice by ATCO and the benefit is likely to outweigh the incremental cost of only about $5k per site.

410. We consider the strategy of meter refurbishment and, when necessary, meter replacement is the appropriate approach and has been tested as such throughout the AA5 period. We are satisfied that Option 2 is likely to represent the prudent approach.

Assessment of ATCO's cost estimates

RMC program cost estimate is higher than an efficient level

411. We are satisfied that the use of the average of three years of historical data (2020-2022) actuals is likely to represent a reasonable basis for the estimate of the average annual cost for the AA6 period. However, ATCO has added contingency of 10%[99] which we consider results in an inefficiently high cost forecast.

Billing commercial meter program is higher than an efficient level

412. The cost estimate for replacement of 64 meters is based on a bottom-up build using the latest available contractor rates with 30% contingency rate.[100] We consider the underlying cost estimate to be reasonable, but not the addition of the contingency amount.

97 ATCO, Attachment 10.038.00 - End of Life Replacement - Billing Commercial Meters - Business Case, page 9

98 ATCO, Attachment 10.038.00 - End of Life Replacement - Billing Commercial Meters - Business Case, page 13

99 ATCO, 10.044.00 - End of Life Replacement - Routine Meter Change - Business Case, page 32

100 ATCO, Attachment 10.038.00 - End of Life Replacement - Billing Commercial Meters - Business Case, rounded to 30%, page 19

6.3.4 Risers and services

Overview

The proposed AA6 program is a continuation of the AA5 program

413. The 'risers and services' program began in 2015 with replacement of either the service riser only or the full service (inclusive of the riser), depending on the nature and location of the leak. The riser and/or services are replaced with a fully fused PE solution. The proposed AA6 program is a continuation of the AA5 program and is proposed to incur $16.3 million capex to replace leaky PVC services with PE services.[101]

Assessment of ATCO's case for investment

ATCO reasonably concludes that action is required to address the high number of leaking services

414. ATCO's business case is predicated on reducing the risk of an undetected leak from a PVC service tracking into a building, potentially [redacted]. ATCO advises that 1,200 to 1,160 leaks from PVC services are identified annually.[102] ATCO's risk assessment is largely qualitative, leading it to conclude that this poses an 'Intermediate' (non-ALARP) safety risk.

415. Based on the information provided, ATCO's assessment of 'Remote' frequency of occurrence and a 'Major' consequence are reasonable ratings for leaking domestic services given the number of leaks and the close proximity of the leaks to consumer properties. We consider that it is reasonable for ATCO to consider actions to address the risk.

Assessment of ATCO's options analysis

ATCO has selected the prudent approach

416. ATCO has considered three options: Option 1 - Cease the program (no further capex, rely on maintenance only), Option 2 - Full service or riser only replacement (recommended), and Option 3 - Full-service replacement only.

417. Option 1 does not adequately address the very low probability, high consequence event that presents an Intermediate (non-ALARP) risk, nor would it present a permanent fix. Option 3 is an unnecessarily expensive approach to rectifying PVC service leaks.

418. Option 2 is to replace leaking compression coupling fittings associated with the risers only, and to replace the full service only when necessary. This leads to 76% of the forecast replacements being the much cheaper riser-only replacement and a lower overall cost than Option 3 whilst addressing the asset management objectives. It is the superior option of those considered by ATCO.

The forecast volume of services is not adequately justified

419. ATCO has based the forecast volume of replacements on the 3-year historical average with 10% additional scope.[103] We queried the basis for the contingent amount, and ATCO advised that it had: [104]

> *'… applied the contingency to the volume instead of the unit rate as the volume is likely to be more variable than the unit rate.'*

---

101 The program includes three sub-programs: SNR Re-lay Service / SNB; SNB Recon after Disc; and 2025-29 - SARA - SPY Transfers per Attachment 10.022 - AA6 Capex Model - Spreadsheet - Clean

102 ATCO, Attachment 10.043.00 - End of Life Replacement - Service Replacement - Business Case, page 7

103 ATCO, Attachment 10.043.00 - End of Life Replacement - Service Replacement - Business Case, page 12

104 ATCO response to IR EMCa30

420. ATCO has not provided sufficient compelling evidence to suggest the AA6 average will be higher than the three-year average over the period 2020-22. In absence of this evidence, we do not consider that the additional scope has been justified.

Assessment of ATCO's cost estimate

The cost estimate is reasonable once the 10% volume increase is removed

421. The forecast unit rate for the AA6 period is determined from the average unit rate over the period 2020-2022.[105] The unit rate for full-service replacement was relatively flat over this period. We noted that the reported unit rate in the business case for riser-only replacement had declined significantly from [redacted] in 2020 to [redacted] in 2022 ($2022). We queried whether the 3-year average was a representative basis for the forecast. ATCO advised that the 2020 unit rate and volume of riser replacements as reported in the business case were errors but that the unit rate used for the forecast was correct.[106] We also asked for the 2023 unit rate as a further check,[107] and in our view it confirms that the 3-year average unit cost that ATCO has used as the basis for the cost estimate for the AA6 period is reasonable.

6.3.5 Other asset replacement capex projects and programs

Regulator sets and metering facilities

The program consists of three AA6 sub-programs and carry-over work from AA5

422. ATCO has provided three business cases and other supporting information in support of its proposed $12.5 million capex on replacing (i) medium pressure regulator (MPR) sets ($8.5 million),[108] (ii) commercial and industrial metering facilities ($3.2 million) referred to as 'metersets',[109] and (iii) other facility equipment ($0.8 million). There is a minor amount of carry over work which we have not considered separately.

The trigger for replacement is asset condition to ensure the safety and integrity of the facilities

423. ATCO proposes replacing 50 MPRs which have reached their EOL based on a multi-parameter condition assessment,[110] criticality and the cost of replacement.[111] ATCO's replacement trigger is that the MPR has at least two 'high' condition risk ranking factors. ATCO identifies 10 High risk conditions, with an age greater than 40 years being a primary bases for replacement. We consider the definitions and overall approach to be reasonable.

424. ATCO propose replacing 17 metersets which have reached a condition where ATCO considers that maintenance is no longer effective, and the risk is not ALARP.[112] This follows replacement of metersets in the AA5 period for the same reason. ATCO's replacement criterion is the meterset has at least two 'high' condition risk ranking factors, with corrosion being the primary consideration for replacement. ATCO identifies 11 High risk conditions.

425. ATCO also includes replacement of facility equipment in this program. ATCO advised that within its operating facilities (e.g. meter facilities and regulating facilities) the rate of deterioration varies for different equipment types and that its assessment of historical trends

105 Adjusted to a direct cost by removing overheads; the forecast volume multiplied by the unit rate determines the capex forecast excluding overheads. Overheads, CPI and labour escalation are applied to the total direct cost (per ATCO response to IR EMCa32)

106 ATCO responses to IR EMCa32 and EMCa27

107 ATCO response to IR EMCa30, showing an average unit rate for riser-only replacement of [redacted] ($2023) in 2023

108 Including $0.1 million carry-over work, which we do not consider separately

109 Which includes a minor amount of carry-over work ($0.2 million), which we do not consider separately

110 ATCO, Attachment 10.036.00 – End of Life Replacement - Medium Pressure Regulator Sets - Business Case, page 8

111 123 MPRs satisfied the 2 x condition rating factors criterion; the highest priority 50 MPRs were selected from these

112 ATCO, Attachment 10.032.00 - End of Life Replacement - Meter Facilities - Business Case, page 5

indicate that a small number of facilities annually are identified for replacement of equipment.[113] The program covers equipment that cannot be repaired.

426. We consider the definitions and overall approach to be reasonable.

ATCO's options analysis leads to the selection of the prudent option in each case

427. For the MPR program, ATCO identifies six options and considered three options in some detail. We consider that ATCO has selected the prudent option (based on prioritised EOL replacement, as described above).

428. For the meterset program, ATCO considered four options. We consider that the selection of Option 2 which is based on applying the selection criteria denoted above and which identifies 17 metersets as being at EOL, is superior to the others. However, we queried the application of the criteria at several sites, and we were satisfied with ATCO's response. In summary, ATCO also takes into account Medium risk factors in identifying metersets for replacement, which we accept as reasonable on a case-by-case basis.[114]

429. For the Facility Equipment replacement program, ATCO considered three options and we consider the prudent option was considered being Option 2, for the replacement of facility equipment at EOL.

The cost estimates overstate the likely required expenditure

430. The expenditure forecast includes relatively small amounts in 2025 to complete the AA5 MPR program. The unit cost estimate for the AA6 MPR program is based on the 3-year average from 2020-2022 actual unit rates. However, the unit cost estimate for the AA6 MPR program contained some apparent anomalies for which we sought clarification from ATCO.[115] We are satisfied with ATCO's response and consider that basing the unit cost on the 2020-22 average is a reasonable approach, as outlined in section 4. However, we found evidence of the inclusion of project contingency, which we consider is not justified and results in an overstatement of the required expenditure.

431. The Metersets program is based on component costs obtained from suppliers in 2022, which we consider to be a reasonable approach. However, the cost estimate for the Metersets program also includes project contingency, for which we consider is not justified and results in an overstatement of the required expenditure.

432. The unit cost estimate for the Facility Equipment replacement program is ostensibly based on a 3-year average of historical expenditure (2020-2022), however expenditure was only incurred in 2022 ($70.7k, including overheads $2023).[116] On this basis, the annual average capex for the AA6 period should be $70.7k, including overheads but not contingency. ATCO has based its forecast on $153k p.a. including overheads and 33% contingency[117] which we cannot reconcile with the historical data. We therefore consider that ATCO has overstated the required expenditure for this program.

Telemetry equipment

433. ATCO proposes proactive replacement of 3,403 telemetry equipment approaching EOL at a cost of $6.0 million capex over the AA6 period.

434. ATCO states that the key drivers for the program are to '*maintain reliable data for decision making in the gas distribution system (GDS), ensure accurate and timely customer billing for industrial customers and continue operational efficiency*.'[118] We consider that these are reasonable drivers to support investment to maintain the performance of the telemetry fleet.

113 ATCO, Attachment 10.035.00 - Facility Upgrade - Facility Equipment - Business Case, page 7

114 ATCO responses to IR EMCa27

115 ATCO response to IR EMCa29 to explain inconsistent references in certain cells in the cost estimate spreadsheet (10.036.03)

116 ATCO response to IR EMCa27

117 ATCO, 10.035.00 – Facility Upgrade – Facility Equipment – Business Case

118 ATCO, Attachment 10.029.00 - EOL Replacement - Telemetry - Business Case, page 5

435. ATCO provides the asset ages as triggers for replacement of the serialised and non-serialised telemetry equipment. Based on the information provided, we consider the asset ages specified to be reasonable.

436. ATCO considers five options in its business case, including a condition-based replacement strategy, which would be preferrable but is not technically feasible nor cost-effective given the small unit cost and high volume of equipment. We consider that the selected option, which follows the same strategy as applied effectively in AA5, is the prudent choice.

437. The estimated cost has been derived from a bottom-up build using the most recent component costs from suppliers, labour hours from previous installation work, and the forecast volume based on asset age. We consider this to be a reasonable approach, with the exception of the contingency allowance, as discussed in section 4.

Mechanical compression fittings

438. ATCO proposes proactive replacement of an estimated 176 mechanical fittings per annum at a capital cost of $4.7 million over the AA6 period. This is a continuation of a strategy deployed in the AA5 period to address the same risk.

439. ATCO advised that mechanical fittings are likely to leak if they experience deflection or movement which can happen during back-fill due to disturbance of the ground. ATCO rates the risk of leaving the mechanical fitting following the disturbance as 'Intermediate not ALARP' because of the possibility of leaks ignition leading to fatalities.[119] We consider that there is a case for investing in the AA6 period to continue to proactively address such mechanical fittings.

440. ATCO considers three options in its business case. We consider that the selected option (Option 2), applying the same strategy as applied in AA5, is the prudent choice.

441. ATCO has derived its AA6 forecast annual capex from an average unit rate of [redacted].[120] The volume is based on the average actual replacements over 2020-2022 consistent with the methodologies discussed in section 4. However, the unit rate included in the cost estimate is based on a four-year average (2019-2022), which results in a slight increase in the rate compared to the three-year average,[121] yet not materially significant. ATCO has also included a contingency provision, which we discuss in section 4.

Metallic mains

442. ATCO has been replacing unprotected steel mains since the AA4 period. These pipes corrode relatively rapidly because the coatings are disintegrating and ineffective, leading to leaks. ATCO rated these as High risk assets. ATCO initially forecast completing the replacement work within the AA5 period, however due to various delays, some distribution mains under freeways and railways will not be replaced with PE pipe until 2025.[122] ATCO proposes a further $1.8 million investment to concluding the AA5 metallic mains program in 2025.

443. We consider this to be a well-established leak reduction program and should be completed as soon as practicable. We consider the cost estimate to be reasonable with the exception of the contingency allowance.

Isolation valves

444. ATCO proposes proactive replacement of six high pressure isolation valves over the AA6 period at a forecast capital cost of $1.6 million. This is a continuation of a strategy deployed in the AA5 period.

---

119 ATCO, Attachment 10.034.00 - Asset Replacement - Mechanical Fittings - Business Case

120 We also note that the component items in the total column in Table 3-5 in the business case is incorrect, but the total matches the rest of the table

121 ATCO, Attachment 10.034.01 – Asset Replacement – Mechanical Fittings – Cost Estimate

122 ATCO, Attachment 10.007 – Asset Lifecycle Strategy - Distribution Mains and Services, page 48

445. Isolation Valves installed on HP pipelines that have corroded, are leaking or are inoperable are deemed end-of-life by ATCO and are candidates for replacement. We consider this to be a reasonable strategy given that isolation valves need to (i) be compliant with the relevant Australian Standard, (ii) be available to quickly and reliably isolate gas flows in the pipeline network, and (iii) minimise customer interruption during emergency response.[123]

446. ATCO considers three options in its business case. We consider that the selected option (Option 2), which identifies six isolation valves for replacement, will reduce the risk from those valves to ALARP and is the prudent choice.

447. The estimated cost has been derived from expenditure in 2020 and 2021. In response to an information request, we see that the actual expenditure in 2023 reveals a similar unit rate, to that incurred previously. We therefore consider the unit rate to be reasonably based,[124] and the overall estimate to be reasonable with the exception of the contingency provision.

Warning signs

448. This is a continuation of a long-term asset replacement project that we consider should continue at the proposed volume over AA6.[125] We consider the cost estimate to be reasonable, with the exception of the contingency provision.

6.4 Proposed asset performance and safety capex

6.4.1 Introduction

449. ATCO proposes $57.6 million capex for asset performance and safety in the AA6 period as shown in Table 6.5. We review each of the programs in sections 6.4.2 to 6.4.4.

Table 6.5: ATCO proposed asset performance and safety capex program ($m, real Dec 2023)

Category and Programs	2025	2026	2027	2028	2029	Total
Enabling renewable gases						
Renewable gas injection	3.8	2.6	2.6	2.7	2.7	**14.3**
Network blending control systems	0.6	0.0	0.0	0.0	0.0	**0.6**
Meter changes for hydrogen blending	0.1	0.1	0.1	0.1	0.1	**0.6**
Inline inspection	3.7	3.8	6.4	5.3	5.6	**24.9**
Network reinforcement	1.8	0.0	0.0	0.1	0.1	**2.0**
Other asset performance programs						
Step and touch hazard mitigation	1.5	1.5	1.5	1.5	1.5	**7.6**
Vehicle protection	0.4	0.4	0.4	0.4	0.4	**1.9**
Corrosion protection	0.3	0.3	0.3	0.3	0.3	**1.5**
Corrosion protection monitoring	0.2	0.2	0.2	0.2	0.00	**0.7**
Pressure monitoring devices	0.2	0.2	0.2	0.2	0.2	**0.8**
Gate station metering	0.4	0.3	0.0	0.0	0.0	**0.8**
Other performance programs	0.2	1.8	0.0	0.0	0.0	**2.0**
Total Asset Performance & Safety Capex	**12.9**	**9.4**	**11.7**	**10.7**	**10.9**	**57.6**

Source: EMCa analysis of ATCO 2025-29 AAI Tables 10.10, 10.12, 10.15

123 ATCO, Attachment 10.027.00 - EOL Replacement - Isolation Valves - Business Case, page 6

124 ATCO, Attachment 10.027.03 - EOL Replacement - Isolation Valves - Cost Estimate

125 ATCO, Attachment 10.026.04 - EOL Replacement - Warning Signs - Cost Estimate

6.4.2 Enabling renewable gases

ATCO's proposal

450. ATCO has proposed $15.5 million for its enabling renewable gases program to ensure the network can accept and distribute renewable gases.

451. ATCO considers that its existing PVC network is compatible with the introduction of biomethane and renewable hydrogen blends up to 10%. ATCO considers that the proposed expenditure is a 'modest' program of activities to support the injection of renewable gases into the network. This includes constructing gate stations to inject renewable gases into its network, installing control systems to ensure accurate measurement of energy content, and replacing a small portion of meters with hydrogen compatible metering.[126]

452. ATCO has provided the Renewable Gas Delivery Strategy (Attachment 03.004) to support its objective to lower emissions.

Our assessment of the case for renewable gases

453. A central argument for ATCO is that the expenditure aligns to government climate objectives and is in line with good industry practice for reducing emissions. We consider each of these arguments below.

Alignment to ATCO compliance obligations is not sufficient

454. As discussed in Section 2, we do not consider that ATCO has established the basis for a role of the GDS to provide blending facilities or services, as a covered service to be recovered from customers. We refer to arguments published by the ERA in its FD and which include requirements for ATCO to demonstrate that the proposed capex is required for pipeline services, and that the capex would be incurred by a prudent service provider acting efficiently to achieve the lowest sustainable cost of providing services.

455. Whilst national emissions targets have been established by the commonwealth government, as discussed in section 2, our assessment is based on a strict application of the NGR and which includes compliance requirements that are known at the time of our assessment.

456. Notwithstanding the above, we have also not seen evidence of a business case that demonstrates that the value from the investments proposed by ATCO is passed onto the customers from whom the proposed expenditure is recovered as a Covered Service. Rather, the proposed expenditure appears to be targeted to growing a future business opportunity, to which the value may or may not accrue to the customers that are likely to pay for it.

There is insufficient provision for the proposed expenditure in the current Rules

457. The provisions included in the NGO state that:

> *'The objective of this Law is to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to*
>
> *(a) price, quality, safety, reliability and security of supply of natural gas; and*
>
> *(b) the achievement of targets set by a participating jurisdiction—*
>
> *(i) for reducing Australia's greenhouse gas emissions; or*
>
> *(ii) that are likely to contribute to reducing Australia's greenhouse gas emissions.*

458. Firstly, the NGO currently refers only to natural gas, and not renewable gases, albeit this is a further regulatory change that is expected to occur in 2024 and expected to apply in

126 ATCO 2025-29 AAI, page 162

Western Australia at a future time. Also, the NGO refers to achievement of targets by a participating jurisdiction, however we are not aware of specific targets that are expected to apply to ATCO, and which could be used for this purpose.

459. We are therefore guided by the Rules regarding approval of capital (NGR 79) and operating (NGR 91) expenditure which are prescriptive and do not currently reference the new objectives and particularly the emissions reduction component.

460. As noted in section 2, as at the time of our assessment, there were not rules applicable to ATCO that reference the new objectives nor the emissions reduction component. We have taken a prescriptive approach in applying the rules in our current assessment of proposed expenditure, while noting that AEMC has indicated discretion that ERA may choose to apply in its determination.

The draft rules do not provide sufficient basis for the proposed expenditure

461. Assuming that the draft rules to support the incorporation of emissions reduction in the energy regulatory framework by AEMC are also adopted in WA, these amendments will likely allow network and pipeline operators to propose expenditure for activities that would contribute to achieving emissions reduction targets. Where WA adopts such changes during the AA6 period, consequential amendments will also be required to enact changes to the expenditure criteria included in the NGR (WA).

462. Assuming that these changes are also enacted in WA, there is likely to be a framework that allows expenditure to be incurred to 'contribute' towards achieving emission reduction benefits. This framework, according to the current drafting of the rules, includes ambiguity in the definition of what constitutes the emission reduction targets. The current drafting proposes that:[127]

> *'..emissions reduction targets means targets set by a participating jurisdiction: (a) for reducing Australia's greenhouse gas emissions; or (b) that are likely to contribute to reducing Australia's greenhouse gas emissions, including the targets stated in the targets statement. Targets statement has the meaning given in section 72A of the NGL.'*

463. In absence of jurisdictional emissions reduction targets that could be reasonably applied to ATCO for the purpose of the Rules, there remains insufficient basis to conclude currently that, if the amendments are applied in WA that they would be sufficient to support investment of the nature proposed by ATCO. Neither has ATCO sufficiently demonstrated that the value achieved from the proposed investments, in absence of the emissions reduction targets being legislated, sufficiently accrue to the connected customers.

Examples of good industry practice are not relevant to review of ATCO's proposal

464. The examples provided by ATCO in support of its proposal were not originally proposed as regulated projects and therefore these projects are not directly relevant as examples of good industry practice.

465. Of these, two were provided from Australian Gas Networks (AGN) - Hydrogen Park South Australia (HyP SA) and Hydrogen Park Gladstone (HyP Gladstone) in Queensland. There is also a third related project being progressed by Australian Gas Infrastructure Group (AGIG) to which AGN is a part, which is Hydrogen Park Murray Valley (HyP Murray Valley) in Victoria. All three projects were initiated by AGIG with part funding provided by third parties including the state government. The first project to commence was HyP SA in 2021 and expanded in 2023 to deliver a 5% renewable gas blend to more than 4000 gas customers in Adelaide's south in the suburbs of Mitchell Park, Clovelly Park and parts of Marion.

466. HyP SA was not included in the 2021-26 AA submitted to the AER. However, HyP Murray Valley was included in the 2023-28 AA by AGN. The AER appointed Zincara P/L to review

[127] Source: https://www.aemc.gov.au/sites/default/files/2023-10/draft_ngr_rule_2024_final_-_harmonising_the_rules_with_the_objectives.pdf

some of the elements of the gas distributors' submission. Specifically, Zincara assessed Australian Gas Network's (AGN) hydrogen proposal and its augmentation.

467. In its report to the AER, Zincara did not consider the capex to be prudent for the next AA period. The report based its decision on:[128]

- Absence of a roll-out plan;
- Lack of support from stakeholders; and
- Absence of economic justification.

468. In its final decision for AGN (Victoria & Albury) 2023-28, the AER did not approve the hydrogen readiness capex ($10 million). The AER also stated:[129]

> *'The decline of gas demand is expected to accelerate, but there is uncertainty as to how quickly that will happen, what the path to small customer 'electrification' will look like, and whether gas networks will have any ongoing role in transporting hydrogen or biogas.'*

We consider it likely that such expenditure is not necessary to provide the Covered service and would not be charged to gas end-customers

469. Moreover, as introduced in section 2 the issue becomes whether ATCO is the appropriate party to establish the infrastructure or will become a "taker" of whatever blend of Covered Gases a customer wants to deliver into the network, whether from a transmission pipeline or from a production facility. The proposed facilities would be for the benefit of a party wishing to develop renewable gas production facilities and we would expect that this party would therefore need to meet the cost of any investment needed for the associated connection and blending facilities.

Our assessment of the proposed expenditure

Absence of robust analysis to determine that the expenditure is the most efficient option

470. ATCO proposes building six gate stations to each inject around 100-200 TJ of renewable gas into the network (per site per year). ATCO forecasts building two injection points in 2025 (to be used to inject 'renewable gas' for UAFG) and then one per year over the remaining years of AA6 (to inject the amount of renewable gas needed to address customer demand).

