2020-24 Revised Plan

Access Arrangement Information for
ATCO's Mid-West and South-West Gas
Distribution System

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2020-24 Revised Plan

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Abbreviations and document notes

AA4	ATCO's fourth Access Arrangement (2014-19)
AA5	ATCO's fifth Access Arrangement (2020-24)
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ALARP	As low as reasonably practicable
ATCO	ATCO Gas Australia
BD	Business development
BST	Base-Step-Trend (method)
C&I	Commercial and Industrial (customers)
CAPEX	Capital Expenditure
CEIH	Clean Energy Innovation Hub
COAG	Council of Australian Governments
Core	Core Energy Group
DBNGP	Dampier to Bunbury Natural Gas Pipeline
DRP	Debt Risk Premium
DWAT	Discounted Weighted Average Tariff
DVM	Diminishing Value Method (depreciation)
EDD	Effective Degree Day
EOL	End of life
ERA	Economic Regulation Authority
ERP	Enterprise Resource Planning (system)
FCM	Financial Capital Maintenance
GDS	Gas Distribution System
GJ	Gigajoule - one billion (10^9) joules
GSSSR 2000	Gas Standards (Gas Supply and System Safety) Regulations 2000
HDCU	High Density Community Use
HHV	Higher Heating Value
HP	High Pressure
HSE	Health, Safety, and Environment
IGC	Investment Governance Committee
IT	Information Technology
KPI	Key Performance Indicator
LTIFR	Lost Time Injury Frequency Rate
MIN	Mining, energy and water industry (sectors)
MRP	Market Risk Premium
MHQ	Maximum Hourly Quantity
NGL	National Gas Access (Western Australia) Law
NGO	National Gas Objective
NGR	National Gas Rules
NIS	Network Innovation Scheme
OPEX	Operating Expenditure
PE	Polyethylene
PGP	Parmelia Gas Pipeline
PRS	Pressure Reduction Station
PVC	Unplasticised Polyvinyl Chloride
RAB	Regulatory Asset Base
R&D	Research and Development

SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SCADA	Supervisory Control and Data Acquisition
SLM	Straight Line method (depreciation)
SME	Small-to-Medium Enterprises
TAB	Tax Asset Base
TJ	Terajoule - one trillion (10^{12}) joules
UAFG	Unaccounted for Gas
VoC	Voice of Customer
WA	Western Australia
WACC	Weighted Average Cost of Capital

Document notes:

- All forecast and past expenditure values are expressed in real dollars as at 31 December 2019 unless otherwise stated.
- Distribution charges are in nominal dollars unless otherwise stated.
- All revenue amounts are expressed in nominal dollars unless otherwise stated.
- Some tables may not add up due to rounding.
- Where tables show the value '0.0' (where the table is listed in 'millions'), the amount is typically positive, but is below 50,000, and has therefore been rounded to 0.0. Where a cell shows '-', the figure is actually zero.
- This document should be read in conjunction with ATCO's 2020-24 Plan submitted to the Economic Regulation Authority on 31 August 2018.
- Due to updated information since the submission of the 2020-24 Plan, some numbers will have changed:
  - **AA4:** AA4 numbers have changed due to updates in 2018 Actuals, 2019 refreshed forecast, and an updated inflation rate.
  - **AA5:** AA5 forecasts have changed due to changes in overhead calculation, labour cost escalation and an updated inflation rate.

Foreword from the President

We submit this 2020-24 Revised Plan in response to the ERA's Draft Decision on 18 April 2019. Although much of our submitted Plan was accepted, the Draft Decision included several required amendments, mainly to our capex and opex programs, and the terms and conditions for our reference services.

This Revised Plan details our response to the ERA's required amendments, including those that we accept, and those where we have provided more evidence in support of our original submission. We are confident that this additional information will allow the ERA to make a more informed Final Decision later this year.