471. Further expenditure is proposed for network blending and control systems in year 1, and meter changes for hydrogen blending in each year of the AA6 period.

472. Notwithstanding the issues identified as to the need and role of ATCO to provide these services, we find further issues that have not been addressed by adequate economic analysis of the options versus the counterfactual that demonstrate that the proposed expenditure is the most efficient option in accordance with the Rules. Namely that:

- ATCO has not effectively demonstrated that injection of 'renewable gas' for UAFG is the efficient cost option. As discussed in Section 2, we find that based on ATCO's estimate of current market prices for renewable gas that the lowest cost option is to continue using natural gas to meet its UAFG requirements; and
- ATCO has not effectively demonstrated that there is sufficient customer demand to require the additional gate stations. The market in WA is relatively immature. We have not seen evidence to confirm customer demand for renewable gases, or that distribution using the GDS is more efficient than via road transport for transportation of these gases, such that the economic value is positive from this investment.

---

128 Zincara P/L, AGN 2023-28 AA review 20221124 public, page 16-17 accessed at https://www.aer.gov.au/system/files/AER%20-%20AGN%202023-28%20-%20Draft%20Decision%20-%20Zincara%20-%20Public%20-%20December%202022.pdf

129 https://www.aer.gov.au/system/files/AER%20-%20AGN%202023-28%20-%20Final%20Decision%20-%20Overview%20-%20June%202023.pdf, page 5

473. We note that in the advice provided to the AER, Zincara states:[130]

> *'On the matter of how this capital expenditure meets the AEMC final report "Review into extending the regulatory frameworks to hydrogen and renewable gas", AGIG has written to the AEMC on the final report. However, it is worth noting that in the report, when a service provider proposes to transport an alternative gas to natural gas, Section 3.5.1 of the report says that the proposal can only be justified when the overall economic value of the expenditure is positive. In this case, Multinet or AGIG have not provided a business case demonstrating this requirement.'*

474. We consider that there is material uncertainty surrounding the regulatory framework that would apply to ATCO during the AA6 period, or whether it is appropriate for ATCO to undertake these services as a Covered Service and that, even if it was, then ATCO has not demonstrated that it is economic. At time of our assessment, therefore, we find that the proposed capex is non-conforming.

6.4.3 Inline Inspection

ATCO's proposal

475. ATCO commenced a program to demonstrate integrity compliance with AS 2885.3 in 2017 by pipeline in-line inspection (ILI) using a Pipeline Inspection Gauge (PIG) tool, in a process commonly referred to as "Pigging". In AA6, ATCO has included $24.9 million to modify pipeline configurations to accommodate the ILI process, referred to as 'pigging infrastructure'.

476. Part of the capex forecast is to provide the necessary pigging infrastructure to enable ILIs of three pipelines in the Bunbury region[131] which were deferred from AA5 to the first two years of the AA6 period. We refer to these as the 'Bunbury pipelines.' The estimated cost of the Bunbury pipelines work is $7.6 million. ATCO proposes undertaking works to enable ILIs for five other high-pressure pipelines[132] in the balance of the AA6 period at an estimated cost of $17.3 million and we refer to these as the 'AA6 pipelines.'

Assessment of ATCO's case for investment

Primary driver is regulatory compliance to ensure integrity of pipelines

477. The ILI program aims to (i) ensure the safe and reliable operation of the pipelines, complying with the requirements outlined in AS 2885.357, (ii) determine if the pipelines are fit for their intended purpose, (iii) provide insights into the remaining life of the asset, and (iv) validate the effectiveness of its maintenance practices.[133]

478. We consider that ATCO has presented a sound case for investigating the scope of works and investment required in the AA6 period to make modification to its pipeline, where prudent, to achieve compliance and to help maintain the overall safety of the pipelines in question.

ATCO identifies three technically feasible options for the AA6 pipelines

479. The Bunbury and AA6 pipelines are classified as being unable to be internally inspected through ILI, presenting significant challenges in proving their structural integrity:[134]

---

130 Zincara P/L, AGN 2023-28 AA review 20221124 public, page 16-17 accessed at https://www.aer.gov.au/system/files/AER%20-%20AGN%202023-28%20-%20Draft%20Decision%20-%20Zincara%20-%20Public%20-%20December%202022.pdf

131 HP047, HP089, HP104

132 With reference numbers #32, 41, 42, 44, 54

133 ATCO, 2025-29 AAI, pages 165-166

134 ATCO, 2025-29 AAI, page 165

- *'Conventional ILI methods, such as smart pipeline integrity gauges, may not be suitable due to pipeline constraints, bends, or inaccessible sections;*
- *The ageing profile, inaccessible sections, and unknown internal corrosion further exacerbate the difficulty in demonstrating compliance with AS 2885.3; and*
- *Due to the requirement to maintain the security of supply, these pipelines must be inspected without interrupting the operation of the pipelines.'*

480. ATCO identifies five options, of which it considers three to be technically feasible and capable of addressing the compliance requirement. Two other options were deemed to be infeasible. We consider these to be reasonable positions. ATCO's evaluation of the three feasible options is summarised in Table 6.6.

Table 6.6: Options considered by ATCO – ILI Program – AA6 pipelines ($m, 2023)[135]

Option	Present cost[136]	Cost estimate capex	Cost estimate opex	*Residual risk rating*
1. Continue with the current situation	n/a	$0.0	$0.15	*Intermediate (not ALARP)*
2. Modifications to enable Inline Inspection	-$16.3	$17.3	$2.6	*Intermediate (ALARP)*
3. Increase direct assessment	n/a	$0.0	$0.3	*Intermediate (not ALARP)*

Source: EMCa analysis of ATCO Attachment 10.041.00 - Facility Upgrade - Pigging Infrastructure - Business Case, Tables 2-1, 2-4, 2-7

481. Option 1 is based on continuing with five-yearly direct current voltage gradient (DCVG) assessments and reactive dig-ups at nominated coating defect sites. Whilst this option involves no immediate requirement for capex, it will not lead to compliance with AS2885. We consider it to be an inferior option to Options 2 and 3.

482. Option 3 is based on continuing with five-yearly DCVG, dig-ups of all defects found via DCVG, and extra dig-ups. ATCO argues that the residual risk rating for this option is Intermediate (Not ALARP). ATCO states: [137]

> *'The risk will not be deemed as ALARP (As Low As Reasonably Practicable) if there are viable and suitable alternative integrity assessments available.*

483. This is a reasonable conclusion if there is a technically viable, cost-efficient alternative. Relying solely on DCVG inspections does not align with industry practice,[138] and 3,200m of pipeline 32 and 700m of pipeline 41 are inaccessible for DCVG surveying, meaning that ATCO would not fully comply with the requirements of AS2885 if it pursued Option 3. However, we consider Option 3 to be the fall-back position for any pipeline that is only able to be modified for pigging at a disproportionately high cost.

484. Option 2 is preferred by ATCO and involves modifying the AA6 pipelines to accommodate ILI. The estimated average cost per pipeline is $3.5 million capex for the modifications and $0.5 million opex (for the actual ILI) per pipeline.

135 Using a factor of 1.0475 to escalate from $2022 to $2023

136 ATCO descr bes the -$16.3m as an NPV, however as no benefits are included, it is essentially a present cost calculation

137 ATCO, Attachment 10.041.00 - Facility Upgrade - Pigging Infrastructure - Business Case, page 20

138 DCVG does not address internal corrosion risk and ATCO reports that the DCVG method lacks the capability to detect certain corrosion issues, including accelerated AC corrosion (Attachment 10.041.00 - Facility Upgrade - Pigging Infrastructure - Business Case, page 9)

Use of historical costs for AA6 pipelines is reasonable

485. We asked ATCO to provide an explanation of its approach to applying the historical average of two pigging facilities as a basis for forecasting future costs for the AA6 pipelines.[139] We are satisfied with the explanation provided by ATCO of why it selected the particular two historical examples, and therefore we are satisfied with ATCO's proposed ILI expenditure on its AA6 pipelines, with the exception of the contingency provision.

There is significant uncertainty about the need for or feasibility of ILI of the Bunbury pipelines

486. ATCO deferred the pigging infrastructure work proposed for Bunbury pipelines (HP104, HP089, and HP047) from AA5 to AA6. The pipelines have a maximum allowable operating pressure (MAOP) rating that requires ILI or some other means to demonstrate compliance to AS2885 to assure ongoing safe operation. However, the pipelines are currently operated at a MAOP of 1850kPa, which does not require ILI.[140]

487. ATCO has stated that it wishes to retain the MAOP rating of 3600kPa to allow for possible future growth as once formally derated, ATCO states that subsequently increasing the pressure rating may not be feasible. ATCO advises that it is 'in discussion' with AGIG to understand any pressure upgrade limitations to this region, in conjunction with reviewing the long-term growth forecast for the region.

488. In response to our request for information, ATCO has also confirmed that there are gaps/discrepancies in available pipeline design information, requiring 'dig-ups' to confirm design parameters. This casts a level of doubt as to whether the pipelines are 'piggable' or whether other rectification work may be entered into by ATCO, which they are currently investigating. ATCO concludes that:[141]

> *'There is significant risk however, that this expenditure may not be required, or revised based on the outcomes of items 1 and 2 above upon further investigation. ATCO endeavour to have a further clarified view of the above at the time of final submission.'*

489. Based on the information currently provided, we do not consider that ATCO has sufficiently justified the requirement to proceed with ILI, or the pigging infrastructure proposed for the Bunbury pipelines.

6.4.4 Network reinforcement and other asset performance programs

Network reinforcement

ATCO proposes network reinforcement of pipelines at three locations to accommodate forecast higher gas volumes

490. ATCO uses industry-standard software, Synergi, to model network capacity and optimise network utilisation. The modelling has led ATCO to propose network reinforcement at three locations:

- Secret Harbour – projected to fall below the minimum pressure limit by winter 2025;
- Inglewood - projected to fall below the minimum pressure limit by winter 2026; and
- Pearsall – projected to fall below the minimum pressure limit by winter 2030.

491. We are satisfied that ATCO has a prima facie case for responding to the forecast low pressure issues given that (i) ATCO has an obligation to continue to connect new customers in brownfield areas located within the license area to the distribution system (subject to certain conditions), and (ii) there are increased safety risks associated with low pressure to consumer installations. Arguably, the proposed work could be classified as growth-driven

139 ATCO response to IR EMCa27

140 ATCO response to IR EMCa67

141 ATCO response to IR EMCa67

capex because the forecast low pressure issue is due to forecast 'organic growth' (i.e. new connections within the existing supply networks). Given the forecast growth appears to be primarily in brownfield areas, we accept the classification as asset performance projects.

ATCO has not provided a business case or detailed cost estimate for the Secret Harbour project

492. We have not been provided a business case to support inclusion of the Secret Harbour project in the capex forecast.[142] In absence of a business case and cost estimate, there is insufficient justification for the proposed $1.3 million capex in 2025.

ATCO selected the prudent option for Inglewood

493. ATCO identifies four options, with Option 2 (1km of DN110PE MAOP 70kPa mains extension and a new MPR) selected by ATCO for reinforcement at Inglewood because it is marginally the least cost, technically feasible option to address the identified issue.[143] We consider this to be the prudent choice, and the cost estimate of $0.5 million to be reasonable with the exception of the included contingency amount.

ATCO selected the prudent option for Pearsall

494. ATCO identified four options, with Option 2 (install 800m mains extension) at a cost of $0.25 million selected by ATCO for reinforcement at Pearsall because it offers the lowest cost to maintain the safety and reliability of gas services over the next ten years.[144] We consider this to be the prudent choice.

495. ATCO proposes completing the work in the AA6 period, ahead of the forecast constraint in 2030. While this is a long-range forecast, the relatively low capital cost leads us to consider the inclusion of the project in the AA6 period is appropriate based on modelling outcomes.[145] We consider the cost estimate to be reasonable with the exception of the included contingency amount.

Step and touch hazard mitigation

ATCO has demonstrated a need to mitigate the identified electrical hazards on its pipelines

496. ATCO has proposed additional protection to its metallic pipeline at 50 sites in the AA6 period to mitigate step and touch risk at a cost of $7.6 million.

497. ATCO has developed a Step and Touch Voltage Guideline, Step and Touch Voltage Procedure, and Asset Lifecycle Strategy (Corrosion Protection Systems), which all contribute to development of ATCO's Electrical Hazard Risk Management Plan.[146] The latter includes a hazard assessment process which complies with AS/NS 4583:2012. A consultant undertakes a network-wide electrical hazard assessment for ATCO every five years. The 2023 study was not complete in time for the AA6 submission process.

498. The safety risk is assessed from the likelihood of a [redacted], with High risk being for likelihood greater than [redacted] and Medium risk for likelihood between [redacted].

499. From this work we are satisfied that ATCO needs to respond to High-risk hazards and to consider whether Medium-risk hazards satisfy the ALARP test.

ATCO identified three options and has selected the prudent approach

500. In addition to the 'do nothing more' option (Option 1), ATCO analysed Option 2 (preferred) and Option 3 (eliminate step and touch risks through asset relocation). We are satisfied that

142 ATCO advised that it will provide the Secret Harbour Business Case to the ERA during the AA6 review process

143 ATCO, Attachment 10.030.00 - Network Reinforcement Inglewood - Business Case

144 ATCO, Attachment 10.031.00 - Network Reinforcement Pearsall - Business Case

145 ATCO, Attachment 10.031.02 - Network Reinforcement Pearsall - Cost Estimate - Option 2

146 ATCO, Attachment 10.037.00 - Facility Upgrade - Step and Touch Mitigation - Business Case, page 7

Option 2, which involves applying one or more of the following remedies is the appropriate approach:[147]

- Eliminating the risk through asset relocation;
- Mitigating risk through design and installation of earthing (or equivalent); and
- Providing protection to workers using Personal Protective Equipment (PPE) as well as altering work practices (in some cases).

501. In lieu of the completed detailed assessments required to confirm the number of sites that should be remediated in the AA6 period, ATCO has proposed replacing 50 sites over the five-year period, which is based on the historical number of sites that required remediation. We queried the rationale for the proposed volume of sites and we are satisfied with the response.[148]

Use of historical costs is a reasonable basis for the cost estimate

502. ATCO's forecast cost is based on the latest component costs obtained from suppliers and with the internal labour based on previous installation work hours. We consider the cost estimate to be reasonable with the exception of the included contingency amount.

Vehicle protection

Insufficient analysis has been provided to confirm the Intermediate risk rating for all of the proposed sites

503. ATCO proposes installing bollards and barriers to protect above-ground gas infrastructure against vehicular impact.

504. ATCO has identified 46 High Pressure Regulator (HPR) locations for which it considers there is an Intermediate (non-ALARP) risk to the public, personnel, and network integrity from vehicle impact. The estimated capital cost of the work is $1.9 million.

505. In comparison, ATCO will install barriers at 13 sites in the AA5 period that were identified through hazard reports from ATCO personnel. ATCO also advised that there have been four incidents of ATCO assets being struck by a vehicle, necessitating replacement. The proposed AA6 volume of 46 'potential sites' has been derived from a 'preliminary desktop analysis' with further investigation and detailed assessment required to confirm the requirement for and scope of the work at each site.[149]

506. The risk analysis presented by ATCO does not provide sufficiently compelling information that:

1. The risk at each of the 46 sites is likely to be Intermediate, given that personnel are at the HPRs only twice per annum for a non-specified period, and that
2. The sites have been adequately prioritised.

507. Whilst the pro-active approach to identifying 'at risk' sites has been applied to derive the forecast, we consider that further investigation is unlikely to lead to all 46 sites being required to be addressed in the AA6 period. We consider that ATCO's analysis of options is reasonable, e.g. use of vehicle protection barriers, but the analysis is insufficient to conclude that this option is required at all proposed sites, and that ATCO may identify a lower cost alternative for some sites.

508. We find that ATCO has not yet demonstrated a compelling requirement for proposed increase in volume of works. We consider instead that a level equivalent to its historical AA5 program of 13 sites is more likely to be reflective of a prudent level of expenditure.

147 ATCO, Attachment 10.037.00 - Facility Upgrade - Step and Touch Mitigation - Business Case, page 12

148 ATCO response to IR EMCa38

149 ATCO, Attachment 10.028.00 - Facility Upgrade - Vehicle Protection - Business Case, page 8

There is insufficient basis for the proposed increase in unit rates

509. Unlike the cost estimation approach described in section 4, ATCO has based its cost estimate for this program on the latest available historical cost incurred in 2023, which at [redacted] per unit, is significantly higher than the average of the preceding three years ([redacted]). No explanation is given for assuming that the 2023 figure is likely to be representative of the average costs to address the AA6 sites, despite our request for further information.[150]

510. In absence of compelling information, there is insufficient justification for an increase to the unit costs above the three-year historical average.[151]

511. We consider that a further adjustment to account for contingency allowance is not appropriate given the proposed volume and unit cost adjustments.

Corrosion protection

ATCO has established a need to continue to reduce the risk of corrosion related failures of its HP steel pipelines

512. ATCO proposes addressing corrosion-related issues at 63 sites p.a. over the AA6 period at an estimated capital cost of $1.5 million. The scope of works for its Corrosion Protection (CP) program includes a combination of replacement of anodes, upgrades of corrosion probes, upgrading cathodic protection enclosures (test points), insulation joints, and surge protectors.[152]

513. ATCO states that CP systems maintain safety of the steel pipelines by reducing the risk of corrosion which can lead to pipeline failure and uncontrolled release of gas. ATCO is also required to ensure its CP systems comply with the requirements of AS 2885.3 section 6.4 and AS/NZS 4645.2 section 3.1.[153]

514. We consider there is a compelling case for ATCO to ensure that necessary work is undertaken in the AA6 period to address the safety and compliance drivers caused by degradation and/or damage to its CP systems over time.

ATCO has likely selected the prudent approach

515. ATCO considered the 'do nothing more' Option 1 and Option 2 (preferred) which is to implement what it refers to as a 'balanced program of CP replacement and upgrades. Option 2 is superior to Option 1. The Option 2 is essentially a continuation of similar work and volumes[154] from the AA5 program. Notably, it includes the introduction of 10 AC corrosion coupons p.a. in addition to 10 resistance probes p.a., which we consider to be prudent.

The cost includes contingency

516. With the exception of inclusion of contingency, we consider the cost to be reasonably based.

Corrosion protection monitoring

517. ATCO proposes to install monitoring devices on CP assets at a capital cost of $0.7 million to provide remote data capture to ensure adequate corrosion protection at all times (i.e. rather than wait for maintenance visits).

150 ATCO response to IR EMCa39

151 ATCO, Attachment 10.028.02 - Facility Upgrade - Vehicle Protection - Cost Estimate - Option 2

152 ATCO, 2025-29 AAI, page 170

153 ATCO, Attachment 10.039.00 - Facility Upgrade - Cathodic Protection Systems - Business Case, page 6

154 20 anodes, 15 test point enclosures (up from 10 pa in AA5, which we consider to be reasonable based on the explanation provided), 8 surge protectors (down from 13 pa in AA5)

518. ATCO has not provided a business case for this project,[155] which appears to be a discretionary project. We find that ATCO has not provided sufficient justification for including this project into the capex forecast.

Pressure monitoring devices

ATCO proposes installing an increased volume of PMDs in the AA6 period

519. ATCO proposes a continuation of the existing pressure monitoring device (PMD) installation program, installing 30 PMDs on new areas of the network and installing an additional 20 PMDs on the outlets of MPRs. The total forecast capex is $0.8 million.

520. ATCO describes the function of a PMD as:

> *'PMD's are critical to enable timely identification and response to emergency situations, trend analysis to identify critical pressure areas and manage network capacity, and verify the hydraulic models.'*[156]

521. Historically, ATCO has installed six new PMDs annually (totalling 30 PMDs) to monitor growth in the network and existing unmonitored areas with pockets of low pressure.

ATCO has not demonstrated that its preferred option is prudent

522. Option 1 is to "do nothing" (i.e. no new PMDs). We do not consider this to be the prudent option for the reasons given in the business case.

523. We consider that continuation of the accepted practice to inform network hydraulic modelling is prudent, and which aligns with Option 3 to install 30 new PMDs.

524. Option 2 (install 50 PMDs) is predicated on installing a further 20 PMDs in the AA6 period on the outlets of MPRs to enable:[157]

> *'timely identification of MPR performance issues, thus reducing significant network impacts that could be associated with MPR failure. Benefits have been assessed qualitatively.'*

525. ATCO has provided a qualitative analysis of its Option 2, however it has not sufficiently demonstrated that the additional 20 PMDs are likely to generate a net benefit on top of the $8.6 million investment proposed for replacement of MPRs (refer to section 6.3.5). With the removal of ATCO's contingency allowance from its unit cost, we consider the resulting cost for 30 PMDs to be a reasonable forecast.

Gate station metering

ATCO proposes new check metering at gate stations

526. ATCO proposes installing three ultrasonic meters downstream of third-party owned gate stations (at GS008, GS010, and GS026) at a capital cost of $0.8 million to enable check-measurement of the third parties' metering accuracy of gas flow into ATCO's networks. ATCO states that this is critical for hydraulic modelling verification, UAFG calculation, and network analysis.[158]

ATCO has not demonstrated that check metering is prudent

527. ATCO identifies four options. Option 1 is to 'do nothing more' which ATCO rejects on the grounds that it will continue to be unable to verify the Gate Station data and this gives rise to

155 ATCO, 2025-29 AAI, page 171

156 ATCO, Attachment 10.033.00 - Asset Performance - New PMD Installation - Business Case, page 7

157 ATCO response to IR EMCa36

158 ATCO 2025-29 AAI, page 172

an Intermediate (no ALARP) risk. Options 2, 3 and 4 involve various means of providing continuous monitoring of the gate stations.

528. We asked ATCO to explain its position, noting that responsibility for metered flow data accuracy is the responsibility of the gate station owners and not ATCO. We have reviewed ATCO's response[159] and we do not accept ATCO's risk analysis that there will be severe reputational damage accruing to ATCO in the case of inaccurate meter data from the third-party gate station owners. Furthermore, we consider that any financial damages to ATCO arising from gate station metering inaccuracy should be recoverable from the gate station owners.

529. We therefore consider that Option 1 is the prudent approach, and for which no capex is required.

Other performance programs

Picarro leak survey project is not sufficiently justified

530. ATCO proposes expenditure of $1.8 million in the AA6 period to acquire Picarro gas leak detection equipment following a successful trial in 2022. Neither the results of the trial nor a business case have been provided for our review. The cost estimate is based on a quote from the vendor in April 2023.[160]

531. Whilst the initiative may have merit, there is insufficient information provided by ATCO to demonstrate that the proposed expenditure is likely to satisfy the capex criteria.

Confined space program is not sufficiently justified

532. ATCO states that it is implementing a new approach to remediate selected confined spaces at a cost of $0.2 million.[161] Whilst the initiative may have merit, there is insufficient information provided by ATCO to demonstrate that the proposed expenditure is likely satisfy the capex criteria.

6.5 Proposed network growth capex

6.5.1 What ATCO has proposed

533. ATCO proposes $157.4 million capital expenditure on network growth-related programs, as shown in Table 6.7.

159 ATCO response to IR EMCa34

160 ATCO response to IR EMCa107

161 ATCO, 2025-29 AAI, page 173

Table 6.7: ATCO's AA6 growth categories and forecast expenditure ($m, real 2023)

Category and Programs	2025	2026	2027	2028	2029	Total capex
Growth Domestic Forecast	23.7	26.8	28.7	29.9	30.4	139.6
Growth Commercial Forecast	4.9	3.6	3.7	3.9	4.0	20.1
Growth Development	1.1	0.8	0.8	0.8	0.8	4.3
Sub-total	**29.8**	**31.2**	**33.2**	**34.6**	**35.2**	**164.0**
Less Capital Contributions	-2.5	-1.0	-1.0	-1.0	-1.0	-6.6
TOTAL	**27.3**	**30.2**	**32.2**	**33.5**	**34.2**	**157.4**

Source: ATCO, Attachment 10.022 – AA6 Capex Model – Spreadsheet – Clean, noting that the figures in this table differ slightly from Table 10.20 in ATCO's 2025-29 AAI

Growth domestic connections[162]

534. As shown in Table 6.7, most of the proposed growth capex is associated with connecting domestic customers (also referred to variously as B3 tariff customers, B3 customer connections, or B3 customers). The B3 connections comprise greenfield (new subdivisions) and brownfield (existing subdivisions).

535. ATCO concludes from its analysis that the present value of the expected incremental revenue from connecting B3 greenfield customers will exceed the present value of the expenditure, satisfying NGR 79(2)(b). ATCO does not forecast the need for customer capital contributions to achieve this outcome (and noting that ATCO is obligated to offer to connect B3 brownfield customers within 20 meters of an existing gas main).

Growth commercial connections[163]

536. The Growth commercial forecast similarly encompasses connection of new commercial customers in greenfield and brownfield parts of the network. Commercial customer connections are labelled as either A1, A2, B1, or B2 according to the tariff class.

537. ATCO concludes from its analysis that the NPV of its greenfield and brownfield growth commercial capex is positive, satisfying the requirement of NGR 79(2)(b). ATCO has allowed for capital contributions from the connecting customer, as discussed below.

Growth development[164]

538. Growth development capex includes the cost to connect customers or subdivisions located away from the existing gas network, requiring a network extension. ATCO advises that it assesses each connection request individually to ensure that the investment generates a positive NPV, with a customer contribution possibly being required to meet this stipulation for satisfying NGR 79(2)(b).

ATCO's position on continuing investment in growth of its distribution network

539. In its 2025-29 AAI, ATCO acknowledges the decisions and public debate in other jurisdictions which highlight the advantages and disadvantages of continuing to invest in the growth of gas distribution networks. ATCO maintains that the combination of government, stakeholder, and customer support in addition to its own scenario analysis which: [165]

'shows growth in the network in three of the four scenarios analysed'.

162 ATCO, 2025-29 AAI, page 174

163 ATCO, 2025-29 AAI, page 174

164 ATCO, 2025-29 AAI, page 174

165 ATCO, 2025-29 AAI, page 174

540. ATCO also notes a statement by the Grattan Institute that gas may be competitive with electricity in the home for WA.

ATCO's demand forecast

541. As denoted in section 4.2, ATCO has relied upon demand forecasts developed for it by CORE. The ERA is being advised separately on the forecast and we have therefore necessarily taken ATCO's demand forecast for connection of customers as provided as the basis for our assessment. We have, however, made observations about the decline in both demand per B3 customer and the declining trend overall in the volume of gas demand expected over the AA6 period in section 4.2.

542. ATCO's growth domestic forecast is based on connection of 66,265 new B3 customer connections with the associated new services, mains extension, and new domestic meters.

543. ATCO forecasts no new A1 or A2 customers over the AA6 period. It forecasts 274 new B1 connections and 1,239 new B2 customer connections during the AA6 period.

6.5.2 Our assessment approach

Consideration of stranded asset risk

544. In our assessment of the justification of ATCO's proposed investment, we are mindful of the stranded asset risk given that ATCO proposes investing in pipeline assets, many with lifetimes in excess of 25 years. As discussed in section 2.3, there is material uncertainty about the future of natural gas reticulation in Western Australia with emissions targets leading to decarbonisation of the sector and with electricity generated from renewable sources as a likely substitute for gas in the long-term. With the forecast decline in gas use per customer and the declining forecast demand for total volume of natural gas use, new assets could be rendered uneconomic unless payback periods are relatively short.

545. We have therefore looked closely at the assumptions underpinning ATCO's business cases for greenfield residential (B3) connections in particular, noting that ATCO proposes no customer contributions.

546. Stranded asset risk is an issue for brownfield domestic connections also, however because ATCO is obligated to offer to connect customers within 20 meters of its mains, the emphasis should be on achieving an efficient cost of connection, rather than the prudency of the connection.

547. Stranded asset risk is not as acute with commercial connections and growth development projects because of the requirement for a capital contribution, although prudent payback periods are important outcomes.

Growth commercial

548. ATCO bundles its assessment of small commercial greenfields customers in with its greenfield residential customer analysis in its business case (Attachment 10.046.00) and the accompanying NPV model (Attachment 10.046.02).

6.5.3 Our assessment of greenfield customer connections capex

ATCO's options analysis

549. ATCO has presented a business case which includes two options:

- Option 1, Do nothing – do not progress with greenfield connections; and
- Option 2, Continue with connection of greenfield customers.

550. Option 1 essentially responds to the stranding risk by not progressing greenfield connections. ATCO identifies several assumptions and disadvantages which lead it to conclude that this option is not preferrable. We consider that ATCO's risk analysis of Option 1 is not compelling, however adoption of Option 1 would certainly limit customer choice.

Further, we have considered ATCO's representation of stakeholder feedback through its consultation process and it appears that:

- There is customer support for ongoing access to gas for the time being, providing energy choice to households; and
- There is no immediate threat to continuing connection of customers for natural gas service from a government policy decision as has occurred recently in Victoria.

551. In our view, provided ATCO's preferred Option 2 satisfies or is likely to satisfy the incremental revenue test, Option 1 is likely to be inferior to it.

ATCO's NPV analysis for its preferred Option 2

552. Under the NGR, expenditure on new connections must pass either an economic test or an incremental revenue test in order for it to be capitalised into the RAB. ATCO has undertaken an incremental revenue test.

553. ATCO has provided a business case and supporting NPV analysis with B2 and B3 greenfield results summarised in Table 6.8.

Table 6.8: Summary of ATCO's NPV analysis – B2 & B3 greenfield connections ($m, real Dec 2023)[166]

Connections	Capex ($m)	NPV ($m)	Payback period (years)	NPV sensitivity analysis ($m)		
				Capex +10%	Opex +10%	Demand -10%
B2 & B3 greenfield	133.0	23.3	20.0	11.8	18.5	5.2

Source: ATCO 2025-29 AAI, page 178

554. Before we comment on the results, we assess the inputs to the NPV analysis.

ATCO's assumptions applied in its incremental revenue test

Connection and other cost assumptions are reasonable

555. In ATCO's modelling, the expenditure is forecast by multiplying the expected volume with the unit rate. ATCO advises that the unit rates are based on a three-year average, including contractor and material costs from 2020 to 2022.[167]

556. As stated in section 4.3, we find the averaging approach used to develop its cost estimates to be reasonable provided that the average is a fair representation of the likely cost for the AA6 period. We asked ATCO a number of questions regarding the cost estimates for the six identified connection activities in its business case.[168] In summary, we are satisfied with ATCO's explanation about the reason for higher costs in 2022 for some cost components (and which lead to increased average costs) and the reasons for a degree of cost volatility from year to year.

We also considered ATCO's assumed maintenance cost per customer per annum, as this was an area of concern in our AA5 assessment for the ERA in 2019. The assumption in the AA6 model appears to be reasonable.

The study period is reasonable

557. ATCO's NPV study period is 25 years, which ATCO states it selected to align with the economic life of meters and service pipes and after consideration of issues that include the uncertainty associated with energy transition that we discuss above.

166 ATCO's table in its AAI denotes $2024 – we assume this is an error, but regardless, it would not change the conclusions of our assessment

167 ATCO, 2025-2029 AAI, page 176

168 ATCO responses to IR EMCa43 and EMCa44

558. In our AA5 report we were critical of ATCO's use of a 50-year study period which was necessary to achieve a payback period within the study period. The 25-year study period avoids another issue that we had with ATCO's previous equivalent AA5 analysis that it had not accounted for the replacement at end-of-life of assets such as meters and risers.

559. We consider the 25-year study period to be reasonable.

Tariff assumption is reasonable

560. ATCO has applied the prevailing 2023 prevailing tariffs per the tariff variation adopted on 1 January 2023 in its model. This is consistent with the requirement to adopt the prevailing reference tariffs under NGR 79(4)(a).

Discount rate is taken as a given

561. We note that ATCO has adopted the WACC parameters used in the 2023 tariff variation process, which it says, '*is consistent with the requirement to adopt a discount rate equal to the rate of return implicit in the reference tariff under NGR 79(4)(c).'* We accept this explanation.

Gas consumption is from CORE's report

562. As previously discussed, we have not assessed ATCO's demand forecast, however we have considered ATCO's sensitivity study in which it varies its demand forecast by -10%. ATCO has applied the following assumptions from the Core Energy forecast:[169]

- B2 connections – 92.75 GJ for connections over AA6;
- B3 connections – ATCO has assumed a ramp-up from 2.63 GJ in the first year of connection, increasing to 10.50 GJ after 2 years;
- A 0.5% annual reduction to reflect that average gas demand is unlikely to remain constant for 25 years; and
- A 0.54% p.a. reduction in average consumption. ATCO has further assumed that (i) there will be no B2 disconnections and (ii) a disconnection rate of 0.54% for B3 connection applies after 10 years.

Incremental opex is reasonable[170]

563. ATCO has used its output growth escalation value of $10.4 million to derive its incremental opex per customer for the five tariff classes. As discussed in section 7.5.2, we propose no change to the output growth escalation figure and so we propose no changes to ATCO's proposed incremental opex per customer per tariff class.

ATCO's NPV analysis

ATCO's model is functional and is useful for analysis

564. We are satisfied with the reasonableness of ATCO's input assumptions to its model with the exception of labour cost escalation. We have undertaken a sense check of ATCO's model to check that it applies the input assumptions in the way ATCO describes them, and as we have summarised above. We note that ATCO's model provides a facility for sensitivity analyses which it has applied and we were also able to use to replicate the outcomes in Table 6.8 with the exception of ATCO's result for the sensitivity of ATCO's NPV to a 10% reduction in demand. For this draft report, we have accepted ATCO's NPV analysis and commented on it accordingly.

169 ATCO, 2025-29 AAI, page 178

170 ATCO, 2025-29 AAI, page 178

The results show that the NPV and payback period is very sensitive to unfavourable cost and demand variations

565. With ATCO's assumptions and inputs, a payback period of 20 years and an NPV of $23.3 million are reasonable results given the declining demand and disconnection assumptions inherent in the CORE forecast. This result supports adoption of Option 2 over Option 1 with the demand forecast provided.

566. However, we note that the result is very sensitive to negative variances, as illustrated in Table 6.8 in which the positive NPV is more than halved for just a 10% increase in costs and reduced by 80% in response to a 10% reduction in demand.

567. This indicates that the economic case for ongoing connections is not particularly robust and if there are unfavourable variances, ATCO may need capital contributions to satisfy NGR 79(2)(b). Either of these approaches is likely to reduce demand for gas connections further in favour of electricity.

6.5.4 Our assessment of brownfield customer connections capex

568. ATCO has provided a business case (Attachment 10.047.00) and NPV analysis (10.047.02) for brownfields connections. However, as discussed above, brownfield commercial developments require an individual business case to establish the need or otherwise for a customer contribution to satisfy the NGR 79(2)(b) rule and brownfield residential connections are required to be made in accordance with ATCO's offer to connect obligation.

569. We therefore focussed on the reasonableness of ATCO's cost forecasts for brownfield connections. ATCO advises that its cost estimate is based on historical averages and that these costs '*are supported by long-term commercial agreements, such as the Kaizen contractor rates.*'[171] As discussed above in our assessment of the unit rates ATCO applied to derive its greenfield cost forecast, we are generally satisfied with the historical averaging approach. Nonetheless, to ensure that the average costs are likely to be representative of what might be incurred during the AA6 period, we asked ATCO for further information.[172] We are satisfied that the unit cost estimates are reasonable.

6.5.5 Our assessment of growth development capex

570. Developers on occasion develop tracts of land so far from the existing gas network that, in some cases, the cost of the infrastructure required to connect to the new developments needs to be offset by a developer capital contribution to achieve a positive project NPV. ATCO proposes capex of $4.3 million in the AA6 period. Forecasting the volume is performed by a combination of factors, predominantly collaboration with developers. The cost estimate is developed using defined contractual rates. We consider this approach to be reasonable and that the proposed expenditure, in conjunction with capital contributions, is likely to satisfy the capex criteria.

571. ATCO has allowed $6.6 million of capital contributions in its capex forecast towards commercial developments to achieve economically justified investments, with the amount based on historical ratios. This reduces the capital cost impact from $10.9 million to $4.3 million. This approach is reasonable.

171 ATCO, Attachment 10.047.00 - Growth - Brownfield New Connection - Business Case

172 ATCO responses to IR EMCa45 and EMCa46

6.6 Proposed IT capex

6.6.1 What ATCO has proposed

Overview of proposed project-driven capex

572. Table 6.9 shows the ten projects/programs that comprise ATCO's proposed AA6 Information Technology (IT) capex totalling $13.0 million. For most of the programs/projects there is also corresponding operational expenditure from Software as a Service (SaaS) charges. The total IT project-related opex (per SaaS charges) proposed by ATCO over the AA6 period is $27.9 million (i.e. approximately double the IT capex forecast)[173, 174] and which we consider separately as part of ATCO's proposed opex in section 7.

Table 6.9: ATCO's proposed AA6 IT capex ($m, real Dec 2023)

Category and Programs	2025	2026	2027	2028	2029	Total
ERP Replacement	0.4	1.9	1.9	0.0	0.0	**4.2**
IT Sustainability Program						
Energy regulator reporting amendments - NMIS	0.8	0.1	0.1	0.1	0.1	**1.2**
Network modelling amendments - Synergy	0.9	0.0	0.0	0.0	0.0	**0.7**
Sustainability Reporting System	0.1	0.1	0.1	0.1	0.1	**0.5**
IT Upgrades						
HR and Payroll Upgrade	0.2	0.0	0.0	0.0	0.0	**0.2**
GIS Upgrade	1.0	1.0	0.0	0.0	0.0	**2.0**
webMethods Upgrade	0.0	0.0	0.0	1.1	0.0	**1.1**
IT Business Capability Improvements						
Continuous Improvement Program	0.1	0.1	0.1	0.1	0.1	**0.6**
Digital Improvement Program	0.3	0.3	0.3	0.3	0.3	**1.5**
Data and Analytics Program	0.2	0.2	0.2	0.1	0.1	**0.8**
Total Information Technology Capex	**4.0**	**3.7**	**2.7**	**1.9**	**0.7**	**13.0**

Source: 10.022 - AA6 Capex Model - Spreadsheet - Clean

573. ATCO has also proposed investment in cyber security enhancement during AA6 as opex, and which we consider as part of our assessment of ATCO's proposed opex step changes in section 7.4.

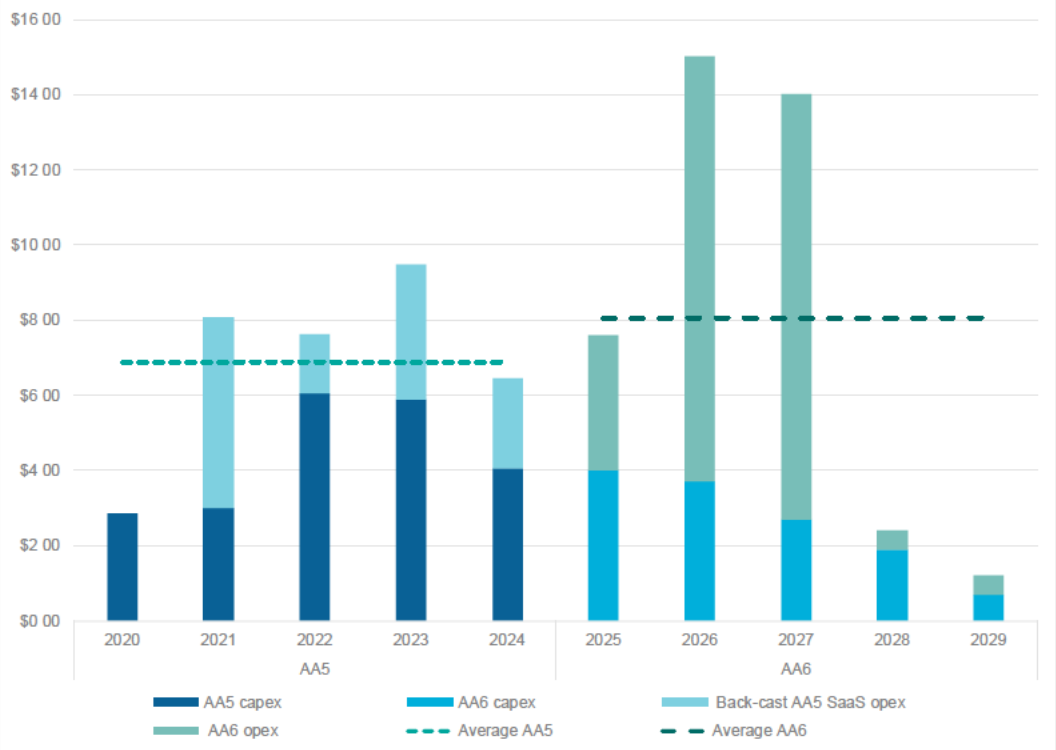
Historical and forecast project-related IT expenditure

574. Figure 6.2 shows ATCO's actual/estimate and forecast IT project-related expenditure over the AA5 and AA6 periods, with the historical SaaS opex back-cast as if the IFRS accounting change was in place to allow comparison with the AA6 opex. The average expenditure across the AA5 and AA6 period is similar, although the composition of capex and opex varies over the two regulatory periods.

[173] ATCO, Attachment 10.022 - AA6 Capex Model - Spreadsheet - Clean

[174] The opex shown is SaaS-opex which does not include ATCO's other IT-related opex such as managed service charges, software maintenance charges, IT salaries and other labour expenses, etc

Figure 6.2: ATCO's historical and forecast project-related IT capex and opex ($m, real 2023



Source: EMCa analysis of EMCa 68 and 72 - AA5 and AA6 Program – FINAL
Note: the AA5 SaaS opex is back-cast, assuming that the IFRS change applied to provide a means of comparison with AA6 totex

575. The relatively high forecast total expenditure (totex) shown in 2026 and 2027 is due to proposed implementation of a replacement ERP system. The proposed replacement ERP system incurs SaaS charges as ATCO's plan is to replace the incumbent on-premise system with a number of 'Best of Breed' cloud-based applications (replacing an on-premise versions of these).

576. ATCO's IT strategy includes what it refers to as 'cloud first deployment' which results in an increase in SaaS charges. ATCO has proposed to change the regulatory treatment of SaaS costs at the commencement of AA6, to reflect the change that occurred to the statutory accounting treatment during AA5 whereby SaaS costs are treated as expenses rather than being capitalised. These changes result in capex declining during the AA6 period.

577. Based on our reading of ATCOs submission and supporting information, we were not able to discern any further insights to its IT project totex profile for the AA6 period. ATCO has provided a AA6 IT Strategic Plan, and which appears based on a document prepared in 2022, but with an under-developed outlook for the AA6 period.

578. We discuss each of the proposed initiatives within its roadmap in sections 6.6.5 to 6.6.8.

6.6.2 Our assessment approach and context

Focus of our assessment

579. The ERP Replacement project, with a forecast $28.3 million total expenditure over the AA6 period, comprises 62% of the totex for the AA6 period. Our assessment has therefore focussed on this major project, with a reduced level of detail provided for the remaining IT projects and programs included in the forecast capex.

ATCO's IT strategy

580. ATCO has an Information Technology Strategic Plan (ITSP) that describes the business drivers of ATCO's IT investments, as summarised in Figure 6.3. There is considerable

emphasis on (i) improving efficiency, (ii) building capability and capacity, and (iii) supporting the introduction of storage and renewables. These drivers seem reasonable in the context of ATCO's operating environment and the uncertainties that lie ahead for gas use at the distribution level.

581. We would expect that IT investments are supported by robust business cases. Where the investment is proposed to reduce costs, we would expect to see a business case that demonstrates that the benefits are likely to exceed the proposed investment within a reasonable timeframe, and that the benefits are likely to be passed onto customers. Similarly, where the IT investments are proposed to build capability and capacity, this should also be demonstrably cost effective, such that the benefits provided by the additional capability or capacity exceed the costs of the upgrade.

582. With respect to our assessment of IT investments related to sustainability, including hydrogen, clean fuels, and storage, we have sought to ensure (i) that they pertain to regulated services, and (ii) that ATCO has demonstrated that they are likely to be cost effective.

Figure 6.3: ATCO's 'Business drivers of technology solutions'

Source: ATCO, IT Strategic Plan (2025 to 2029), Figure 3

Cloud first deployment strategy

583. ATCO states that:[175]

> *'The ITSP extends the direction first established by the IT Asset Strategy in AA5 with a key tenet to deliver new and upgraded systems in a cloud environment, which offers the opportunity to reduce or eliminate the cost of managing IT infrastructure and application renewals, reduce ATCO's carbon footprint, as well as more easily support the business as it continually evolves its operating model.'*

584. Based on our experience, where moving to cloud-based applications is discretionary,[176] this decision may not necessarily be the most cost-effective option. We note that ATCO recognises cost management as one of seven considerations in determining whether utilising cloud services '*makes sense*', however ATCO did not provide cost-benefit analyses as part of its option analyses in its business cases, and which we comment on in our assessment in sections 6.6.3 to 6.6.6.

175 ATCO, IR Strategic Plan (2025 to 2029), page 6

176 Some vendors now only off cloud-based solutions

Composable technology strategy

585. ATCO advises that it is: [177]

> *'beginning to adopt composable application architectures...rather than 'continuing with the current way of provisioning IT applications by implementing monolithic commercial off-the-shelf (COTS) products…'*

586. ATCO argues that its composable[178] architectures will position it to better respond to opportunities created by current and upcoming disruptions.[179]

Technology lifecycle

587. ATCO describes its approach to software (non-cloud-based systems) and hardware upgrades (minor and major) and replacement in its ISTP, along with the triggers for expenditure and the principles to assess the timing of the proposed projects. We assess the application of these principles in our review of the individual projects (sections 6.6.3 – 6.6.6).

Accounting treatment for IT project expenditure

588. ATCO's IT Project Accounting Treatment document[180] describes how project-related expenses are defined and accounts for SaaS-related costs, including those incurred as implementation costs (i.e. not just ongoing service fees). When associated with project implementation, incurred SaaS costs are under most circumstances[181] defined as expenses in accordance with the International Financial Reporting Standards (IFRS) Interpretations Committee.[182]

589. In our experience, this is consistent with the application of the IFRS in many network utilities in Australia.

590. ATCO points out that '…*every SaaS arrangement is unique*'[183] and we therefore consider the treatment of expenditure in each program/project.

591. ATCO's response to our information request provides satisfactory information to support ATCO's allocation of the total cost to ATCO for each of the proposed AA6 IT projects and the application of the relevant IFRS to determine opex amounts.

Cost estimation methodology

592. We have not seen a concise description of ATCO's IT cost estimation methodology, however for each of its proposed AA6 IT programs/projects it has provided business cases and accompanying cost estimate spreadsheets (and/or NPV analyses).

593. We consider the reasonableness of the cost estimate as part of our assessment of each AA6 program/project (refer to sections 6.6.3 – 628).