ATCO is a global energy and infrastructure company with a large presence across Australia. In Western Australia, we are the business that delivers gas to over 760,000 customers. We are the business that keeps our gas supply safe and reliable. In the event of an incident involving gas, we are the business that attends to gas leaks, gas outages, and emergencies. If you smell gas or notice a problem with gas, simply call 13 13 52 any time of the day or night, and you will be connected to our local contact-centre, based right here in Perth. The contact-centre will dispatch our highly trained gas technicians to attend to every incident, to ensure the safety of our customers, our employees, and the public. There is no greater priority to ATCO than the safety and well-being of the people that make up the communities in which we operate.

I want to acknowledge the Aboriginal people as the Traditional Custodians of the land on which we operate, and to pay our respect to their cultures and Elders, past and present. In the spirit of reconciliation, we are committed to working together for our shared future. ATCO globally has a long history of valuing the importance of indigenous owners, including partnerships with the First Nations in Canada.

Our business continues to expand with the WA population and economy, **with over 18,000 new residential customers, and nearly 600 new commercial and industrial customers, each year over AA4.**

In addition to the extensive Voice of Customer program supporting our original submission, we have continued to seek the views of our customers and stakeholders in preparation of this Revised Plan. We have used these views along with changes in the operating environment to inform our Revised Plan.

> In addition to the extensive Voice of Customer program supporting our original submission, we have continued to seek the views of our customers and stakeholders in preparation of this revised plan.

Affordability continues to remain at the forefront of our planning. We have an excellent track record with ATCO consistently ranked as one of the most efficient energy distribution businesses in Australia. Our operating costs per customer remain the lowest in the country, and our customer satisfaction rating the highest; a remarkable combination. This Revised Plan proposes to maintain high levels of service, safety, reliability and affordability.

We recognise that this is an important and challenging time for the Australian energy sector, with issues such as energy security, energy costs and the global trend to transition to a low carbon

economy. Natural gas is an enabler in this transition and innovation has never been more important than it is today. Importantly, our customers are telling us that gas will continue to play a role in their energy mix and are looking for innovative and more efficient ways of using gas in the evolving energy supply chain.

ATCO has never been the type of business that waits for things to happen; that is why we are developing the Clean Energy Innovation Hub (CEIH) at our major depot in Jandakot. The CEIH will investigate and demonstrate how various cleaner energy sources and energy storage solutions can be integrated into an effective energy grid; combining gas (including renewable gases such as hydrogen and biogas), electricity, and heat for use in homes and industry.

Our 2020-24 Revised Plan aligns with the long-term interests of our customers and the economic and social future of Western Australia. I commend it to you, and I look forward to your support for it. Your feedback and questions are welcome.

Stevan Green

President, ATCO Gas Australia.

2020-24 REVISED PLAN HIGHLIGHTS

In August 2018, we submitted our 2020-24 Plan to the ERA. The ERA responded with their Draft Decision not to approve our Plan, requiring 37 amendments. ATCO accepts 24 of these amendments and we have made the relevant changes to our Plan. We do not accept most of the ERA's amendments related to our AA4 and AA5 expenditure, as we believe that the Draft Decision would result in adverse consequences for our customers, our business, and the safety and security of our network.

Our 2020-24 Revised Plan is in response to the ERA's Draft Decision, and builds on our top quartile performance over the previous period. We believe that our 2020-24 Revised Plan aligns with the long-term interests of our customers and the economic and social future of Western Australia.

Enabling the GROWTH OF THE WA ECONOMY...

- Connecting 65,000 new residential customers and over 2,000 C&I customers.
- Collaborating with the other utilities to enable the efficient delivery of upgrade works, minimising the disruption and cost to residents and businesses.
- Introducing the Development Rebate Scheme to facilitate gas reticulation in new commercial subdivisions.

...while supporting a COMPETITIVE RETAIL MARKET...

- Systems and process improvements to support larger volumes of consumers switching retailers.
- Evolving our digital platforms to make it easier for customers to interact with us before they are connected, while they are connected, and when they disconnect.