177 ATCO, ISTP (2025 to 2029), page 21

178 A 'collection of packaged business capabilities that can be orchestrated to achieve certain business outcomes', ISTP (2025 to 2029), page 21

179 ATCO, ISTP (2025 to 2029), page 21,

180 ATCO, AA-IT-PR-03

181 Where configuration and customisation activities give rise to a separate asset where the cloud service provider controls the intellectual property of the underlying software code, the cost may be treated as capital expenditure

182 ATCO, IT Strategic Plan (2025 to 2029), page 30

183 ATCO, IT Strategic Plan (2025 to 2029), page 30

6.6.3 Assessment of the ERP System Replacement

Overview of the project

594. ATCO proposes to replace its ERP system, SAP ECC6, at a capital cost to ATCO of $4.2 million (with $24.0 million opex for a totex of $28.2 million) in AA6.[184] The project is a major contributor to an opex step change which we discuss in section 7.4.8 and 7.4.12.

595. ATCO describes its ERP as software that:[185]

> *'integrates various business processes and functions within our organisation into a single, unified system, allowing for the seamless flow of information and data across departments, facilitating better communication, collaboration, and decision-making.'*

596. According to ATCO's AA6 capex model, the project is scheduled to commence in 2025 and conclude in 2027, with an expenditure profile for ATCO denoted in Table 6.10Table 6.10.[186, 187]

Table 6.10: ATCO's expenditure profile for ERP Replacement project ($m, real Dec 2023)

Component	2025	2026	2027	2028	2029	Total
2025 - ERP Planning and Scoping	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2025-2026 ERP Replacement	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2025-2029 - ERP Contingency for Best of Breed 30%	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ATCO Proposed ERP Totex	**2.9**	**12.7**	**12.7**	**0.0**	**0.0**	**28.3**
Less 2025-2026 - SaaS Cloud Opex -ERP Replacement	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Less 2025-2029 - SaaS Cloud Opex -ERP Contingency for Best of Breed 30%	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ATCO proposed ERP capex	**0.4**	**1.9**	**1.9**	**0.0**	**0.0**	**4.3**

Source: EMCa analysis of ATCO 10.022 - AA6 Capex Model - Spreadsheet – Clean and 09.020 - Base Step Trend Opex Forecast Model

ATCO's case for investment

597. ATCO advises that SAP was implemented in 2008, with the last major upgrade implemented in 2017 and that the system will reach end of life in 2027 (after allowing for a period of extended support). End of life is commensurate with end of vendor support and is typically a trigger for upgrade or replacement - we have seen a number of utilities in Australia proposing replacement of the SAP ECC6 systems for the same reason. We also note ATCO's testimony that:[188]

- The ERP will reach "end of support" (i.e., end-of-life) in 2027 during the 2025 to 2029 period;
- The system no longer provides all the capabilities it requires for future operations;

184 ATCO Gas is allocated 90% of the project cost

185 ATCO, IT Strategic Plan (2025 to 2029), page 182

186 ATCO is allocated 90% of the project cost

187 However, the ERP Business Case includes an Implementation Roadmap which shows the project finishing well into 2028. We also note that funding of $286k (opex, $2022) was sought in a 2022 business case for ERP strategy development, and that various ATCO documents report an earlier start date than 2025.

188 ATCO, 10.052.00 - IT - ERP Replacement Program - Business Case, page 9

- The ERP is the source of the organisation's financial management system and is therefore a critical source of data that enables analytical insights as well as financial and sustainability reporting; and
- In its present form the system cannot be modified or modernised without material cost and limited benefit.

598. ATCO engaged a consultant to develop an ERP Strategy and Roadmap. Its analysis also supports the need for replacement of the ERP within the AA6 period.[189]

599. Based on the information provided and our experience, we consider it reasonable to conclude that the current ERP needs to be replaced within the AA6 period.

ATCO's options analysis

600. ATCO considered seven options, as summarised in Table 6.11. As shown, it considered three of these to be infeasible.

Table 6.11: ATCO's ERP options evaluated

Option	Differentiating features (what makes this option different to the alternatives)[190]
1. Retain current system	*Increased risk of failure due to software bugs, cybersecurity vulnerability, or changes made to comply with regulatory or business requirements. Software will be out of support within the 2025 to 2029 period.*
2. [redacted]	[redacted]
3. [redacted]	[redacted]
4. Upgrade/Change to 'Best of Breed' ERP Solutions	*This is the most likely option to meet all of ATCO's ERP functional requirements.*
Options not considered feasible	
5. Upgrade to two new core ERP system	
6. Upgrade to another integrated ERP	
7. Upgrade to a Custom developed ERP solution	

Source: ATCO, 10.052.00 - IT - ERP Replacement Program - Business Case, Table 2.1

ATCO prefers Option 4 (Best of Breed) primarily because it supports non-core activities

601. ATCO prefers Option 4 because '*it is the only option that meets all business requirements and stakeholder expectations,*' that addresses the key investment drivers including supporting its digital transformation and sustainability activities as well as new business operations such as enabling renewable gases.[191] For similar reasons, ATCO does not favour Option 3.

602. ATCO does not prefer Option 2 primarily because (i) it will lock ATCO into a single system/vendor, and (ii) it may not be 'sufficiently flexible' to support ATCO's ongoing business change and stakeholder expectations.

603. We consider that only options 2 and 4 are worthy of further assessment as the other options are clearly inferior to these two options.

189 Attachment 09.006 – ATCO R&S – ERP Strategy Recommendations and Roadmap, slides 3-11

190 This column is reproduced from ATCO's Table 2.1 in its Business Case

191 ATCO, 10.052.00 - IT - ERP Replacement Program - Business Case, page 6

ATCO's consultant does not support ATCO's preferred option

604. ATCO engaged a consultant to assist with the evaluation of ERP system options. It concludes that Option 4 would provide the greatest flexibility for the future needs of the non-Gas businesses. However, ATCO's consultant's analysis led it to conclude that Option 2 was best overall, advising, among other things, that:[192]

1. The ATCO Core ERP solution should [redacted];
2. The core ERP solution should be provided by [redacted]; and
3. Non-core ERP functionality should [redacted]

Our experience also supports selection of Option 2 over Option 4

605. The consultant's analysis aligns with our experience, which is that Best of Breed solutions have been considered by a number of utilities and rejected for the following key reasons:

- The higher complexity and extent of business disruption when compared to retaining an integrated suite; and
- The much greater cost to implement compared to an integrated suite. In our view ATCO's 30% contingency allowance (approx. $5 million) due to the additional complexity of configuring and integrating the solutions together in the Cloud Ecosystem[193] is significantly understated. The additional cost could be as high as three times this amount.

606. We also considered the merits of Option 2 compared to Option 3. Moving to an [redacted] (Option 3) is likely to cost more than remaining with the Option 2 [redacted] for no significant benefits to GGT's customers. We therefore consider that Option 2 is superior to Option 3.

ATCO has not demonstrated that Option 4 is likely to deliver a net benefit

607. The cost estimate for Option 4 is approximately $5.0 million more than its Option 2. However, in selecting Option 4, ATCO has not demonstrated that the additional cost of Option 4 is likely to deliver a net benefit compared to Option 2. ATCO's NPV analysis does not include any quantified benefits.[194]

608. Absent a compelling benefits analysis, we do not consider that ATCO has adequately justified the selection of Option 4 over Option 2. When considering that the cost of a Best of Breed solution is likely to far exceed the cost indicated by ATCO as part of its preliminary analysis, we consider that this further underpins the need for greater justification.

Accounting treatment and cost allocation

609. ATCO has estimated the apportionment split of the project cost as 15% capex (for new interfaces) and the balance of 85% as opex (implementation by a third party) and has apportioned 90% of the project cost to ATCO. Based on ATCO's response to our information request,[195] this appears reasonable.

Deliverability and cost estimates

Option 2 is likely to be deliverable within the AA6 period

610. ATCO has allowed between three and four years to plan, scope, select, and implement the new ERP following an 18-month period in which 'enabling activities' are undertaken. We

192 Attachment 09.006 - ATCO R&S - ERP Strategy Recommendations and Roadmap, pages 19-20

193 Attachment 10.052.00 - IT - ERP Replacement Program - Business Case, page 22

194 Att 10.052.06 - IT - ERP Replacement - Best of Breed - NPV Assessment - Option 4

195 ATCO response to IR EMCa100

consider that if ATCO pursues Option 4 it is unlikely to complete the work successfully by 2029, but it is likely to be able to implement Option 2 within the AA6 period.

611. ATCO does not have an extensive IT program of work over the AA6 period, with the ERP replacement project dominating.

A lower cost estimate than has been proposed by ATCO is likely to be reflective of the efficient cost

612. It is reasonable for ATCO to replace its current ERP within the AA6 period. We consider that Option 2 ([redacted] is the appropriate option. Removal of the 30% premium ATCO included for Option 4 over Option 2 and the contingency allowance results in an adjusted capital cost of $2.6 million, which we consider is likely to satisfy the Rules. This represents a capex reduction of $1.7 million compared to ATCO's $4.2 million capex estimate, and a consequently lower opex requirement and which we cover in section 7.4.8.

6.6.4 Assessment of IT Sustainability Program

Overview of the IT sustainability program

613. As shown in Table 6.9, ATCO proposes three projects as part of its AA6 IT Sustainability Program at a total cost of $3.7 million ($2.5 million capex and $1.2 million opex) to enhance system and data support as part of ATCO's sustainability strategy:[196]

- Energy regulator reporting amendments – NMIS ($1.2 million capex, $0.1 million opex);
- Network modelling amendments – Synergi ($0.7 million capex, $1.0 million opex); and
- Sustainability reporting system ($0.5 million capex).

Assessment of Energy regulator reporting amendments project

Under the current Rules, the proposed investment is not conforming

614. ATCO has included a project to update its customer billing systems and reporting to AEMO via the Network Management Information System (NMIS). We understand that ATCO has determined that the introduction of renewable gases to its network, as planned as part of its renewable gas delivery strategy will result in changes to the capture and reporting of information that ATCO consider need to be reflected in its NMIS.

615. ATCO has not provided a business case, or other sufficiently compelling information to confirm the need, scope and estimated cost of the changes it proposes to make to the NMIS. Absent clear and compelling justification, ATCO has not demonstrated that the proposed expenditure is justified.

616. We understand that ATCO has also identified the need to update the NMIS in response to its plans for introduction of renewable gas to the GDS, by constructing additional injection points. We have separately assessed the proposed expenditure for pipeline infrastructure, including injection points in section 6.4.2, concluding that the proposed expenditure is not conforming. Therefore, any expenditure to update the NMIS for this purpose is similarly not likely to be conforming.

Assessment of network modelling amendments project

617. ATCO has also proposed a project to review, scope, and implement changes to ATCO's Synergi modelling system, in response to the introduction of additional gas injection points and which alter the flow of gases and change the higher heating value (HHV).[197]

618. This project is also dependent on the introduction of gas injection points as described above. Absent clear and compelling justification for this project separate to the introduction

196 ATCO, Attachment 10.022 - AA6 Capex Model - Spreadsheet – Clean, noting that rounding errors lead show different aggregate amounts

197 ATCO, 2025-29 AAI, page 185

of the gas injection points, any expenditure for network modelling amendments is similarly not likely to be conforming.

Assessment of sustainability reporting system project

619. ATCO states that this project addresses governmental and NGER framework requirements, and specifically that the project will: [198]

> *'deliver a solution to collate required environmental inputs and reports in the format required by various agencies with ongoing operational support.'*

ATCO has not provided sufficient information to substantiate the need for this project

620. ATCO's submission did not include sufficient information to confirm that reference to governmental and NGER framework requirements would be a new regulatory obligation, and when that regulatory obligation would apply to ATCO. We therefore asked a clarifying question of ATCO, but the response did not add provide compelling additional information to confirm that this was the case.[199] In absence of sufficient information of a new obligation, ATCO has not demonstrated that the proposed expenditure is justified.

6.6.5 Assessment of IT Upgrade Projects

Overview of the IT Upgrade projects

621. As shown in Table 6.9, ATCO proposes three projects as part of its AA6 IT Upgrades Program at a total cost of $4.1 million ($3.4 million capex and $0.7 million opex):

- HR and Payroll Upgrade ($0.2 million capex, $0.7 million opex);
- Geographic Information System Upgrade ($2.1 million capex); and
- webMethods Upgrade ($1.1 million capex).

Assessment of HR and Payroll Upgrade project

622. The forecast $0.2 million capex in 2025 is for 'Phase 2' of a project to upgrade ATCO's HR and Payroll system.[200] This follows discovery, planning and scoping, and Phase 1 in the period 2022 to 2024.[201] ATCO states that it intended to provide a business case for Phase 2 during the AA6 review process, however this has not been provided for our review. Absent justification for including this project in the capex forecast, we have no basis on which to determine whether the proposed expenditure is likely to satisfy the capex criteria.

Assessment of the GIS Upgrade project

623. ATCO's graphical information system (GIS) captures, displays and maps locational data associated with its GDS. ATCO proposes to upgrade its GIS to version 11.0 in 2025 to retain vendor support following two years of extended support for its current version.

624. As ATCO states, *'[a]ssuming Esri does not change its product lifecycle support policy, a second upgrade will need to be undertaken in 2029.'* [202]

625. We consider that ATCO's IT strategy of upgrading its software to retain vendor support, taking account of vendor version cycles and extended support options, is prudent practice for core systems such as the GIS.

626. ATCO considered three options:

198 ATCO, 2025-29 AAI, page 185

199 ATCO's response to Information Request EMCa54, which referred us to Attachment 09.011.00 which we had already considered

200 ATCO, 2025-29 AAI, page 187

201 ATCO, Attachment 09.009.00 – AA6 IT Capex Project Costs Workings with Split and Phasing

202 Attachment 10.053.00 - IT - GIS (Geographic Information System) Upgrade Program - Business Case, page 2

1. Do not upgrade GIS – continue with the current version.
2. Upgrade the GIS in line with the ESRI lifecycle – this is ATCO's preferred option.
3. Upgrade the GIS at the retirement of current version 10.9.1 (i.e. in 2027).

627. We consider that:

- Option 1 is not a prudent option as it results in an unsupported core software system after 2027 which increases the risk of outages, including from cyber security breaches.
- Option 3 is likely to be inferior to Option 2, although we needed to seek further information from ATCO to form this view.[203] We were satisfied from ATCO's response that, for a core system such as ATCO's GIS and given the worsening cyber security landscape, it would not be prudent to adopt Option 3; and
- Option 2 is likely to be the prudent option. It is consistent with industry practice, and we are satisfied that the selected option will deliver the key outcomes identified by ATCO.[204]

628. According to the Business Case, the cost estimate for each upgrade of $1.0 million is a bottom-up estimate using information from (i) previous standard upgrades, (ii) quotes from IBM to manage and implement the project, and (iii) previous estimates for internal labour to undertake project and change management activities of upgrade projects of a similar size and nature. This is a reasonable basis for developing the cost estimate.[205]

Assessment of the webMethods upgrade project

629. ATCO uses webMethods 10.5 platform as its integration platform. ATCO states that: '*webMethods releases new versions every 6 months and provides standard maintenance and support for each version for three years, followed by optional End of Maintenance extension (*EOM*) for a 30% increase in the annual maintenance costs…'*[206]

630. ATCO proposes upgrading from version 10.5 in 2024 and operating that version until 2028 when it will upgrade to the available version at a cost of $1.13 million capex to retain vendor support.

631. We consider that it is prudent practice to maintain updated vendor support for important systems such as the webMethods, consistent with ATCO's IT strategy.

632. ATCO considered only two options in some detail:[207]

1. Do not upgrade webMethods – we consider that a more appropriate definition of the option is that ATCO would not upgrade webMethods in 2028 (i.e. per Option 2); and
2. Upgrade webMethods in 2028 – this is ATCO's preferred option.

633. Whilst we consider that the residual risk in operating with an unsupported webMethods version until AA7 (i.e. for at most two years) is likely to be 'Intermediate',[208] we consider it prudent for ATCO to upgrade webMethods in accordance with its IT strategy of upgrading its software to retain vendor support.

634. The cost estimate is derived from a bottom-up build and leads to what we consider to be a reasonable cost estimate.

203 Via Information Request EMCa08

204 2025-29 AAI, page 188

205 We note that there are minor inconsistencies in expenditure timing however these are not material to the AA6 forecast

206 ATCO, ISTP (2025 to 20-29), page 34

207 However, it refers to a third option in the business case which it did not progress, for reasons that make sense

208 Based on ATCO's risk matrix per Attachment 10.017 – ATCO Gas Australia Risk Matrix

6.6.6 Assessment of IT Business Capability programs

Overview of the IT Business Capability projects

635. As shown in Table 6.9, ATCO proposes three projects as part of its AA6 IT Business Capability Program at a total cost of $4.9 million ($2.9 million capex and $2.0 million opex):

- IT Continuous Improvement Program ($0.6 million capex, $1.4 million opex);
- Digital Improvement Program ($1.5 million capex, $0.4 million opex); and
- Data and Analytics Program ($0.8 million capex, $0.2 million opex).

Assessment of the IT Continuous Improvement Program

The proposed program is an allocation for as-yet unspecified IT-based projects

636. ATCO states that the scope of the proposed continuous improvement program is to enable the business to identify and implement improvements to enable the early delivery of benefits. ATCO describes the improvement as small-scale IT system improvements and has included an allocation based on an assessment of historical trends and the potential for improvement opportunities to newly deployed systems.[209]

The continuous improvement projects seek to release internal efficiencies

637. ATCO describes the approach of using an allocation to reduce time and effort required for governance related processes and documents, and achieve internal efficiencies, where:[210]

> *'Typically benefits of continuous improvement initiatives help the business reduce cost, comply with regulatory requirements, or mitigate risk.'*

The case for the program is not compelling or justified under the Rules

638. ATCO can recover capex (and opex) required to address new regulatory requirements if ATCO demonstrates that the requirement results in a new obligation to which it must respond, and that it has selected the prudent solution that provides the lowest sustainable cost.

639. Similarly, initiatives to improve the customer experience, and/or the quality of decision-making need to demonstrate a net benefit to consumers to satisfy the Rules. In absence of quantifying benefits for this program, we consider it unlikely that the capex criteria will be satisfied for such improvement projects.

640. Expenditure for initiatives designed to deliver internal efficiencies to ATCO, should be matched with a mechanism to pass benefits on to consumers. Absent such a mechanism, the expenditure should be offset by the benefits delivered, which requires improvement related projects such as this program to be self-funding.

641. We do not consider that the proposed total expenditure has been sufficiently justified, in absence of the scope or benefits of the program having been identified. Accordingly, we find that the case for the proposed expenditure – capex or opex – has not been sufficiently justified.

Assessment of the Digital Improvement Program

642. The Digital improvement program is similar in scope and objective to the continuous improvement program. The digital improvement program similarly includes an allowance for un-specified projects with a focus on improvement opportunities through adoption and

209 Attachment 10.049.00 - IT - Continuous Improvement Program - Business Case

210 Attachment 10.049.00 - IT - Continuous Improvement Program - Business Case, page 13

accessibility of digital capabilities. ATCO describes the program as intended to deliver digital enhancement projects to improve customer and business processes. [211]

643. Unlike the continuous improvement program, ATCO postulates that the benefit from the AA6 program is likely to be similar to the AA5 program for which it realised a return on investment of 2:1. It expects therefore to realise a positive NPV over the AA6 period from the proposed program.

644. For the same reasons stated in our assessment of the continuous improvement program, we consider the expenditure should be offset by the benefits delivered, which requires improvement related projects such as this program proposed by ATCO should be self-funding. This is consistent with our assessment of this program during the AA5 period, included at section 5.6.

Assessment of the Data and Analytics Program

The program is an allocation for as-yet unspecified IT-based projects

645. ATCO states that the specific investments under this program are currently not known, but that: [212]

> *'[t]his program commenced in AA5 and will continue in AA6 to ensure that ATCO can continually identify new analytical models, reporting, and dashboard opportunities. The benefits of investing in this program have resulted in increased data accuracy, increased data security, and access to a richer data history.'*

The case for the allocation is not compelling

646. For the reasons stated above, we find that the data and analytics program has not been sufficiently justified. Specifically, that the expenditure should be offset by the benefits delivered, which requires improvement related projects such as this program to be self-funding.

6.7 Proposed structures and equipment capex

647. ATCO proposes capex of $23.9 million across the AA6 period for structures and equipment (STEQ) as shown in Table 6.12. We consider each of the expenditure sub-categories shown in in sections 6.7.1 to 6.7.3.

Table 6.12: ATCO's AA6 structures and equipment forecast ($m, real Dec 2023)

Category and Programs	2025	2026	2027	2028	2029	Total capex
Fleet	3.8	2.3	1.4	2.4	2.8	**12.6**
Property (Facilities and Plant)	1.6	3.7	0.5	0.4	0.5	**6.7**
Equipment	0.9	0.9	0.9	0.9	0.9	**4.6**
Total Structures & Equipment	**6.3**	**6.9**	**2.8**	**3.8**	**4.2**	**23.9**

Source: ATCO 2025-29 AAI, Tables 10.27 and 10.28

211 Attachment 10.051.00 - IT - Digital Program - Business Case, page 4

212 ATCO, 2025-29 AAI, page 192

6.7.1 Fleet

Overview

648. ATCO's fleet comprises motorcycles, passenger vehicles, light commercial vehicles, heavy vehicles and larger plant and equipment. The fleet forecast is categorised by ATCO into fleet replacement (driven primarily by condition) and fleet demand (new assets required due to additional demand for field roles). ATCO's forecast of $12.6 million capex for the AA6 period is entirely for fleet replacement (i.e. no new demand-driven fleet assets are expected to be required in AA6).

Assessment of ATCO's case for investment

649. ATCO has an Asset Lifecycle Strategy – Fleet which outlines the fleet demand and fleet replacement approaches in addition to other lifecycle information (primarily pertaining to the characteristics of the fleet). The ALS identifies the renewal investment triggers which are based on a combination of age and 'mileage'. We are satisfied that ATCO's replacement criteria have been developed in line with industry practice and are consistent with its practices applied in the AA5 period.

650. During the AA5 period, the replacement criterion for replacement of light vehicles was extended from five years to six years, which based on advice from ATCO is the only change to the replacement criterion made for the AA6 period.[213]

Assessment of ATCO's option analysis

Proposed expenditure is based on application of ATCO's fleet replacement criteria

651. ATCO has not provided a business case with the typical options analysis. Instead, its ALS-Fleet identifies each of the fleet assets which satisfy the fleet replacement criteria (for assets serving the regulated networks). The volume of replacements appears to be reasonable when compared to the volume of vehicles replaced/forecast to be replaced in the AA5 period (i.e. 156 vehicles in AA5 vs 158 vehicles in AA6), given that there will be variations in the replacements depending on the lifecycles of the individual plant items.

ATCO has considered the lease versus buy option and continues to buy fleet vehicles

652. ATCO reports that it undertook a NPV analysis in 2022 and concluded that ownership is the most cost-effective solution for all of its fleet.

Assessment of ATCO's fleet cost estimate

653. ATCO has based its vehicle replacement cost on supplier benchmarks for ATCO's specifications (e.g. telematics).

654. ATCO's average fleet cost per unit for the AA6 period is $80k, compared to the average cost of $77k actual average unit cost in the AA5 period.[214] ATCO has provided a breakdown of the volume and cost for each of the vehicle classes.[215] The average unit cost for each vehicle class appears to be reasonable.

6.7.2 Property (Facilities and Plant)

655. ATCO has nine operational facilities comprising it head operations centre in Jandakot, three Perth metro depots (Mandurah, Malaga, Joondalup), and three regional depots serving the regulated GDS networks (Geraldton, Bunbury, Busselton).

656. ATCO has included two projects in its AA6 forecast capex of $6.7 million:

213 Passenger vehicles, and light commercial vehicles (ATCO, Attachment 5.014.00 – Fleet – Compliance Summary, page 8)

214 ATCO, Att 5.014.00 – Fleet – Compliance Summary, page 5

215 ATCO, Asset Lifecycle Strategy – Fleet, Tables 16 and 17

- Depot minor capital works ($2.4 million) - all new works, including alterations, modifications, additions, deletions, upgrading of facilities, replacing/upgrading furniture and plant equipment, and demolition;[216] and
- New Malaga depot ($4.3 million).

Depot minor capital works

The key drivers for depot minor works investments are reasonable

657. ATCO lists its key drivers for its program as:[217]

- To provide, improve or support its operations, including ensuring the facilities are safe and fit-for-purpose; and
- Reduce its carbon footprint.

658. To this end, it has developed an ALS – Property, Plant and Equipment (PPE) which guides its PPE expenditure. We looked for evidence of how ATCO has addressed each of its drivers in its supporting documentation, and where improvements to its property were likely to provide additional benefits to ATCO and/or its customers had been adequately justified.

ATCO considered two options only but its preferred approach is prudent

659. ATCO considered a 'do no capital works' Option 1, which relies on corrective and reactive maintenance work only. ATCO concludes that it '*will not only increase OPEX costs for facilities repairs, but will also lead to ongoing degradation of the condition of ATCO's facilities'*,[218] which we consider to be a reasonable assessment. ATCO's preferred Option 2 is to implement its ALS with minor capital based on the asset's condition, performance and operational suitability (i.e. according to ATCO's facilities management team). We consider this to be the prudent approach.

660. ATCO's project list is based on its Facilities Condition assessments, expected asset lifecycle, BAU initiatives and planned facilities improvements.[219]

ATCO's cost estimate for depot minor works appears reasonable with the exception of contingency

661. ATCO has provided a detailed bottom-up cost estimate for each year of the AA6 period. Considering it covers 24 individual minor works over a five-year period, the line items appear to be reasonable. However, ATCO included a loading for 'timesheeting' which we consider is equivalent to a contingency allowance.

New Malaga depot

The new Malaga depot project has been deferred from the AA5 period

662. ATCO has been planning a new Malaga depot for over five years, with the intention to build and own a new depot in the AA5 period. A business case was approved in 2020. However, ATCO advises that: [220]

> *'While ATCO intended to proceed with the new Malaga depot construction in 2023, the labour constraint in the Western Australia market, especially in the construction sector, has led to a material increase in the estimated construction cost.'*

216 ATCO, Attachment 10.055.00 - Depots - Minor Capital Works - Coastal - Business Case, page 8

217 ATCO, Attachment 10.055.00 - Depots - Minor Capital Works - Coastal - Business Case, page 5

218 ATCO, Attachment 10.055.00 - Depots - Minor Capital Works - Coastal - Business Case, page 13

219 ATCO, Attachment 10.055.00 - Depots - Minor Capital Works - Coastal - Business Case, page 9

220 ATCO, Attachment 10.005 - Asset Lifecycle Strategy - Property, Plant and Equipment, page 23

663. As a result, ATCO made alternate arrangements to meet its operational requirements and deferred the project to 2025-26. We consider that ATCO has established that the establishment of the new depot remains consistent with its long-term plans.

ATCO's cost estimate for the Malaga depot has been refined

664. ATCO has refined its cost estimate since its business case was approved through CEARs. The ATCO-approved capex is $6.4 million. It has incurred $2.1 million to acquire a vacant block of industrial land in Malaga and it has incurred design costs, leaving the proposed $4.3 million for the depot infrastructure/fit-out included in the AA6 period.

665. We note that ATCO intends to retest the market and ensure that building the depot is the best value for money compared to continuing to lease its current depot. In the interim, we consider the estimated cost to be reasonable.

6.7.3 Equipment

666. ATCO defines 'equipment' as the tangible assets used for network construction, operation, and maintenance, such as '*flow-stopping equipment, equipment that requires servicing, and calibration and hand tools*.'[221] The majority of ATCO's equipment is replaced on failure as they are small, non-critical assets.

667. ATCO has identified 20 line items in its capex model for equipment purchases, and one line item for reducing its capex via a transfer of small items to the opex account as a step change (refer to section 7.4.7). The net forecast capex is $4.6 million.

The cost estimate appears to be a bottom-up build of recurrent work

668. ATCO has a run-to-failure strategy for its Equipment asset category and has provided a 20-item forecast with flat individual expenditure profiles that amount to a little less than its AA5 actual/expected expenditure. As a recurrent line of expenditure, we consider the estimate to be reasonable.

6.8 EMCa adjustment assessment

6.8.1 Compliance with capex criteria

669. Our assessment of ATCO's proposed AA6 capex is based on ATCO's AAI and supporting information. ATCO provided a considerable number of documents and associated spreadsheets in support of its proposal. Our assessments are based on our review of this information, together with our observations from the onsite meetings that we held with ATCO, and information supplied pursuant to EMCa information requests.

670. As discussed in section 3.4, in absence of quantitative risk analysis included in ATCO's proposal we have applied an experienced-based review of the information provided by ATCO in justifying its projects, and specifically demonstration of the level of risk and ALARP. We have not sought to develop alternative, quantitative analyses of risk.

671. Key factors that have led us to recommend adjustments in accordance with the capex criteria include considerations of the extent to which capex is 'conforming', existence of adequate justification (such as evidenced option analysis and cost benefit analysis) and the basis on which ATCO has determined its cost estimates (including where it has applied contingencies).

672. We have taken a strict view of our obligations to advise the ERA based on the information that ATCO has provided us. It is possible therefore that further information from ATCO may lead us to different conclusions in any subsequent reassessment.

Source: *Insert-source-details* [221] *ATCO, 2025-29 AAI, page 195*

6.8.2 Aggregate adjustment assessment

673. Our assessed adjustments to ATCO's proposed AA6 capex allowance have been applied to each capex category. For the most part, we have adjusted proposed capex for all or part of specific proposed projects or programs, where we consider that the information ATCO has provided for our assessment does not demonstrate that the expenditure is likely to satisfy the capex criteria.

674. We have made an adjustment to individual projects to remove contingency allowances. As discussed in section 4.3.2, we propose the removal of contingency amounts from ATCO's AA6 capex programs, where they are applied.

675. The aggregate impact of our assessed adjustments is a reduction to the proposed AA6 capex of $59.5 million, which represents 13% of ATCO's estimated capex requirement of $465.8 million. The adjustments by expenditure category over 5 years are shown in Table 6.13.

676. Table 6.14 shows the AA6 capex project-level adjustments, aggregated by work program. This reconciles to the aggregate project-level adjustment shown in Table 6.13.

677. An adjustment table for AA6 capex by asset category is included in Appendix B.

Table 6.13: AA6 adjustment by capex category ($m real, Dec 2023)

Category		2025	2026	2027	2028	2029	Total AA6
Network sustaining							
	Asset replacement						
	ATCO proposed	45.1	41.9	43.7	42.0	41.3	**214.0**
less	EMCa project adjustments	-2.7	-2.4	-2.5	-2.4	-2.4	**-12.4**
less	escalation adjustment	-0.1	-0.1	-0.1	-0.1	-0.2	**-0.5**
less	overhead allocation adjustment	-1.0	-0.9	-0.9	-0.9	-0.9	-4.6
	EMCa adjusted	**41.3**	**38.5**	**40.2**	**38.6**	**37.9**	**196.5**
	Asset Safety and Performance						
	ATCO proposed	13.1	11.2	11.6	10.7	10.9	**57.6**
less	EMCa project adjustments	-9.3	-8.2	-4.3	-4.0	-4.0	**-29.8**
less	escalation adjustment	0.0	0.0	0.0	0.0	0.0	**-0.1**
less	overhead allocation adjustment	0.0	0.0	-0.2	-0.1	-0.2	**-0.6**
	EMCa adjusted	**3.8**	**3.0**	**7.3**	**6.5**	**6.7**	**27.0**
Network growth							
	ATCO proposed	27.3	30.2	32.2	33.5	34.2	**157.4**
less	EMCa project adjustments	0.0	0.0	0.0	0.0	0.0	**0.0**
less	escalation adjustment	0.0	-0.1	-0.1	-0.1	-0.1	**-0.5**
less	overhead allocation adjustment	-0.6	-0.7	-0.7	-0.7	-0.8	-3.6
	EMCa adjusted	**26.6**	**29.4**	**31.4**	**32.7**	**33.3**	**153.4**
Information technology							
	ATCO proposed	4.0	3.7	2.7	1.9	0.7	**13.0**
less	EMCa project adjustments	-2.6	-1.6	-1.5	-0.7	-0.7	**-7.2**
less	escalation adjustment	0.0	0.0	0.0	0.0	0.0	**0.0**
less	overhead allocation adjustment	0.0	0.0	0.0	0.0	0.0	**0.0**
	EMCa adjusted	**1.4**	**2.1**	**1.1**	**1.1**	**0.0**	**5.7**
Structures and equipment							
	ATCO proposed	6.3	6.9	2.8	3.8	4.2	**23.9**
less	EMCa project adjustments	-0.1	0.0	0.0	0.0	0.0	**-0.2**
less	escalation adjustment	0.0	0.0	0.0	0.0	0.0	**0.0**
less	overhead allocation adjustment	0.0	0.0	0.0	0.0	0.0	**0.0**
	EMCa adjusted	**6.3**	**6.8**	**2.7**	**3.7**	**4.2**	**23.7**
TOTAL							
	ATCO proposed	**95.8**	**93.8**	**93.0**	**91.9**	**91.4**	**465.8**
less	*EMCa project adjustments*	*-14.7*	*-12.2*	*-8.3*	*-7.3*	*-7.2*	***-49.6***
less	*Escalation & o/heads adjust.*	*-1.8*	*-1.9*	*-2.0*	*-2.1*	*-2.2*	*-9.9*
	Total EMCa adjusted	**79.3**	**79.8**	**82.6**	**82.6**	**82.0**	**406.3**
	Total adjustment ($)	-16.5	-14.0	-10.3	-9.3	-9.3	**-59.5**
	Total adjustment (%)	*-17%*	*-15%*	*-11%*	*-10%*	*-10%*	***-13%***

Source: EMCa analysis

Table 6.14: AA6 capex adjustments by work program ($m real, Dec 2023)

Category	2025	2026	2027	2028	2029	Total AA6
Network sustaining						
Asset replacement						
Mains Replacement Program	-1.2	-1.1	-1.2	-1.1	-1.1	**-5.8**
Meter Replacement Program	-0.5	-0.5	-0.5	-0.5	-0.5	**-2.5**
Other asset replacement programs	-0.9	-0.7	-0.8	-0.8	-0.8	**-4.1**
sub-total	-2.7	-2.4	-2.5	-2.4	-2.4	**-12.4**
Asset Performance & Safety capex						
Enabling renewable gases	-3.7	-2.2	-2.2	-2.2	-2.2	**-12.5**
Inline inspection	-3.1	-3.1	-1.3	-1.0	-1.1	**-9.6**
Network reinforcement	-1.2	0.0	0.0	0.0	0.0	**-1.2**
Other Asset Performance and Safety Programs	-1.3	-2.9	-0.8	-0.8	-0.6	**-6.1**
sub-total	-9.3	-8.2	-4.3	-4.0	-4.0	**-29.8**
Network growth						
Growth domestic forecast	0.0	0.0	0.0	0.0	0.0	**0.0**
Growth commercial forecast	0.0	0.0	0.0	0.0	0.0	**0.0**
Growth development	0.0	0.0	0.0	0.0	0.0	**0.0**
Capital contribution	0.0	0.0	0.0	0.0	0.0	**0.0**
sub-total	0.0	0.0	0.0	0.0	0.0	**0.0**
Information technology						
ERP Replacement	-0.1	-0.8	-0.8	0.0	0.0	**-1.7**
IT Sustainability Programs	-1.8	-0.2	-0.2	-0.2	-0.2	**-2.5**
Information technology Upgrade Projects	-0.2	0.0	0.0	0.0	0.0	**-0.2**
IT Business Capability programs	-0.6	-0.6	-0.6	-0.6	-0.6	**-2.9**
sub-total	-2.6	-1.6	-1.6	-0.7	-0.7	**-7.2**
Structures and equipment						
Fleet	0.0	0.0	0.0	0.0	0.0	**0.0**
Property (Facilities and Plant)	-0.1	0.0	0.0	0.0	0.0	**0.0**
Equipment	0.0	0.0	0.0	0.0	0.0	**0.0**
sub-total	-0.1	0.0	0.0	0.0	0.0	**-0.2**
Total EMCa adjusted	**-14.7**	**-12.2**	**-8.3**	**-7.3**	**-7.2**	**-49.6**

Source: EMCa analysis. Note that at a program level, these adjustments reconcile to the EMCa adjustments that are shown in Table 6.13, and which are made at a project / program level. Escalation and capitalised overhead adjustments are made additionally, as shown in that table.

7 ASSESSMENT OF PROPOSED AA6 OPEX

We find that ATCO has not fully justified its AA6 opex against the opex criteria.

ATCO applied the Base Step Trend forecasting method to which it added specific five-year forecasts for UAFG and Ancillary services opex. Whilst we find that the BST forecasting method is reasonable, certain elements of ATCO's application of this method this do not meet the requirements or criteria of the NGR.

ATCO has based its opex forecast on its opex in 2022, with some 'base year' adjustments. We consider that there are some significant anomalies that it has not adjusted for, principally regarding increased payments to its Canadian parent company and an anomalous level of staff bonusses in that year.

We consider that eight of ATCO's proposed eleven step changes either do not qualify as step changes or are overstated and therefore do not meet the requirements of the rules as prudent and efficient expenditure. For the most part, these findings are consequences of our findings on aspects of proposed AA6 capex, to which the relevant steps are linked.

We also find that ATCO's real labour cost escalation rate is overstated and have made adjustments to remove the premium of EGWWS WPI on All Industries CPI that ATCO assumes will persist over the AA6 period.

The aggregate impact of our assessed adjustments would imply a reduction of $85.1 million, or 19% of ATCO's proposed opex of $455.9 million for AA6.

7.1 Introduction

678. This section contains our assessment of the forecast opex allowance proposed by ATCO for the AA6 period. We have undertaken the review using the assessment framework set out in Appendix A, and with regard to the context, criteria and findings referred to in Sections 2 - 5 of this report.

679. The results of our review and our overall assessment of whether the proposed opex satisfies the opex criteria for the purposes of determining the level of conforming opex under the NGR (WA) are set out below.

680. Refer to the adjustment table in section 7.8.2 for the total adjustments that result from our findings.

7.2 ATCO's proposed AA6 opex

7.2.1 Overview

681. ATCO's actual and estimated opex for AA5 compared to the ERA's FD is shown in Table 7.1. ATCO's AA6 forecast opex is shown in Table 7.2. We have shown these by the regulatory categories as nominated by ATCO and applying the data provided in ATCO's 2025-29 AAI (i.e. rather than its subsequent, updated actual for 2023 and forecast for 2024).

Table 7.1: ATCO's actual and estimated AA5 opex compared to the ERA's FD by regulatory category ($m, real Dec 2023)

Category	ERA FD	Actual			Estimated		Total AA5
		2020	2021	2022	2023	2024	
Network, Corporate, IT	**338.3**	**60.1**	**71.3**	**70.5**	***66.6***	***64.2***	**332.7**
UAFG	29.0	2.7	3.8	3.3	*4.2*	*4.1*	18.1
Ancillary services	16.5	1.6	0.9	0.9	*0.8*	*0.8*	5.0
Total	**377.9**	**64.4**	**76.0**	**74.7**	***71.6***	***69.1***	**355.8**

Source: EMCa analysis of ATCO, Attachment 09.020 – base Step Trend Opex Forecast Model and response to IR EMCa49

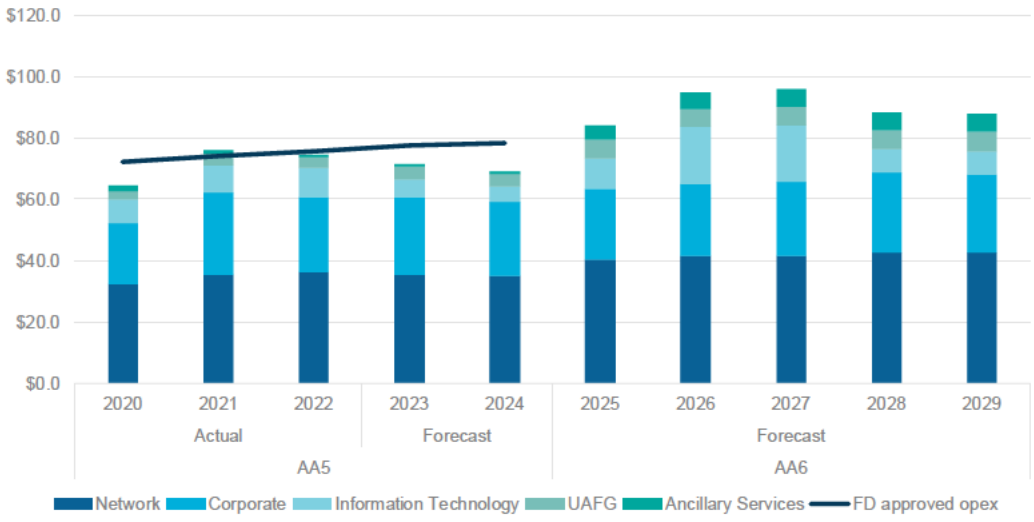
Table 7.2: ATCO's forecast AA6 opex by regulatory category ($m, real Dec 2023)

Category	2025	2026	2027	2028	2029	Total AA6
Network, Corporate and IT	**74.1**	**84.4**	**85.3**	**77.5**	**76.8**	**398.1**
UAFG	5.8	5.8	6.1	6.2	6.8	30.8
Ancillary services	4.9	5.4	5.5	5.6	5.7	27.1
TOTAL	**84.8**	**95.6**	**96.9**	**89.3**	**89.3**	**455.9**

Source: ATCO, Attachment 09.020 – base Step Trend Opex Forecast Model

682. We provide the historical and forecast opex in Figure 7.1.

Figure 7.1: ATCO's historical and forecast opex compared with the FD, by regulatory category ($m Dec 2023)

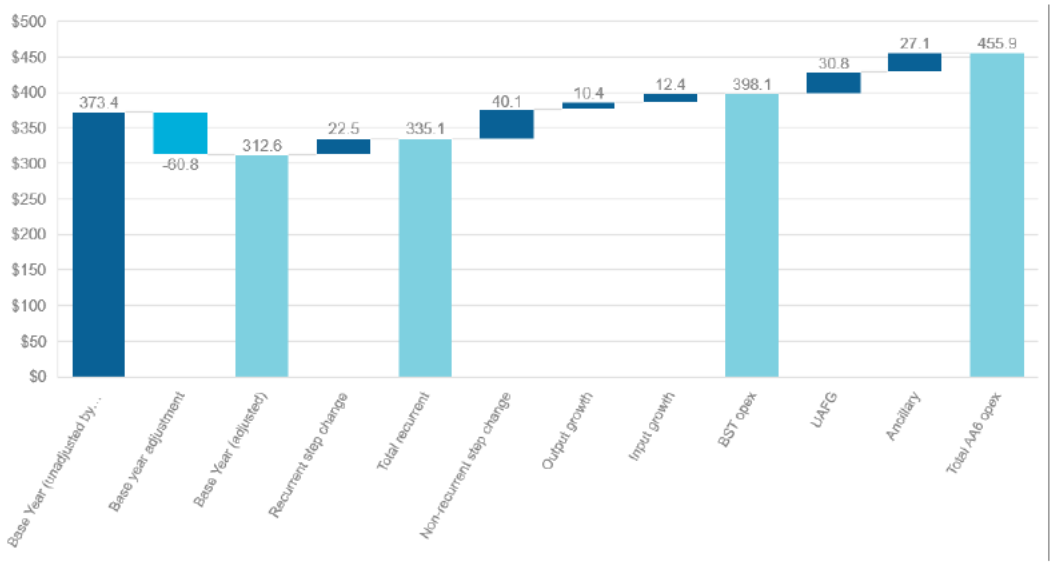


Source: EMCa analysis of ATCO, Attachment 09.020 – Base Step Trend Opex Forecast Model and response to IR EMCa49

7.2.2 The components of ATCO's AA6 opex forecast

683. ATCO's AA6 opex forecast is based on a combination of the Base Step Trend (BST) approach and specific forecasts for UAFG and Ancillary services. In Figure 7.2 we show the build-up of the AA6 opex forecast starting with ATCO's unadjusted Base Year opex. We have multiplied the unadjusted base year opex incurred in 2022 by five, to be representative of the starting point for the calculation of the opex allowance, from which the adjustments are also shown on a five-year basis.

Figure 7.2: ATCO's forecast AA6 opex using BST and specific forecasts ($m, real Dec 2023)



Source: EMCa analysis of ATCO, Attachment 09.020 - Base Step Trend Opex Forecast Model

7.2.3 Observations

The expected AA5 opex reported in the AAI is lower than the ERA's FD

684. The expected underspend in the AA5 period compared to the FD is 5.8% ($22.1m) based on ATCO's submission and is comprised of the following:

- Network opex is expected to be underspent by $23.0m;
- Corporate opex is expected to be overspent by $33.3m;
- IT is expected to be underspent by $9.8m;
- UAFG is expected to be underspent by $4.3m; and
- Ancillary services is expected to be underspent by $14.8m (-70%).

685. The FD was based on a steady increase in annual opex over the five-year AA5 period. However, we observe that opex is following a decreasing trend following a peak in 2021.

686. ATCO does not explain the changes to the Network, Corporate or IT opex in its AAI nor in the IT Strategic Plan. We asked ATCO for further information, and ATCO advised that the primary driver of change was the response to COVID-19.[222]

ATCO has updated its 2023 and 2024 forecast opex

687. In response to an information request, ATCO provided updated 2023 and 2024 opex.[223] ATCO reports its revised opex for 2023 is $79.7 million, an increase of $8.1 million to the $71.6 million amount included in its 2025-29 AAI. Its 2024 forecast opex is now $78.5 million, an increase of $9.3 million to its $69.2 million forecast in the 2025-29 AAI. The majority of the increase over the two years ($15.5 million of the $17.4 million) is cited by ATCO in its response as being due to rising Network costs (in turn driven by inflation, higher contractor costs, filling vacant positions, and higher IT costs).

688. With the revised figures, ATCO expects to spend almost the full ERA FD amount.

UAFG and Ancillary Services are forecast to significantly underspend the ERA's FD amounts

689. ATCO advises that its UAFG costs declined more than expected from its targeted approach to leak reduction via its mains replacement and '*enhancements in finding and eliminating*

222 ATCO response to IR EMCa52

223 ATCO response to IT EMCa49

leaks.'[224] ATCO's expected ancillary services opex was much lower than forecast due to the impacts of COVID-19, particularly in 2021 and 2022.[225]

690. ATCO's revised 2023 and 2024 opex amounts show no change to the UAFG opex in 2023 and 2024 from the AAI. The revised Ancillary services opex is $2.4 million higher than in the AAI, and so is still expected to be significantly lower than the ERA's FD.[226]

The AA6 opex forecast is 28% higher than the expected AA5 opex

691. ATCO is proposing $455.9 million opex in AA6, which is 28% ($100.1m) higher than the expected opex to be incurred in the AA5 period, and 21% ($78.0 million) higher than the AA5 FD.

692. ATCO advises that the drivers of the increase include its new ancillary reference service ('Permanent Disconnection'), a greater focus on sustainability initiatives, and a shift in how SaaS expenditure is accounted for.[227] We further consider the drivers of the increases in our BST, UAFG, and Ancillary Services assessments.

7.3 Assessment of ATCO's proposed base year

693. In the following sections we provide our assessment of ATCO's proposed base year. We summarise our proposed adjustments in Table 7.8.

7.3.1 Selection of the base year

694. ATCO has used its actual opex from 2022, its most recent complete calendar year, as representative opex for AA6. As discussed below, it has adjusted the base opex to remove any 2022 non-recurrent expenditure.