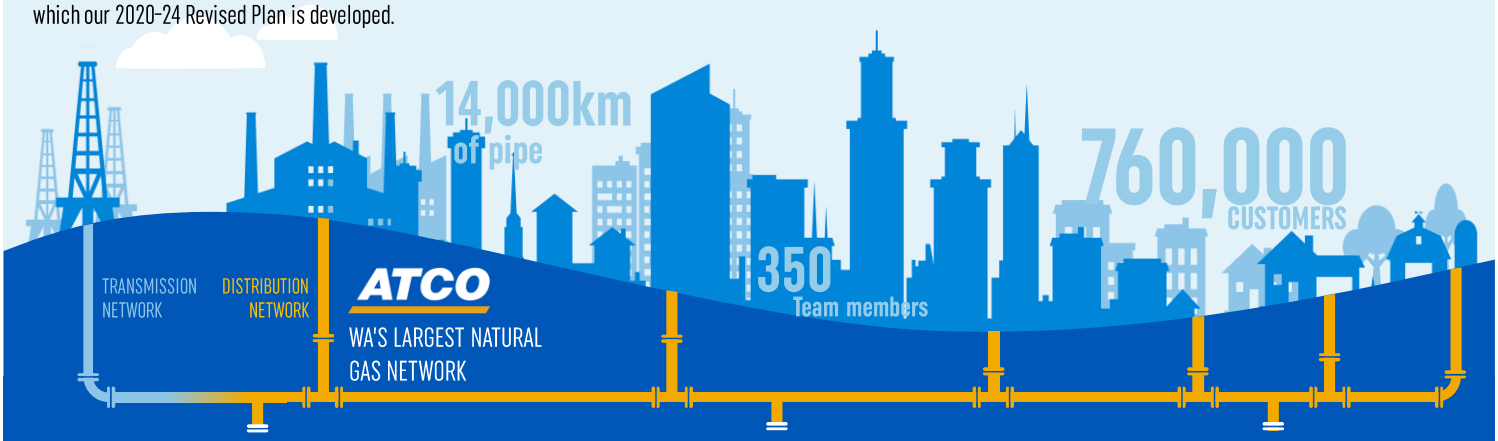
... and building a CLEAN ENERGY FUTURE:

- Ensuring our network designs remain efficient, while transitioning to a cleaner energy future through the introduction of renewable gas e.g. biogas and hydrogen.
- Developing the Clean Energy Innovation Hub at our major depot in Jandakot.

OUR **VOICE OF CUSTOMER** PROGRAM

The VoC program is a key input into our many business activities and projects. Meaningful and ongoing engagement with our customers and communities is at the core of how we operate, and continues to be the foundation on which our 2020-24 Revised Plan is developed.

COMMERCIAL & INDUSTRIAL · BUILDERS & DEVELOPERS · SMALL-MEDIUM ENTERPRISES · PEAK/INDUSTRY BODIES · RESIDENTIAL · RETAILERS



SAFE

ASSET MANAGEMENT: Managing our ageing assets to ensure that our network operates at an acceptable level of risk and complies with the relevant legislation.

EMERGENCY RESPONSE: Maintaining our local contact-centre and our 24/7 operational response field crews to allow us to respond to safety incidents raised by the public in a timely manner.

WORKFORCE SAFETY: Targeted programs such as the step-touch mitigation program and training. Our workforce has a clear focus on the safety and welfare of our customers and the community.

RELIABLE

NETWORK SECURITY: Investing in security of supply by adding additional supplies to critical parts of the network.

NETWORK OPERATIONS: Investments in technology to enable better performance of the network at peak times and improve network resilience against failures.

NETWORK PROTECTION: Supporting construction activities occurring near our assets (in particular high-pressure pipelines) to prevent outages and damage.

REINFORCEMENT: Reinforcing the gas distribution network to maintain reliability as additional customers connect.