695. We consider that at the time of preparing ATCO's submission, 2022 represented the most recent available full-year actual expenditure and is appropriate as its base year starting point.

696. ATCO's unadjusted AA6 base year forecast is $74.7 million.[228]

7.3.2 ATCO's proposed adjustments to the base year

697. ATCO has proposed four adjustments to the base year on the grounds that they are not recurrent costs, totalling $7.9 million:

- Legal costs [redacted] (-$5.3m combined);
- Preparation of the AA6 submission (-$1.2m);
- Corporate restructuring (-$0.8m); and
- In-line pipeline inspection (ILI) program (-$0.6m).

698. In response to an information request, ATCO provided supporting quantitative information for the four adjustments.[229] We are satisfied with the explanations and consider it likely that the deductions are representative of the non-recurrent costs incurred, and that ATCO has appropriately removed these costs from its base year opex.

224 ATCO, 2025-29 AAI, page 133

225 ATCO, Attachment 09.020 – Base Step Trend Opex Forecast Model, inputs

226 ATCO response to IT EMCa49

227 ATCO, 2025-29 AAI, page 110

228 ATCO, Attachment 09.020 – Base Step Trend Opex Forecast Model, Base Step Trend

229 ATCO response to Information Request EMCa52

7.3.3 Additional adjustments to the base year

699. We asked ATCO to provide more detailed information than is available in the documents submitted with its submission to ascertain the efficient level of opex for its base year. From our review of the responses, we have identified three other elements of ATCO's base year of concern. We discuss each of them below.

CEIH and Blending projects

700. In response to an information request, ATCO advised that it incurred $0.3 million opex on its CEIH and blending projects in 2022.[230] As discussed in section 5.3, we consider that ATCO's AA5 investment in these two projects do not qualify as conforming capex and therefore the associated opex is also not conforming, nor reflective of the efficient recurring opex in its base year.

Corporate Other Support costs

701. At $121.2 million, ATCO's AA5 corporate opex is expected to be $22 million (22%) higher than the forecast included in the FD of $92.8 million. Within the corporate cost elements, we observe that ATCO has incurred 456% ($7.1 million) higher costs in 2022 for the Corporate – Other Corporate Support than the average for the AA4 period, increasing from an annual average of $1.6 million in the AA4 period.[231]

702. We asked ATCO to explain the increase and were advised that the key drivers were (i) ATCO's response to COVID-19, and (ii) an increase in the support cost allocation from ATCO's Corporate head office in Canada.[232]

703. Whilst there was likely to be additional cost involved in implementing COVID-19 protocols, and these costs may have also been present in 2022, we do not consider that the costs to implement protocols for COVID-19 can be considered as recurrent costs. We propose removing the incremental cost. However, ATCO did not provide a breakdown of the incremental cost attributable to COVID-19 health and safety management.

704. ATCO advised that the cost allocation for AA5 from Canada increased by 1.9% '*to align with the ATCO group allocation methodology under the Massachusetts formula*' and that prior to this change ATCO benefited from an under allocation of group costs. ATCO has not provided compelling information regarding the value-for-money of the Canada Head Office charge that we assume represents the majority of the $6.8 million higher 2022 opex compared to the average annual AA4 Corporate Other Support opex.[233]

705. In the absence of better information, we consider that the increase of $6.8 million over the AA4 average spend on Corporate Other Support has not been sufficiently justified as being reflective of an efficient cost.

Staff bonuses

706. ATCO has established the Short-Term Incentive Program (STIP) to attract and retain staff, and to promote a culture of high performance with the payments linked to performance.[234] A response to an information request shows that ATCO paid $3.7 million in STIP bonus payments to staff in 2022.

707. Whilst we note that incentive payments are a regular aspect of ATCO's incurred opex, we do not consider that ATCO has justified including the full quantum of staff bonuses paid in

230 ATCO response to Information Request EMCa94

231 ARCO response to Information Request EMCa52

232 These factors were nominated as the drivers of the higher AA5 result compared to the FD, but we assume that the drivers apply similarly to the base year given that the base year corporate opex is 26% higher than the AA4 average corporate opex

233 ATCO response to Information Request EMCa52

234 ATCO response to Information Request EMCa52

2022 as costs that reflect an efficient level or that should reasonably be incorporated into its proposed AA6 opex allowance.

708. The average annual STIP bonus payment from 2015-2019 was $1.4 million and the 2022 bonus represents the highest payment since 2014. The average over the five-year period from 2017-2021 was $2.0 million and for the three-year period from 2019-2021 was $2.1 million.

709. Given that by 2022 it would have been evident that ATCO was expected to underspend its opex allowance compared with the FD, our view is that additional costs associated with bonus payments, reflective of this underspend, should not translate into a future higher regulatory opex allowance to the disbenefit of ATCO's gas customers in AA6.

710. We propose an adjustment to reduce the recurrent allowance for ATCOs STIP to the five-year historical average of $2.0 million as being more likely to be representative of the recurrent bonus payments throughout the AA6 period.

Stakeholder engagement

711. The Corporate – Stakeholder engagement opex in 2022 includes opex to operate a business improvement team. From the information provided, this has been a corporate function for the entire AA5 period. ATCO reports that the team has been successful in: [235]

> *'identifying inefficiencies, waste and errors in the processes which also result in cost reduction by eliminating those issues from the system.'*

712. However, ATCO's response did not provide a split between what we would traditionally consider to be stakeholder engagement and/or stakeholder management activities and those described as delivering cost reductions such as its business improvement team. We consider that the costs associated with a business improvement team such as that described by ATCO should be offset by the cost reductions that the team achieves so as to avoid a duplicated cost being recovered from gas customers. We have considered this further in our assessment of a productivity growth factor in section 7.5.4.

713. We have estimated the cost of the business improvement team to be $1.0 million from the information provided and our experience and have included this as a further adjustment to the base year.

7.4 Assessment of ATCO's proposed step changes

7.4.1 ATCO's proposal

714. Table 7.3 summarises ATCO's proposed opex step changes for AA6.

[235] ATCO response to Information Request EMCa52

Table 7.3: ATCO's proposed AA6 opex step changes ($m, real Dec 2023)

Step change	Total (over 5 years)
Recurrent:	
Enabling renewable gases	7.3
Superannuation guarantee rate increase	2.6
Cyber security	4.5
Gas inspection - safety changes	1.0
PPE opex threshold increase	0.9
ERP replacement	4.1
Economic regulatory changes	2.0
Non-recurrent:	
Pipeline Inline Inspections	6.3
AA7 Regulatory Preparation and RORI review	6.1
Software as a service arrangements (SaaS)	27.3
Managed IT Services Tender	0.5
Total	**62.6**

Source: ATCO Attachment 09.020 – Base Step Trend Opex Forecast Model

7.4.2 Our assessment approach

715. Consistent with our experience and good industry practice, we have applied a set of criteria to assess the need for and efficient level of the proposed opex step changes, as follows.

- Firstly, that the costs included in the step change are in addition to the costs included in the Base Year and are material and so are not reasonably included in the rate of change elements of the forecast opex.
- Secondly, that the cost is driven by a change to regulatory obligations. We refer to this below as the '*regulatory change criterion*'. To justify the additional costs for a new regulatory obligation, we consider that the following factors are relevant:
  - There is a binding change in regulatory obligations that affects the efficient forecast expenditure;
  - When this change occurs and when it is efficient to incur expenditure to comply;
  - The options considered to meet the change in regulatory obligations and that the appropriate steps were taken to minimise cost and thereby achieve the efficient cost to comply; and
  - The costs cannot be met from existing regulatory allowances or from other elements of the expenditure forecasts.
- Thirdly, it may be efficient to increase opex if it reduces ATCO's capital costs (i.e. a capex/opex trade-off). ATCO must show that there is a beneficial trade-off in incurring additional opex. We refer to this as the '*capex/opex trade-off criterion*.'
- A fourth criteria can be considered where there is a material change in external circumstances or obligations (other than regulatory obligations already covered above) or where there is a recurring cost that recurs on a cyclical pattern (in which case any such cost in the base year needs to be removed or adjusted).

716. The first of the criteria above applies to consideration of all proposed step changes, while a proposed step change can be assessed by reference to any of the other three criteria.

717. We consider ATCO's proposed recurrent and non-recurrent step changes in sections 7.4.3 to 7.4.13. We summarise our proposed adjustments in Table 7.8.

7.4.3 Enabling Renewable Gases

ATCO proposes a step change to support its renewable gas delivery strategy

718. ATCO proposes a step change associated with its program of enabling renewable gases at a forecast cost of $7.3 million, comprising four components:

- Renewable gas injection points - $1.5 million for operation and maintenance of six injection points;
- Sustainability reporting system – $0.4 million for new licensing fees and running costs for sustainability reporting system software to support ATCO's reporting obligations under the NGER; and
- Industry and community consultation program - $3.7 million to discuss and provide feedback on issues related to renewable gas development, production, and utilisation.
- Renewable gas supporting programs - to complete one-off projects to (i) review the compatibility of renewable gas infrastructure and ensure compliance with ATCO's safety obligations ($0.7 million), and (ii) enable safe and secure operation of ATCO's injection points ($1.0 million).

There is currently no regulatory obligation, or sufficient justification provided by ATCO for undertaking the associated capex projects that result in the step change

719. Based on our assessment of the AA6 (and AA5) capex, ATCO's proposed renewable gas enabling projects do not satisfy the NGR.

720. The reasons for our assessment are included in section 2, and as a part of our assessment of the proposed AA6 capex in section 6. In absence of the proposed capex projects, there is no basis for the proposed step change.

721. There may be a case for some opex to undertake additional studies to assist prepare the ATCO GDS for future scenarios including the transportation of renewable gases, and reductions to emissions more broadly. Where this is the case, ATCO would be required to clearly demonstrate where the opex relates to a new regulatory obligation and/or reflects an efficient capex/opex trade-off decision and which it has not done.

7.4.4 Superannuation Guarantee rate increase

ATCO's proposed step change for an increase in the SGC rate is reasonable

722. ATCO advises that it is obliged to pass on the superannuation increase prescribed by the *Superannuation Guarantee (Administration) Act 1992 (Cth)* and has estimated the cost to be $2.6 million.[236]

723. ATCO has determined the quantum of the step change by calculating the salary or wage impact on its approximately 435 employees covered either by an enterprise bargaining agreement or standard employment conditions (i.e. the increase does not apply to contractors).

724. We consider the proposed step change to be reasonably based, and in response to a change in regulatory obligations.

7.4.5 Cyber security

ATCO proposes a step change to enhance its cyber security maturity

725. In response to an increasing cyber security threat landscape and to AEMO's recommendation for owners of high criticality infrastructure, ATCO proposes to improve its cyber security maturity at a cost of $4.5 million. This comprises recurrent activities of (i)

[236] ATCO, 2025-29 AAI, page 117

compliance ($1.5m), (ii) prevention ($0.9m), (iii) protection ($1.5m), and (iv) Incident preparedness ($0.7m).

ATCO will achieve its regulatory obligations by the end of 2024, as required

726. In accordance with amendments to the Security of Critical Infrastructure (SOCI) Act 2018 and particularly the Security Legislation Amendment (Critical Infrastructure Protection) Act 2022, ATCO is required to achieve and sustain the following level of cyber security by the end of 2024:

- Security Profile 1 (SP-1) under the Australian Energy Cyber Security Framework (AESCSF) or equivalent, and
- A Critical Infrastructure Risk Management Plan (CIRMP) covering cyber security hazards, physical security and natural hazards, personnel hazards, and supply hazards.

727. ATCO has declared that it will achieve [redacted] requirements by end-[redacted] under the SOCI Act.

728. We were not able to ascertain the level of opex that ATCO incurred in its base year 2022. We requested a detailed breakdown of the opex incurred in its base year of 2022 to understand the level of opex that ATCO was incurring for its cyber security program. However, there was insufficient detail in ATCO's responses[238] or other information provided in its submission to adequately discern the cyber security expenditure in 2022.[239]

ATCO has not demonstrated a regulatory obligation to achieve SP-3 by 2029

729. ATCO has proposed an opex step change to achieve SP-3, the highest level of cyber security under the AESCSF, by 2029 in response to the recommendation in the AESCSF for high criticality asset owners. However, AEMO (per the AESCSF) stresses that SP-3 is a recommended target and not a legislative obligation.[240]

730. As of 2023 ATCO [redacted] under the AESCSF.[241] We assume that ATCO has carefully selected these practices to maximise its cyber security maturity, and that this status indicates that ATCO is indeed well progressed in meeting its current regulatory obligations.

731. ATCO has not demonstrated that expenditure to achieve SP-3 is a new regulatory obligation, or that it meets other opex criteria required under the Rules, despite stating that its selected option *'…provides ATCO proactive steps taken to prevent, test controls efficacy leading to reduced loss and meeting compliance requirements.'*[242]

732. ATCO has not demonstrated that its proposed AA6 cyber security expenditure is likely to qualify as an opex step change having failed to demonstrate that it has a regulatory obligation to achieve SP-3 nor that doing so would provide a beneficial capex-opex trade-off.

The proposed step change is not required to meet regulatory obligations

733. On the basis that ATCO will achieve a level of cyber security consistent with its regulatory obligations by the end of the current regulatory period, and absent information on the level of cyber security expenditure already within its current level of opex, we conclude that

237 ATCO response to IR EMCa10

238 ATCO responses to IR EMCa10, EMCa11, EMCa12, and EMCa13

239 We reviewed ATCO's IT Strategic Plan and its IT – Cyber Security Program – Business Case, and consistent with other ATCO strategic plans and business cases, insufficient information is provided about previous expenditure

240 AESCSF-Framework-Overview, 2022 Program – Minor Refresh, page 3

241 Other energy sector (electricity) utilities in the NEM have sought to justify cyber security expenditure above their respective legislative obligations by undertaking quantitative analysis

242 ATCO, Attachment 09.013.00 - IT - Cyber Security Program- Business Case, page 10

ATCO has not demonstrated a need for a step change in AA6 that would meet the regulatory change criterion.

7.4.6 Gas inspection – safety changes

ATCO's proposed step change for gas inspection changes is reasonable

734. ATCO reports that in 2023, it was informed by the DMIRS that its gas inspectors '*must not operate as gas fitters for consumer gas installations or related gas fitting work*' from 1 January 2024.[243]

735. ATCO has outlined the steps it needs to take to comply with this new obligation which arises under the Gas Standards Act 1972. In summary, ATCO must expand its gas inspection team to undertake specific inspection tasks that can no longer be undertaken by the current Gas Distribution Officers. We consider that the supporting information provided by ATCO represents a new regulatory obligation on its business, and that the steps undertaken by ATCO are reasonable to respond to this new obligation. Accordingly, we consider that the opex step change of $1.0 million over the AA6 period is reasonable.

7.4.7 Property, Plant and Equipment opex threshold increase

ATCO's proposed step change for property, plant and equipment is reasonable

736. ATCO proposes changing the threshold for capitalising low value property, plant and equipment assets from $300 to $1000, primarily to reduce administrative burden. This has the effect of transferring capex to opex. ATCO has deducted what would have been its forecast capex on these items to this opex step change. We consider the proposed step change is reasonable as it reflects an efficient opex-capex trade-off.

7.4.8 Enterprise Resource Planning (ERP) Replacement

ATCO's proposed step change for ERP replacement is higher than an efficient level

737. ATCO has proposed an opex step change of $4.1 million for the net increase in its annual licencing fee as a result of replacing its current ERP. This is in addition to the proposed expenditure for the ERP replacement project, which we provide in section 6.6.3.

738. The proposed opex step change is based on its recommended Option 4 (Best of Breed solution), which has been developed by adding 30% to its cost estimate for its Option 2 and deducting the current maintenance fee for its current ERP.[244]

739. As discussed in our assessment of the proposed capex in section 6.6.3, we consider that the scope of Option 2 is likely to satisfy the capex criteria. Accordingly, an opex step change adjusted for the scope of Option 2, corresponding with the ongoing licencing requirements of the new ERP, less contingency and the existing licence fee of $0.3million p.a. is consistent with our finding regarding this aspect of ATCO's proposed capex. This results in an opex step change of $0.6 million.[245]

7.4.9 Economic regulatory changes

ATCO's proposed step change for economic regulatory changes is not justified

740. ATCO claims that new obligations are likely to arise in 2024 from changes to the NGL and NGR and that these changes will require changes to (i) common prohibitions and safeguards, (ii) information disclosure, (iii) information on individual prices paid by shippers,

243 ATCO, 202529 Plan, page 121.

244 10.052.01 - IT - ERP Replacement - SAP S4 Hana Private - Cost Estimate - Option 2

245 Assuming that the incremental licence fee is incurred from 2027 (i.e. when the new software is operational), rather than from 2026 as assumed by ATCO.

(iv) access negotiation framework, and (v) compliance approach.[246] ATCO has included an opex step change of $2.0 million for two additional FTEs in 2025 and 2026 and one FTE from 2027-2029 inclusive to implement and manage the new obligations.

741. ATCO has not adequately demonstrated that it is subject to a new regulatory obligation or that the cost of $2.0 million is an efficient level having considered alternatives. Therefore, we consider that an opex step change is not justified.

7.4.10 Pipeline Inline Inspections

ATCO's proposed step change for pipeline ILIs is higher than an efficient level

742. High-pressure steel pipelines that require internal inline inspections (ILI) as prescribed in the AS2885.3:2001 are undertaken in accordance with the GSSSR.[247]

743. The pipeline ILIs are scheduled according to the established inspection cycle and in accordance with the regulations. As a non-recurrent step change, ATCO has removed expenditure associated with the ILI inspections from its base year, as discussed in section 7.3.1.[248]

744. ATCO has proposed 11 pipeline ILIs to be undertaken for the AA6 period. As part of our assessment of the proposed capex for the infrastructure required to enable ILIs, we propose excluding the work to prepare the three Bunbury pipelines for pigging, and therefore we propose deducting the opex for the respective ILIs in 2025 and 2026 from the proposed opex step change amount.

745. ATCO has based its estimated costs on the historical average considering the complexity of the individual pipelines to be inspected. The average unit cost is $0.6 million, and which aligns with the assumed unit cost of ILIs included in the deduction from the Base Year.

746. For the remaining pipeline ILIs planned for the AA6 period, we consider the scope and cost are likely to reflect an efficient cost.

7.4.11 Access Arrangement 7 regulatory preparation and RORI review

ATCO's proposed step change for AA7 is higher than an efficient level

747. ATCO proposes a non-recurrent step change of $6.2 million over the AA6 period for the preparation of its AA7 submission and for the cost of participation in the ERA's rate of return instrument review. As a non-recurrent step change, ATCO has removed expenditure associated with the preparation of its AA6 submission from its base year, as discussed in section 7.3.1.

748. ATCO provided its cost estimate which indicates that ATCO's AA7 preparation cost is 20% higher than the expected AA6 preparation cost of $5.2 million and 170% higher than the $2.3 million that was included in the FD.

749. ATCO argues that it requires the uplift for the AA7 submission process because it was under-resourced during the AA6 submission process such that '*the resource gaps resulted in other people within the team having to take on additional workload, which is unsustainable…*'[249]

750. We do not consider that the arguments presented by ATCO present any additional regulatory obligations that would reasonably require an increase in opex, or that could not be achieved through ongoing prioritisation of resources within its opex allowance. On this basis ATCO's proposed step-change does not satisfy the regulatory change criterion and we propose a step increase of $5.2 million for the AA7 period being equal to its expected cost for its AA6 preparation.

246 ATCO, 2025-29 AAI, page 124

247 ATCO, 2025-29 AAI, page 125

248 ATCO, 2025-29 AAI, page 125

249 ATCO response to IR EMCa50

7.4.12 Software as a Service (SaaS) arrangement

ATCO has adopted a new accounting standard leading to classification of specific SaaS costs as opex

751. ATCO has adopted a change to its accounting treatment of Software as a service (SaaS) costs consistent with other utilities in the energy sector that we are familiar with. This change has been applied to the proposed AA6 forecast: [250]

> *'[i]n the AA5 Final Decision, IT system implementation costs were forecast as capex. Whether those costs were incurred in relation to a cloud-based or on-premise based system would depend on evaluating alternatives at the time of implementation.'*

752. A decision by the International Accounting Standards Board (IASB) in 2021 provides explicit guidance that all implementation, customisation, and subscription costs must be treated as opex. ATCO has adopted the IASB's guidance in forecasting expenditure for AA6. This results in a proposed AA6 opex step change of $27.3 million for non-recurrent SaaS implementation costs, with the project-level SaaS opex shown in Table 7.4.

Table 7.4: ATCO's proposed SaaS opex step change ($m, real Dec 2023)

Project	2025	2026	2027	2028	2029	Total
HR and Payroll Upgrade	0.7	0.0	0.0	0.0	0.0	**0.7**
Enterprise Resource Planning (ERP) Replacement	2.5	10.8	10.8	0.0	0.0	**24.0**
IT Continuous Improvement Program	0.2	0.2	0.2	0.2	0.2	**1.0**
Data and Analytics Program	0.0	0.0	0.0	0.0	0.0	**0.2**
Digital Improvement Program	0.1	0.1	0.1	0.1	0.1	**0.4**
IT Sustainability Program	0.2	0.2	0.2	0.2	0.2	**1.0**
Total	**3.7**	**11.3**	**11.3**	**0.5**	**0.5**	**27.3**

Source: ATCO 2025-29 AAI, Table 9.20

The SaaS step change is not adequately justified

753. We have considered each of the proposed step change components in Table 7.4, and conclude that ATCO has not adequately justified the need for the proposed expenditure, or that the proposed expenditure is reflective of an efficient level.

754. As discussed in section 6.6.5, we consider that the HR and Payroll Upgrade Phase 2 expenditure has not been adequately justified.

755. We provide our assessment of the ERP replacement project in section 6.6.3, and which includes the proposed opex associated with SaaS. However, we consider that an allowance for adoption of ATCO's Option 2 at a 30% lower capex and opex cost is more likely to satisfy the rules.

756. We accept that ATCO needs to replace the current ERP in the AA6 period and as a result will consequently incur an increase in the licencing costs, and which ATCO has identified separately to this step change. We provide our assessment of the licencing step change in section 7.4.8.

757. For the remaining projects, ATCO has not sufficiently demonstrated that an opex step change is justified. For example:

- IT Continuous Improvement Program, Data and Analytics Program, and the Digital Improvement Program are discretionary projects that we consider do not satisfy the step change criterion; and

[250] ATCO, 2025-29 AAI, page 127

- ATCO has not adequately justified the introduction of a new regulatory obligation that requires additional expenditure for its proposed IT Sustainability Program, or that the proposed expenditure is reflective of an efficient cost having considered the alternatives.

758. In summary, we consider that only the SaaS step change associated with ERP Replacement Option 2 satisfies the step change criteria, leading to an adjusted amount of $17.6 million.

7.4.13 IT Managed services

ATCO's proposed step change for IT managed services is not justified

759. ATCO has proposed a $0.5 million opex step change to renew the tender for IT managed services before the expiry of the current contract in 2026.

760. The assumption that ATCO will continue to outsource its IT services with a similar scope to the current model is reasonable, as is the cost estimate,[251] however this is a routine operational expense. We consider that ATCO has discretion in its prioritisation and allocation of expenditure for advice such as proposed for this step change, and it is not reflective of an additional cost that is imposed by the introduction of a new regulatory obligation or an efficient capex / opex trade-off. Accordingly, ATCO has not adequately justified that the proposed opex step change is reflective of an efficient cost against the step change criterion.

7.5 Assessment of ATCO's proposed rate of change (trend)

7.5.1 ATCO's proposal

761. There are two elements to rate of change in ATCO's proposal, which comprise:

- Allowing for forecast output growth; and
- Allowing for real price growth (input cost).

762. We also discuss ATCO's proposed position on productivity growth.

763. We summarise our proposed adjustments in Table 7.8.

7.5.2 Output growth

764. ATCO has proposed escalating its forecast opex based on a combination of its forecast growth in the number of customers and forecast growth in pipeline length, with 55% and 45% weightings respectively. These factors, referred to as output growth, were also applied in its AA5 proposal.

765. ATCO has provided a spreadsheet which shows the derivation of its forecast output growth over the AA6 period of $10.4 million.[252] We consider that ATCO has applied a reasonable methodology for its derivation. The input parameters are consistent with ATCO's demand forecast assumptions, and the resultant output growth is consistent with the application of its methodology.

7.5.3 Input cost growth – labour and material escalation

We consider ATCO's input cost growth factor to be overstated

766. As discussed in section 4.5, ATCO has assumed that labour costs will increase in real terms by 1.06% per annum, and materials cost will not increase in real terms, resulting in a 0.66% real opex cost escalator.

251 ATCO, Attachment 09.010.00 - IT Managed Services Market Review

252 09.020 - Base Step Trend Opex Forecast Model

767. In our assessment of ATCO's real cost escalation assumption which we describe in section 4.5.2, we reject ATCO's proposed assumptions. Applying the changes described in our assessment results in forecast input real cost escalation of 0.42% and input growth of $7.8 million, a reduction of $4.6 million from the $12.4 million that ATCO has proposed.

7.5.4 Productivity growth

ATCO has proposed zero productivity growth in its forecast opex

768. ATCO states that it has included a zero opex productivity growth factor for the AA6 period for the following reasons:[253]

- Its benchmark performance is '*already considered efficient compared to our peers*';
- It would not be in the long-term interests of its customers because '*it would likely yield adverse implications for our ability to provide a safe and reliable natural gas service*'; and
- The forecast increase in the scale of its operations and its capex forecast are unlikely to influence opex productivity in any material way, given our current operating efficiency.

ATCO's productivity performance is relatively poor

769. Total Factor Productivity (TFP) and Partial Factor Productivity (PFP) are two recognised measures of productivity. ATCO provided us with a report on ATCO's productivity performance which shows that ATCO's TFP growth averaged -0.2% from 2014-2022, whereas other gas distribution businesses all had some productivity growth in this period. ATCO's PFP increased by 0.2% over this period, with a sharp decrease (2.120 to 1.687) over the period 2020 - 2022. This compares to an average opex PFP growth of 2.1% for all gas distribution businesses over 2014-2022,[254] illustrating that ATCO is in an industry which has been making productivity gains.

770. This indicates that ATCO has not continued to improve its productivity relative to others included in this study. ATCO has also not provided evidence for its assertion that customers would be worse off if it were to meet a productivity growth factor inherent in its revenue requirement for the next period.

771. ATCO clearly sees opportunities for productivity improvement from its investments, with it proposing a number of initiatives designed primarily to improve productivity. Productivity improvements are not always realised immediately, however the cost-benefit analyses that should underpin the decisions to invest should also reveal the quantified benefits. As mentioned in section 121, this analysis is absent from ATCO's business cases.

772. While it has not quantified productivity benefits, ATCO has claimed that certain of its programs in AA5 and in AA6 are intended to produce improvements to productivity, and more specifically reductions to its opex. ATCO is in an industry where other gas distributors are achieving productivity gains, and where their regulator (in that case, AER) is expecting them to continue to achieve such gains and is including a productivity improvement factor in forecasting their opex requirements.

773. We consider that there is a good case for including a productivity improvement factor in ATCO's Opex forecast. However, we are also cognisant that the level of opex adjustments that we have proposed in section 7.8 which would (for the BST components) result in an AA6 opex allowance that is less than ATCO's AA5 FD allowance and less than its AA5 actual opex.[255] In other words, the adjusted opex that we have proposed would, if fully applied, 'build in' an improvement to ATCO's level of productivity and this could be considered to counter the case for an explicit and additional productivity improvement parameter in the BST.

253 ATCO, 2025-29 AAI, page 132

254 ATCO, Att 09.003 - Quantanomics - Benchmarking Report, page 45

255 We refer to the BST line item in Table 7.8 and its equivalents in the first line of Table 7.1

7.6 Assessment of UAFG expenditure

7.6.1 ATCO's proposal

774. ATCO has proposed $30.8 million for UAFG in its AA6 opex forecast. ATCO has provided attachment 09.008 UAFG Strategy and Forecast to support the proposed expenditure in its AAI.

775. ATCO describes UAFG as:[256]

> *'UAFG is the difference between the measurement of the quantity of gas delivered into the gas distribution system and the quantity delivered from the gas distribution system during a specified period. ATCO incurs costs to purchase gas to replace UAFG.'*

776. The proposed cost allowance is $5.0m higher than the ERA's FD of $25.8 million, and $12.7 million higher than the opex ATCO expects to incur during AA5.[257] We understand there are a combination of factors that have led to these differences, being:

- For AA5,
  - a reduction in the UAFG recorded by ATCO during AA5 versus forecast, resulting in a reduction in the required gas volume; and
  - lower consumption across the network.
- For AA6, a forecast increase in the assumed gas price.

777. We assess the proposed UAFG cost allowance based on three elements proposed by ATCO:

- forecast UAFG rates;
- forecast gas volumes; and
- an assumed gas price.

778. . We summarise our proposed adjustments in Table 7.8, below.

7.6.2 Our assessment

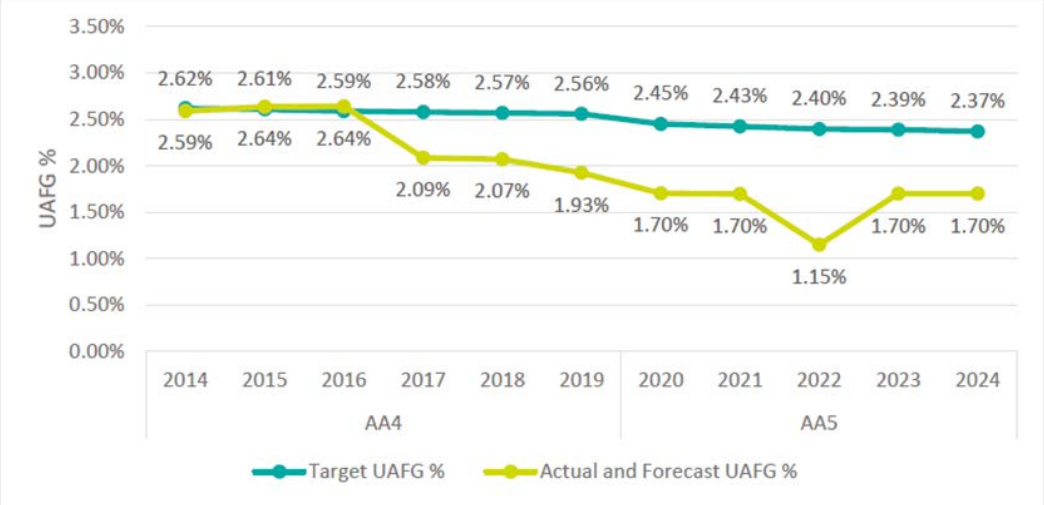
UAFG rate

779. ATCO has been reducing the UAFG rate, and which is targeted to achieve 1.70% by end of AA5.

256 ATCO AAI, page 53

257 ATCO AAI, Table 5.4

Figure 7.3: Historical performance of UAFG levels against targets



Source: ATCO 09.008 UAFG Strategy and Forecast, Figure 1

780. These values vary slightly from those published in Table 5.1 of the AAI, and which reflect slightly lower actual results for UAFG. However, the trend is aligned, and we expect that the differences should not materially impact the forecast.

781. ATCO has described the dip in UAFG rate shown for 2022 as being the result of sustained high temperatures over summer and mild winter, and which led to lower than usual UAFG.[258]

782. ATCO is forecasting a slight decrease in UAFG from current levels, to 1.64% by 2029, taking account of the continuing effect of its practices. ATCO states that its UAFG rate is currently lower than the three Victorian gas distribution networks[259] and one of the lowest UAFG levels amongst its peers.[260]

783. ATCO's forecast of UAFG quantity is reasonable and is consistent with the outcome of its capital works program to reduce leaks across its network. ATCO has assumed a similar level of loss from measurement and loss components of the UAFG forecast,[261] noting that:

- The upper limit of measurement uncertainty can vary between 1% (receipt from transmission pipelines) to 2 to 3% for withdrawal, based on the metering technology deployed at each site.
- ATCO is continuing to target improvements to its network to reduce losses.

784. Should the 2023 actual UAFG be lower than ATCO has assumed, and that this lower level of UAFG can be attributed to ATCO's practices rather than weather variation, then the forecast rate for AA6 should be adjusted accordingly. Absent more recent actual measured UAFG data and the measurement challenges that ATCO refers to in its documentation, on balance, we consider that ATCO has adequately supported its UAFG rate assumption for AA6.

Forecast gas volumes

785. The projected volume of UAFG for the AA6 period is based on:

- The baseline forecast for gas demand, and which we have relied upon in our review of ATCOs submission. In line with ATCO's UAFG methodology, we would expect any change to the forecast throughput (and associated change in growth in mains

258 ATCO 09.008 UAFG Strategy and Forecast, pages 8 and 9

259 ATCO AAI, page 133

260 ATCO 09.008 UAFG Strategy and Forecast, page 12

261 ATCO 09.008 UAFG Strategy and Forecast, page 5

extensions and new services) would have a corresponding impact to the volume of UAFG.

- The percentage of UAFG is a measurement of the ratio of forecast UAFG volume and gas inflow, and which are reflective of a downward trend in historical UAFG rates.
- Leak rates are assumed constant as preventative mains replacement programs counterbalance the uncontrolled leaks resulting from an aging network.

786. ATCO's forecast of UAFG volumes is shown in Table 7.5

Table 7.5: Forecast gas demand and UAFG volume per year of AA6

	2025	2026	2027	2028	2029
Total gas inflow (TJ)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Demand gas consumption (TJ)	30,052	29,575	29,355	29,115	28,911
UAFG volume (TJ)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
UAFG %	*1.67%*	*1.67%*	*1.65%*	*1.65%*	*1.64%*

Source: ATCO 09.008 UAFG Strategy and Forecast, Table 3

787. ATCO has assumed that the requirements for reduction of emissions will be legislated, and which would allow ATCO to replace natural gas with other renewable gases. ATCO has assumed that introducing renewable gas into the GDS will not alter the volume of UAFG forecasted.

788. ATCO has forecasted partial replacement of UAFG with renewable gas within the AA6 period. ATCO is forecasting both biomethane and renewable hydrogen to be utilised as replacement UAFG in AA6 as shown in Table 7.6

Table 7.6: Forecast percentage of gas to meet UAFG volume per year of AA6

	2025	2026	2027	2028	2029
Natural gas	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Biomethane	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Hydrogen	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total	**100%**	**100%**	**100%**	**100%**	**100%**

Source: EMCa analysis of ATCO 09.008 UAFG Strategy and Forecast Table 5 and Table 6 [CONFIDENTIAL]

789. ATCO has proposed expenditure, infrastructure plans to enable the volume of renewable gas (and pricing) to be used for this purpose in its Renewable Gas Delivery Strategy. As discussed in section 2, we have identified significant risks associated with this approach. We subsequently concluded (as described in section 6.4.2) that the corresponding infrastructure investment required to enable the introduction of renewable gas for this purpose is not likely to meet the NGR.

Assumed gas price

790. For the purpose of its AAI, ATCO has assumed pricing for its replacement UAFG as shown in Table 7.7 and which includes an increase based on current market trends for natural gas pricing. ATCO states that it will update the UAFG pricing based on actual tendered UAFG pricing rates in line with ATCO's procurement processes, in a revised submission to ERA.[262]

[262] ATCO 09.008 UAFG Strategy and Forecast, page 5

Table 7.7: Price of gas included in AA6, $ per GJ

	2025	2026	2027	2028	2029
Natural gas	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Biomethane	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Hydrogen	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Source: EMCa analysis of ATCO 09.008 UAFG Strategy and Forecast Table 5 and Table 6 [CONFIDENTIAL]

791. ATCO's approach to pricing natural gas is reasonable and prudent. The forecast unit rate for AA6 will be subject to change via a tender process to begin in late 2023. For other gases, the price is speculative as there is not a demonstrated market for the supply of these gases.

792. In its AAI, ATCO recognises the limited availability of biomethane[263]

> *'However, production of biogas and biomethane in WA is currently limited, with infrastructure investment required to scale up production and distribution.'*

793. Also in its AAI, ATCO refers to the purchase and surrender of offsets in the event of no or limited available supply of renewable gases to deliver on its objectives. We do not observe that any costs associated with this initiative have been included in the development of the UAFG forecast opex.

Summary of our assessment

794. Our primary considerations for our current assessment under the current Rules, are that:

- there is a higher cost for the alternatives, and no obligation under the Rules for ATCO to incur such higher costs or to recover this through its tariffs;
- The alternative gas sources are not currently available, and therefore their assumed availability is speculative, as are the assumed prices, and
- As described in section 6.4.2, we consider that the injection facilities that would be needed to accept these gases do not meet the capex criteria under the Rules.

795. We therefore consider that the proposed cost of UAFG is overstated for these reasons. For an alternate cost, we consider that the assumed volumes are reasonable, but that this should be costed at the price of natural gas. This results in a reduced forecast of $29.7 million for AA6.

7.7 Assessment of Ancillary services

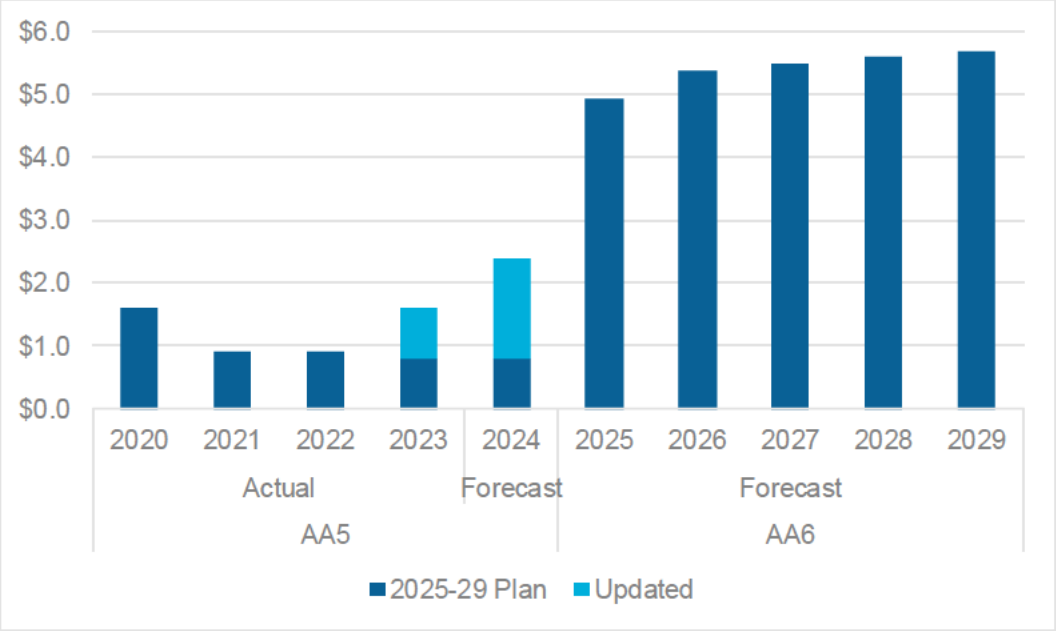
7.7.1 ATCO's proposal

ATCO's proposed AA6 opex increase is driven largely by re-classification of an ancillary service and the forecast demand for services

796. ATCO proposes a significant step increase in its cost of Ancillary Services as shown in Figure 7.4.

263 ATCO AAI, page 20

Figure 7.4: ATCO AA5 actual and AA5/AA6 forecast Ancillary Services opex ($m, real Dec 2023)



Source: EMCa graph derived from ATCO, Attachment 09.020 – Base Step Trend Opex Forecast Model and response to IR EMCa49

797. We have included updates to the costs incurred in 2023 and expected to be incurred in 2024, totalling $1.6 million and $2.5 million respectively in Figure 7.4. [264]

798. In its Base Step Trend Opex Forecast Model, the annual average ancillary services opex was expected to be $0.9 million in the AA5 period, increasing to an average of $5.4 million across the AA6 period.[265] We note that with ATCO's updated advice regarding its actual and expected 2023 and 2024 Ancillary services opex, the average annual AA5 spend would be $1.5m.

799. The majority of the step increase evident between AA5 and AA6 results from ATCO's proposed inclusion of 'Permanent disconnections' as a reference service. We have based our assessment on ATCOs proposed change of classification which accounts for $11.4 million of the $27.1 million opex forecast for Ancillary Services in AA6. The balance is in response to the proposed increase in the forecast demand for the services included by ATCO.

800. We summarise our proposed adjustments in Table 7.8.

7.7.2 Our assessment

We have relied on ATCOs forecast volumes of services for our assessment

801. The forecast demand for services is based on ATCOs demand forecast undertaken by CORE, and which we have relied upon for our assessment, in accordance with our scope. CORE produced the forecasts for ATCO and it considers that the best bases for the forecast are (i) an increasing trajectory between 2023-24, which recovers from the impacts of COVID-19 in 2020-2022, and (ii) a forecast for AA6 that 'has regard' to the average rate between 2015 and 2019.

802. We reviewed the compound annual growth rates (CAGR) of the ancillary services provided by ATCO. On first review, it appeared that the forecasts are surprisingly strong, with CAGRs up to 13.8%.[266] Figure 7.5 shows (i) the increase in 2023 and 2024, which is a feature of all seven of CORE's ancillary services component forecasts, and (ii) the assumed

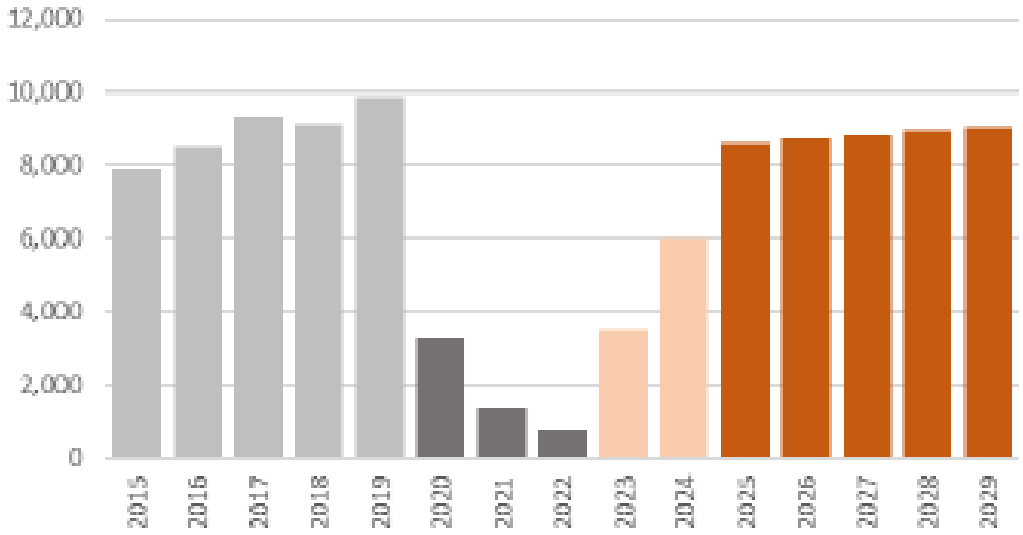
264 ATCO response to IR EMCa49

265 09.020 - Base Step Trend Opex Forecast Model - Clean

266 ATCO, 2025-29 AAI, Table 7.7

recovery in the AA6 period of demand for meter lock applications. This is representative of the forecasts for all the ancillary services.

Figure 7.5: Historical and forecast number of meter lock applications



Source: ATCO, Attachment 07.001 – Core Energy – Gas Demand Forecast, Figure 8.1

803. Accordingly, any change in the forecast for services (for example, following advice that ERA has separately engaged) will have a direct impact on the proposed cost for ancillary services.

The unit rates applied for ancillary services lead to a reasonable estimate of the required opex

804. ATCO's unit rates for ancillary services are based on the current (2023) costs of providing the services,[267] noting that this differs from the stated methodology in ATCO's Unit Rates Forecast report (which applies the three year historical average from 2020 – 2022).[268] Three of the 2023 unit rates are higher than the respective three-year averages and the other four are lower. We compared the outcome of applying the two methods – namely application of the three-year average unit rates results in a total opex that is 1% higher than application of the 2023 unit rates. On balance, we are satisfied that the unit rates that ATCO has used are reasonable.

805. Overall, we consider that the forecast Ancillary services opex is reasonable.

7.8 EMCa adjustment assessment

7.8.1 Source of adjustments

806. Our assessment of adjustments results from:

- Adjustments to ATCO's methodology and assumptions for forecasting the aggregate of Network, Corporate and IT components using a base-step-trend approach; and
- An adjustment to ATCO's forecast UAFG cost, based on the ongoing use of natural gas.

807. We have not recommended adjustment of ATCO's proposed Ancillary Services costs.

267 ATCO, Attachment 09.020 – Base Step Trend Opex Forecast Model, Inputs

268 ATCO, Attachment10.023 Unit Rates Forecast, Table 8.5

7.8.2 Adjustments to ATCO's proposed opex allowance

Summary of adjustments and overall impact for proposed opex allowance

808. Our assessed adjustment to ATCO's base-step-tend derived forecast results from:

- Commencing with ATCO's adjusted base year 2022 actual opex;
- Applying different adjustments in establishing the base opex value;
- Applying different opex step amounts; and
- Applying different escalation factors.

809. Our assessed adjustment to the components that ATCO has forecast using a base-step-trend approach, is an opex allowance reduction (over 5 years) of $85.1 million. This represents 19% of ATCO's proposal for $455.9 million.

810. For UAFG, we have assessed the required opex based on the provided volume and price of natural gas, rather than inclusion of a proportion of renewable gases as assumed by ATCO.

Our adjustment assessment

811. In Table 7.8, we present our assessment of the impact of our findings on ATCO's proposed opex. For clarity, and to show the materiality of each of the issues we have identified, we have laid out each of the elements in the adjustment calculation, with a side-by-side comparison of ATCO's calculations and our adjusted calculations. Stepping through the calculations in the table, we have:

- Firstly set out the adjustments that ATCO made to its base year opex;
- Set out the adjustments that we have made to its base year value;
- Set out the deductions from the base year for UAFG and Ancillary services that ATCO and ourselves both make;
- Used this value to form a base for each of the five years of AA5, and so the aggregate amount for AA5 is five times the adjusted base year amount; and
- finally, we have added the allowances for step changes, rate-of-change effects and the category-specific costs (UAFG and Ancillary services). These amounts are aggregates for the five years, noting that the line items vary from year to year.

812. Our adjustments to ATCO's base year are directed to renewable gas projects, corporate support costs, stakeholder engagement opex, and staff incentives leading in aggregate to $9.8 million less opex per annum in the base year, or $49 million over five years.

813. Our adjustments to eight of the eleven step changes proposed by ATCO result in an aggregate adjustment of $30.4 million over the AA6 period, with the three largest adjustments being to SaaS, enabling renewable gasses, and cyber security.

814. The proposed adjustment to the rate of change allowance is derived from our finding that ATCO has overstated labour cost escalation, with a net impact of $4.6 million.

815. Reduced UAFG forecast results in a further $1.1m reduction over the period.

Other considerations

816. As we have described elsewhere in the report, our scope of work is to undertake our assessment assuming ATCO's demand forecasts as our working assumption. If the ERA was to determine different demand forecasts for these factors (including customer growth) that ATCO includes in its 'growth' trending, then this will affect the Opex BST forecast. For the purpose of our review, we show no adjustment for growth.