AFFORDABLE

MAINTAIN PRICES: Reducing average prices over 2020-24 from 2014-2019. The proposed network for an average residential customer at the end of 2024 is *less than it was at the start of 2015.*

STRONGER INCENTIVES: Introducing stronger incentives through the Development Rebate Scheme to encourage more connections, capitalising on WA's significantly lower gas price compared to the Eastern States.

IT INVESTMENT: Investments in information technology that will maintain efficient delivery of our services.

Executive summary

ATCO Gas Australia (**ATCO**) owns and operates Western Australia's largest natural gas network - delivering natural gas to more than 760,000 homes and businesses. Our company vision is to realise the full potential of our infrastructure for the benefit of our customers, suppliers, retailers, and the broader community.

The period 2014-2019 represents ATCO's fourth access arrangement (**AA4**). On 31 August 2018, we submitted a proposal for our *fifth* Access Arrangement (**AA5**) to the Economic Regulation Authority (**ERA**). Our AA5 proposal covers the five-year period from 1 January 2020 to 31 December 2024.

"We are operating efficiently while also delivering superior customer service, reliability, and safety.
Our 2020-24 Revised Plan will sustain this performance, while responding to an external environment that is becoming increasingly competitive, with our customers looking for innovative and affordable energy solutions."

The ERA responded on 18 April 2019, with their Draft Decision not to approve our proposed revised access arrangement. The ERA has made 37 required amendments, most of these amendments affect the terms and conditions for reference services, with others that reduce our AA4 capex, AA5 capex and AA5 opex. The ERA's Draft Decision was to reject $75.5 million of AA4 capex, $269.6 million of AA5 capex, and $40.5 million of AA5 opex.

ATCO accepts 24[1] of the ERA's 37 required amendments and has made the relevant changes to the access arrangement and associated documents. We do not accept most of the ERA's amendments related to our AA4 and AA5 expenditure, as we believe that implementing the Draft Decision would result in adverse consequences for our customers, our business, and the safety and security of our network. This 2020-24 Revised Plan contains further evidence and justification for our AA4 and AA5 programs.

Our commitment for AA5 is to focus on the long-term interests of customers by providing a safe, reliable, and affordable gas distribution network while supporting a competitive retail market, enabling growth for Western Australia, and building the foundation for a clean energy future. We submit that this 2020-24 Revised Plan satisfies the National Gas Objective:

> *"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 price, quality, safety, reliability and security of supply of natural gas."*

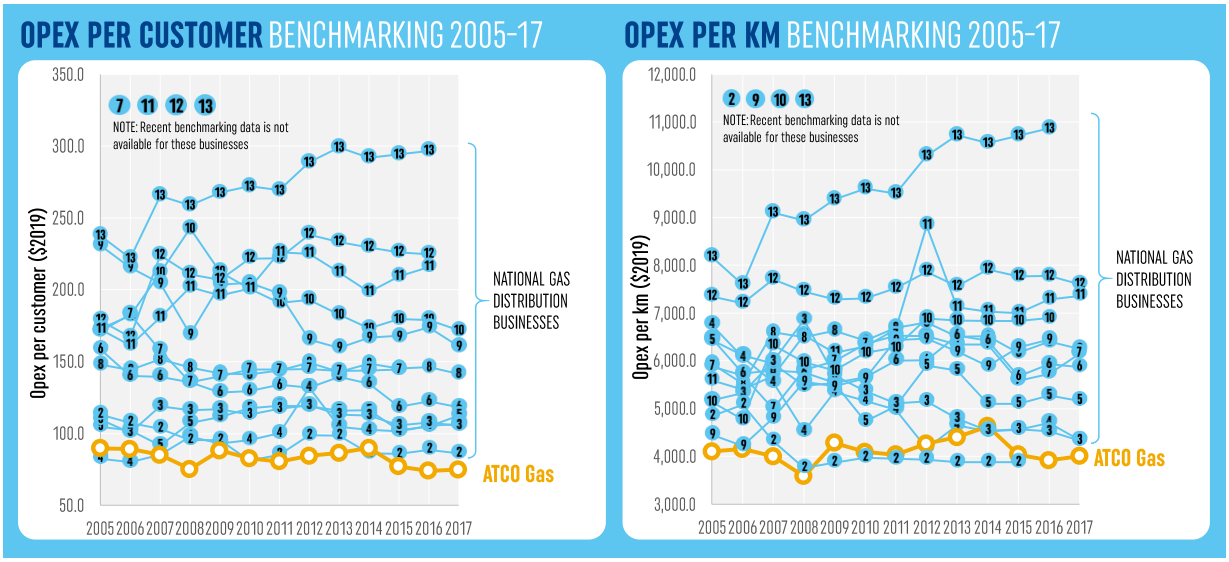
The publication of this 2020-24 Revised Plan is underpinned by a customer and stakeholder engagement program, through which we sought feedback on the Draft Decision, and our planned activities, investment, and proposed services. This plan is robust, efficient, and in the long-term interests of our customers.