817. Similarly, we have referred in our report to ERA considering whether to apply an annual productivity improvement factor, noting that ATCO has claimed cost efficiency benefits for some AA5 and AA6 proposed investments. While we show no adjustment in our adjustment table, an ERA determination to include such a productivity factor will similarly affect the opex BST forecast.

Table 7.8: Assessment of resulting adjustments to AA6 opex ($m, real Dec 2023)

Description	ATCO Proposal	EMCa adjusted	EMCa adjustment
Definition of base opex			
ATCO unadjusted base opex (2022)	74.7		
less ATCO adjustment for non-recurrent opex	-8.0		
ATCO base after ATCO adjustments	**66.7**	**66.7**	**0.0**
Adjustments to base opex			
Adjustments to Network, Corporate and IT:			
CEIH and blending projects		-0.3	-0.3
Corporate Other Support costs		-6.8	-6.8
Stakeholder engagement		-1.0	-1.0
Staff incentives		-1.7	-1.7
Aggregate adjustments to Network, Corporate and IT	**0.0**	**-9.8**	**-9.8**
Deduct UAFG and Ancillary Services in 'base'			
UAFG	-3.3	-3.3	
Ancillary Services	-0.9	-0.9	
UAFG and Ancillary Services allowances	**-4.2**	**-4.2**	**0.0**
Efficient base year opex (for application to BST)	**62.5**	**52.7**	**-9.8**
Efficient base opex for BST, extrapolated to 5 yrs	**312.6**	**263.6**	**-49.0**
Step changes (aggregate amount over 5 years)			
Enabling renewable gases	7.3	0.0	-7.3
Superannuation guarantee rate increase	2.6	2.6	0.0
Cyber security	4.5	0.0	-4.5
Gas inspection - safety changes	1.0	1.0	0.0
PPE opex threshold increase	0.9	0.9	0.0
ERP replacement	4.1	0.6	-3.4
Economic regulatory changes	2.0	0.0	-2.0
Pipeline Inline Inspections	6.3	4.2	-2.1
AA7 Regulatory Preparation and RORI review	6.1	5.2	-0.8
Software as a service arrangements (SaaS)	27.3	17.6	-9.7
Managed IT Services Tender	0.5	0.0	-0.5
Total step changes	**62.6**	**32.2**	**-30.4**
Rate of change over AA6			
Output growth	10.4	10.4	0.0
Real cost escalation	12.4	7.8	-4.6
Productivity factor	0.0	0.0	0.0
Total for rate of change	22.9	18.3	-4.6
Total BST	**398.1**	**314.1**	**-84.0**
Category-specific			
UAFG	30.8	29.7	-1.1
Ancillary services	27.1	27.1	0.0
Total for category-specific	**57.9**	**56.8**	**-1.1**
Total AA6 opex allowance	**455.9**	**370.8**	**-85.1**

Source: EMCa analysis referring to ATCO, Attachment 09.020 – Base Step Trend Opex Forecast Model

APPENDIX A - REVIEW FRAMEWORK

818. In this appendix we firstly provide a summary of the requirements of the NGL[269] and the NGR,[270] and describe the review framework (based on the requirements of the NGL and NGR) that we have applied in our assessment of the capex and opex proposals included in ATCO's revised access arrangement.

819. We have not been requested by the ERA to document compliance of the capex and opex proposals with the individual rules and tests included in the NGR as a part of our assessment.

A.1 National Gas Law and National Gas Rules

820. As the owner (service provider) of a covered pipeline, ATCO is required to submit a full AA to the ERA and to obtain its approval for the price and non-price terms and conditions of access to the reference service(s) ATCO provides through the Mid-West and South-West distribution systems. The current AA expires on 31st December 2024.

821. When assessing the AA, the ERA is required to have regard to:

- the access arrangement provisions set out in Part 8 of the NGR;
- the price and revenue regulation provisions set out in Part 9 of the NGR; and
- the National Gas Objective (NGO) and the revenue and pricing principles (RPP) set out in sections 23-24 of the NGL.

822. Of particular relevance in this context are the provisions the ERA is required to consider when assessing the capex and opex elements of ATCO's revised AA proposal, which are set out in Part 9 of the NGR. An overview of these provisions is provided below.

A.2 Capex provisions

823. By virtue of the operation of rules 77(2)(b) and 78(b)[271] , the ERA is required to carry out both:

- an ex post assessment of the capex incurred (or to be incurred) by ATCO in AA5 to determine whether it satisfies the conforming capex criteria in rule 79(1); and
- an ex ante assessment of the capex ATCO proposes to incur in AA6 to determine whether it is likely to satisfy the conforming capex criteria in rule 79(1).

824. Conforming capex is defined in rule 79(1) as capex that satisfies the following criteria:

- the capex 'must be such as would be incurred by a prudent service provider acting efficiently, in accordance with good industry practice, to achieve the lowest sustainable cost of delivering pipeline services' (the 'prudent service provider test') (r. 79(1)(a)), and
- the capex must be justifiable on one of the following grounds (r. 79(1)(b)):

269 The National Gas Access (WA) Act 2009 adopts a modified version of the National Gas Law (National Gas Access (Western Australia) Law).

270 Under the National Gas Access (Western Australia) Law, the National Gas Rules applying to Western Australia is version 1 of the National Gas Rules, as amended by the AEMC in accordance with its rule making power under section 74 of the National Gas Access (Western Australia) Law.

271 Rule 77(2) sets out how the opening value of the capital base at the commencement of a new AA period is to be calculated, while rule 78 sets out the value of the capital base during the AA period is to be calculated. In short, these two rules only allow conforming capex to be rolled into the value of the capital base.

- the overall economic value of the expenditure is positive (the 'economic value test') (r. 79(2)(a));[272] or
- the present value (PV) of the expected incremental revenue exceeds the PV of the capex (the 'incremental revenue test') (r. 79(2)(b));[273] or
- the capex is necessary to:
  - maintain and improve the safety of services (r. 79(2)(c)(i)); or
  - maintain the integrity of services (r. 79(2)(c)(ii)); or
  - comply with a regulatory obligation or requirement (r. 79(2)(c)(iii)); or
  - maintain the service provider's capacity to meet levels of demand for services existing at the time the capex is incurred (r. 79(2)(c)(iv)); or
- the capex is divisible into two parts, with one part referable to incremental services and justifiable under 79(2)(b) and the other part referable to a purpose under 79(2)(c) and justifiable on this basis (r. 79(2)(d)).

825. Finally, in determining whether capex is efficient and complies with other criteria prescribed in the rules, rule 71 states that the ERA may, without embarking on a detailed investigation, infer compliance from the operation of an incentive mechanism or any other basis the ERA considers appropriate. It must, however, consider, and give appropriate weight to, submissions and comments received.

A.2.1 Conforming capex vs non-conforming capex

826. Where the capex proposed by ATCO (in whole or in part) is found to:

- satisfy rule 79, it will be considered conforming capex for the purposes of rules 77(2) and 78 and rolled into the capital base (i.e. it will be included in the derivation of the reference tariff(s)); or
- not satisfy rule 79, it will be considered non-conforming capex and excluded from the capital base (i.e. it will be excluded from the reference tariff(s)).

827. In this context that while non-conforming capex cannot be recovered through the reference tariff(s), ATCO may still undertake this form of capex and either:

- recover that expenditure, or a portion thereof, through a surcharge (r. 83) or a capital contribution (r. 82); or
- include the investment in a notional fund, referred to as the 'speculative capital expenditure account', which may be rolled into the capital base at a later date if the capex is found to satisfy the conforming capex criteria (r. 84).

A.3 Opex provisions

828. The criteria the ERA is required to consider when assessing ATCO's proposed opex for AA4 are set out in rule 91 of the NGR, which is reproduced below:

---

272 Rule 79(3) sets out the matters to be considered when applying the economic value test. In short, this rule only allows consideration to be given to the economic value directly accruing to the service provider, gas producers, users and end-users when determining whether the overall economic value of the capex is positive.

273 Rule 79(4) sets out what is to be considered when applying the incremental revenue test. In short, this rule requires:

– a tariff to be assumed for the incremental services based on (or extrapolated from) prevailing reference tariffs, or an estimate of the reference tariffs that would have been set for comparable services if those had been reference services; and

– incremental revenue to be taken to be the gross revenue to be derived from the incremental services less incremental opex; and

– the discount rate is to be based on the rate of return implicit in the reference tariff.

Operating 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 delivering pipeline services.

829. In a similar manner to capex, rule 71 states that in determining whether opex is efficient and complies with other criteria prescribed in the rules, the ERA may, without embarking on a detailed investigation, infer compliance from the operation of an incentive mechanism or any other basis the ERA considers appropriate. It must, however, consider, and give appropriate weight to, submissions and comments received.

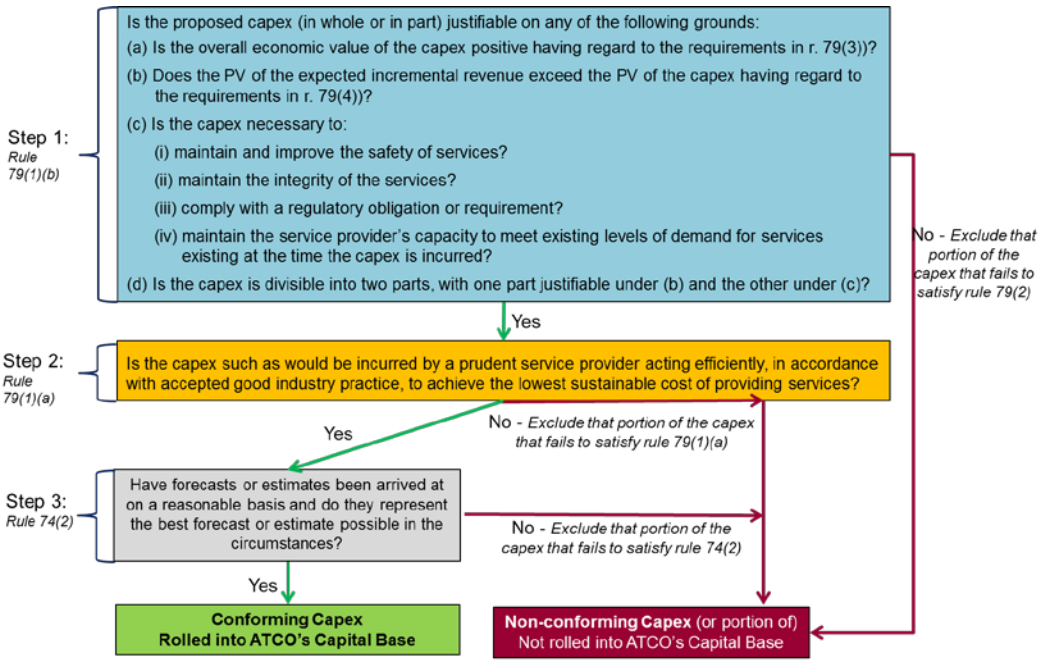
A.4 Assessment framework

830. An overview of the frameworks we have used to assess ATCO's capex and opex proposals is provided below.

A.4.1 Capex assessment framework

831. The framework we have used to assess whether the capex incurred (or to be incurred) by ATCO in AA5 and its proposed capex for AA6 can be considered conforming capex is depicted in the figure below.

Figure A.1: Capex assessment framework



Source: EMCa

832. As the figure above highlights, the framework consists of three steps, which are based on the specific requirements set out in rules 79 and 74(2). Where there is discretion as to which ground is relevant under rule 79(2), we have based our assessment on the grounds that ATCO has identified, and we have reviewed the evidence ATCO has provided in support of this ground. Further detail on the matters we have considered in each step is provided below.

Step 1: Is the expenditure justifiable on a ground set out in rule 79(2)?

833. The first matter we have considered when assessing ATCO's capex proposal is whether the expenditure can be justified on any of the grounds set out in rule 79(2).

834. For those capex projects (or a portion thereof) that ATCO has claimed the economic value is positive (r. 79(2)(a)) or that the expenditure satisfies the incremental revenue test (r. 79(2)(b)), we have had regard to a range of matters, including:

- rules 79(3) and 79(4), which set out how the economic value of a project and the present value of incremental revenue are to be calculated; and
- the analysis ATCO provided in support of its claim and its underlying assumptions.

835. For those capex projects (or a portion thereof) where ATCO has claimed the expenditure is necessary to maintain the safety or integrity of the services, comply with a regulatory obligation and/or maintain the capacity to meet existing levels of demand (r. 79(2)(c)), we have, amongst other things, had regard to:

- ATCO's Asset Management Plan (AMP);
- the WAGN Gas Distribution System Safety Case (Safety Case) and the formal safety assessments (FSA) carried out by ATCO;
- the Gas Standards (Gas Supply and System Safety) Regulations 2000;
- Australian Standards AS/NZS4645 (Gas Distribution Networks) and AS2885 (Pipelines – Gas and Liquid Petroleum Pipelines);
- other regulatory requirements that ATCO is required to comply with; and
- the analysis ATCO provided in support of its claim and its underlying assumptions.

836. As the figure above indicates, if the capex project in whole, or in part, is found to:

- be justified under rule 79(2), we have then considered whether it satisfies the prudent service provider test in rule 79(1)(a) (Step 2); and
- not be justified under rule 79(2), then we have deemed the expenditure to be non-conforming capex.

Step 2: Does the capex satisfy the prudent service provider test in rule 79(1)(a)?

837. The second matter we have considered is whether the proposed expenditure on capex projects that are justified under rule 79(2) is 'such as would be incurred by a prudent service provider acting efficiently, in accordance with good industry practice, to achieve the lowest sustainable cost of providing the service'.

838. In conducting this assessment, we have considered a range of matters (some of which are more or less relevant to particular projects or programmes of work), including:

- the project governance framework employed by ATCO, the key elements of which are ATCO's: business planning process; AMP and Safety Case; investment governance arrangements; IT strategy and AMP; forecasting methodology; procurement policies; and risk management plan;
- the project management and procurement processes employed by ATCO on particular projects and the nature of any outsourcing arrangements it has entered into (e.g. competitive tender or related party transaction);
- ATCO's capability to deliver the proposed projects efficiently in the time proposed;
- the extent to which ATCO has adequately assessed and accounted for any benefits from productivity or efficiency enhancing programs (benefits realisation);
- the actual costs incurred by ATCO in AA5 relative to what it has proposed for AA6;
- ATCO's compliance with Australian standards: AS/NZS4645 and AS2885; and
- benchmarking of approaches and/or costs against other gas pipelines and/or regulated businesses provided by ATCO.

839. As the figure above indicates, where the expenditure in whole, or in part, is found to:

- satisfy the prudent service provider test, we have considered whether the proposed expenditure satisfies rule 74(2) (Step 3); and

- not satisfy the prudent service provider test, then we have excluded that portion of the expenditure that is deemed to fail this test.

Step 3: Do any forecasts or estimates comply with rule 74(2)?

840. The final matter we have considered is whether the forecasts or estimates underlying those capex projects that are justifiable under rule 79(2) and satisfy the prudent service provider test, have been arrived at on a reasonable basis and represent the best forecast or estimate possible in the circumstances, as required by rule 74(2).

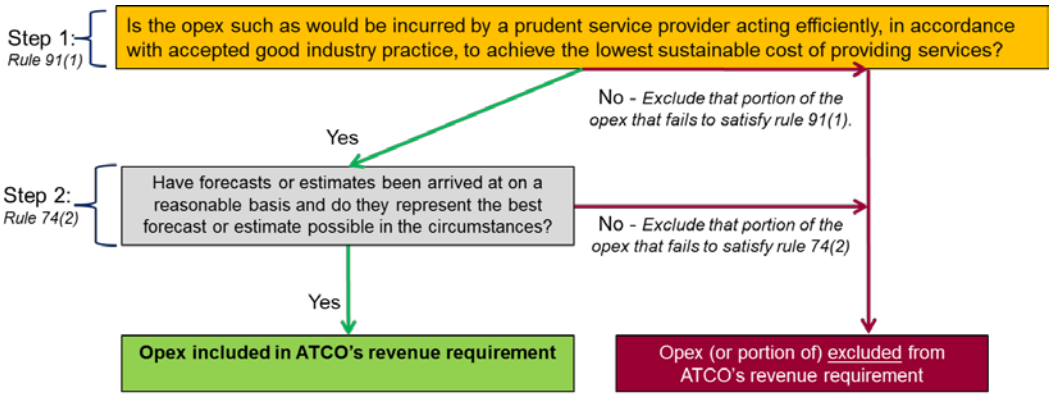
841. As the figure above highlights, where the forecasts and/or estimates are found to:

- satisfy this rule, the proposed expenditure has been deemed to comply with the conforming capex criteria; and
- not satisfy this rule, then we have excluded that portion of the expenditure that fails to satisfy this rule, on the grounds that a prudent service provider would not expect to incur this expenditure (r. 79(1)(a)).

Opex assessment framework

842. The figure below sets out the framework we have used to assess ATCO's proposed AA6 opex.

Figure A.2: Opex assessment framework



Source: EMCa

843. The questions considered under steps 1 and 2 of this framework are broadly the same as those considered under steps 2 and 3 of the capex assessment framework. The matters that we have considered when applying this framework are therefore largely the same as those set out in the earlier section of this Appendix, albeit focused on opex rather than capex.

844. The only additional matters that we have considered under Step 1 of this framework, which are not relevant to capex are:

- the methods used by ATCO's parent company (the ATCO Group) to allocate corporate overheads to ATCO and the extent to which:
  - the ATCO Group provides services that justify this as an expenditure item recoverable through regulated tariffs; and
  - there is any overlap in services provided by ATCO and the ATCO Group.
- the nature of any discretionary opex projects proposed by ATCO (e.g. business development and marketing) and the extent to which these projects are expected to yield a net economic benefit for consumers.

APPENDIX B – AA6 CAPEX ADJUSTMENTS BY ASSET CATEGORY

845. The following table shows AA6 capex adjustments by asset category, to assist ERA in the event that it decides to apply such adjustments in its determination of ATCO's required revenue.

Table B.1: AA6 capex adjustments by asset category

Code	Asset Category	2025	2026	2027	2028	2029	Total AA6
HP	**High Pressure Mains - Steel**						
	ATCO proposed	6.0	5.7	8.3	7.2	7.5	34.6
	EMCa project/programs adjustment	-3.7	-3.5	-1.6	-1.4	-1.5	-11.6
	escalation adjustment	0.0	0.0	0.0	0.0	0.0	-0.1
	o/head capex allocation adjustment	-0.1	-0.1	-0.1	-0.1	-0.1	-0.5
	EMCa adjusted	2.3	2.2	6.5	5.6	5.9	22.4
M&LP	**Medium / Low Pressure Mains**						
	ATCO proposed	38.5	39.3	39.8	38.5	38.1	194.2
	EMCa project/programs adjustment	-1.5	-3.1	-1.3	-1.2	-1.2	-8.3
	escalation adjustment	0.0	-0.1	-0.1	-0.1	-0.1	-0.4
	o/head capex allocation adjustment	-0.8	-0.9	-0.8	-0.8	-0.8	-4.2
	EMCa adjusted	36.2	35.3	37.6	36.3	35.9	181.3
R	**Regulators**						
	ATCO proposed	4.9	2.2	2.2	2.2	2.2	13.8
	EMCa project/programs adjustment	-2.2	-0.5	-0.5	-0.5	-0.5	-4.1
	escalation adjustment	0.0	0.0	0.0	0.0	0.0	0.0
	o/head capex allocation adjustment	-0.1	0.0	0.0	0.0	0.0	-0.2
	EMCa adjusted	2.6	1.7	1.7	1.7	1.7	9.5
GS	**Secondary Gate Stations**						
	ATCO proposed	3.8	2.6	2.6	2.7	2.7	14.3
	EMCa project/programs adjustment	-3.1	-2.1	-2.1	-2.1	-2.1	-11.4
	escalation adjustment	0.0	0.0	0.0	0.0	0.0	0.0
	o/head capex allocation adjustment	0.0	0.0	0.0	0.0	0.0	-0.1
	EMCa adjusted	0.7	0.5	0.5	0.5	0.5	2.8
STEQ	**Buildings**						
	ATCO proposed	1.6	3.7	0.5	0.4	0.5	6.7
	EMCa project/programs adjustment	-0.1	0.0	0.0	0.0	0.0	-0.2
	escalation adjustment	0.0	0.0	0.0	0.0	0.0	0.0
	o/head capex allocation adjustment	0.0	0.0	0.0	0.0	0.0	0.0
	EMCa adjusted	1.6	3.6	0.4	0.4	0.4	6.5
M&SP	**Meter and Services Pipes**						
	ATCO proposed	30.3	31.6	32.6	33.8	34.0	162.3

Code	Asset Category	2025	2026	2027	2028	2029	Total AA6
	EMCa project/programs adjustment	-1.0	-0.9	-0.9	-1.2	-0.9	-4.7
	escalation adjustment	-0.1	-0.1	-0.1	-0.1	-0.2	-0.5
	o/head capex allocation adjustment	-0.7	-0.7	-0.7	-0.7	-0.7	-3.6
	EMCa adjusted	28.7	29.9	30.9	32.0	32.2	153.6
P&E	**Equipment & Vehicles**						
	ATCO proposed	0.9	0.9	0.9	0.9	0.9	4.6
	EMCa project/programs adjustment	0.0	0.0	0.0	0.0	0.0	0.0
	escalation adjustment	0.0	0.0	0.0	0.0	0.0	0.0
	o/head capex allocation adjustment	0.0	0.0	0.0	0.0	0.0	0.0
	EMCa adjusted	0.9	0.9	0.9	0.9	0.9	4.6
V	**Vehicles**						
	ATCO proposed	3.8	2.3	1.4	2.4	2.8	12.6
	EMCa project/programs adjustment	0.0	0.0	0.0	0.0	0.0	0.0
	escalation adjustment	0.0	0.0	0.0	0.0	0.0	0.0
	o/head capex allocation adjustment	0.0	0.0	0.0	0.0	0.0	0.0
	EMCa adjusted	3.8	2.3	1.4	2.4	2.8	12.6
IT	**Information Technology**						
	ATCO proposed	4.0	3.7	2.7	1.9	0.7	13.0
	EMCa project/programs adjustment	-2.6	-1.6	-1.5	-0.7	-0.7	-7.2
	escalation adjustment	0.0	0.0	0.0	0.0	0.0	0.0
	o/head capex allocation adjustment	0.0	0.0	0.0	0.0	0.0	0.0
	EMCa adjusted	1.4	2.1	1.1	1.1	0.0	5.7
T&M	**Telemetry and monitoring**						
	ATCO proposed	1.9	1.8	2.0	2.0	1.9	9.6
	EMCa project/programs adjustment	-0.7	-0.6	-0.4	-0.3	-0.2	-2.2
	escalation adjustment	0.0	0.0	0.0	0.0	0.0	0.0
	o/head capex allocation adjustment	0.0	0.0	0.0	0.0	0.0	-0.2
	EMCa adjusted	1.2	1.2	1.6	1.6	1.6	7.2
	TOTAL						
	ATCO proposed	**95.8**	**93.8**	**93.0**	**91.9**	**91.3**	**465.8**
	EMCa project/programs adjustment	-14.7	-12.2	-8.3	-7.3	-7.2	-49.6
	escalation adjustment	-0.1	-0.2	-0.2	-0.3	-0.3	-1.1
	o/head capex allocation adjustment	-1.7	-1.7	-1.8	-1.8	-1.8	-8.7
	Total EMCa adjusted	**79.4**	**79.8**	**82.7**	**82.7**	**82.0**	**406.3**

Source: EMCa analysis