1.1 Our strong track record

We are independently recognised as one of the most efficient operators in our peer group, with leading performance in operating expenditure (**opex**) benchmarks (see Figure 1.1).

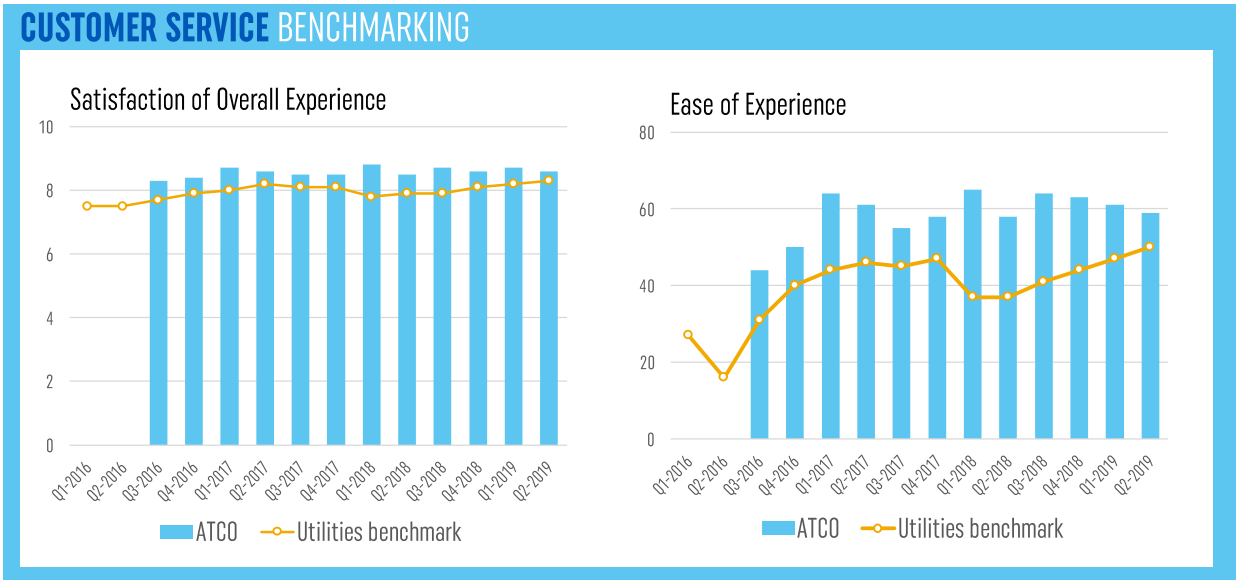
[1] 16 *Accept as required by the ERA*, 8 *Accept with a proposed modification*

Figure 1.1: Operating efficiency benchmarking[2]



We have also been independently recognised for our superior customer service, consistently leading the customer service benchmarking study[3] against our national peers since the study began in 2016 (see Figure 1.2).

Figure 1.2: Customer service benchmarking



Our major achievements since 2014 also include:

- High customer satisfaction rating. 98.5% of our customers rated us as good or excellent when dealing with new connections and faults.
- 99.9% of broken mains are responded to within one hour of receiving notification.
- Providing high reliability of gas supply to our customers, with customers experiencing supply interruptions for less than 0.5%[4] of the time.

2 Attachment 5.1 in the original submission- Benchmarking Partial Productivity Performance

3 Customer Service Benchmarking Australia (CSBA)

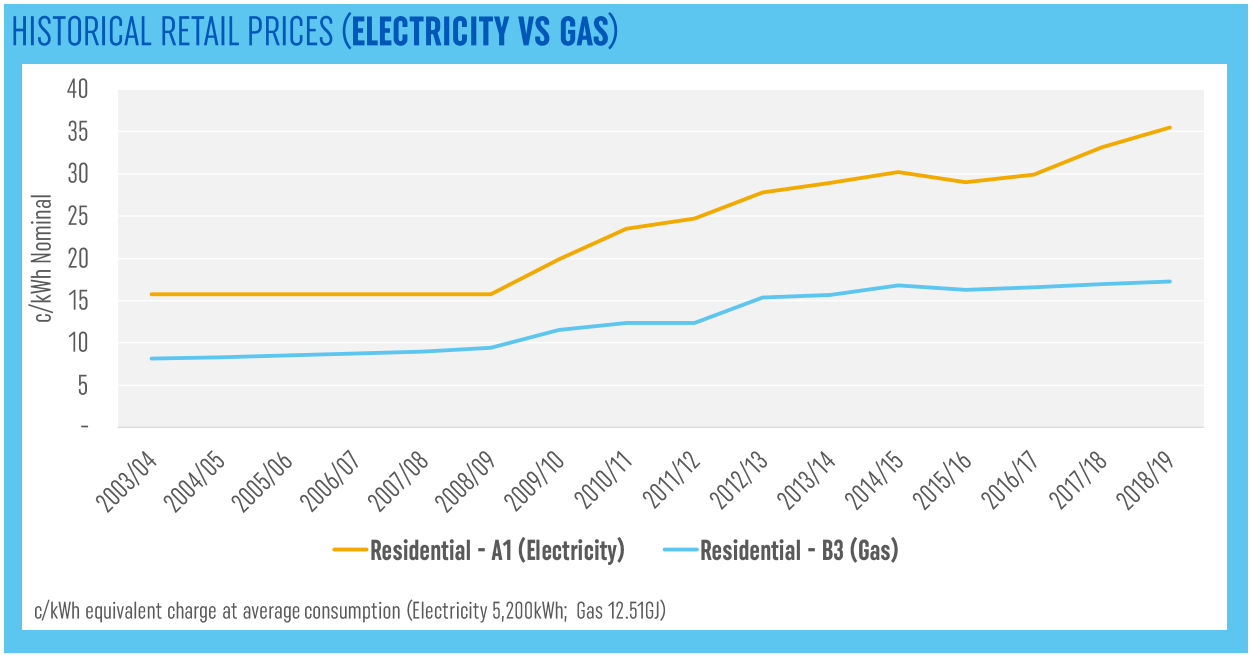
4 Measured through System Average Interruptions Frequency Index (SAIFI)

- Facilitating an average of 18,000 new residential connections and nearly 600 new commercial and industrial connections per year.
- Operating efficiency achievements, including asset management practice improvements and enhancements to our governance oversight practices.
- Delivery of the mains replacement program; we are on track to replace over 270km of aging (end-of-life) mains between 2014 and 2019.
- Ensuring the ongoing safety of our employees, with a Lost Time Injury Frequency Rate (LTIFR) below industry benchmarks set by Safe Work Australia.

1.2 Sustained performance in 2020-24

Our strong performance will continue through 2020-24, recognising that the delivery of stable and affordable energy is critical to Western Australia's growth and prosperity. Natural gas represents approximately 40% of residential energy demand, delivered at around half the cost of grid-supplied energy, as illustrated in Figure 1.3.

Figure 1.3: WA retail energy prices 2003-2018. Electricity vs Gas

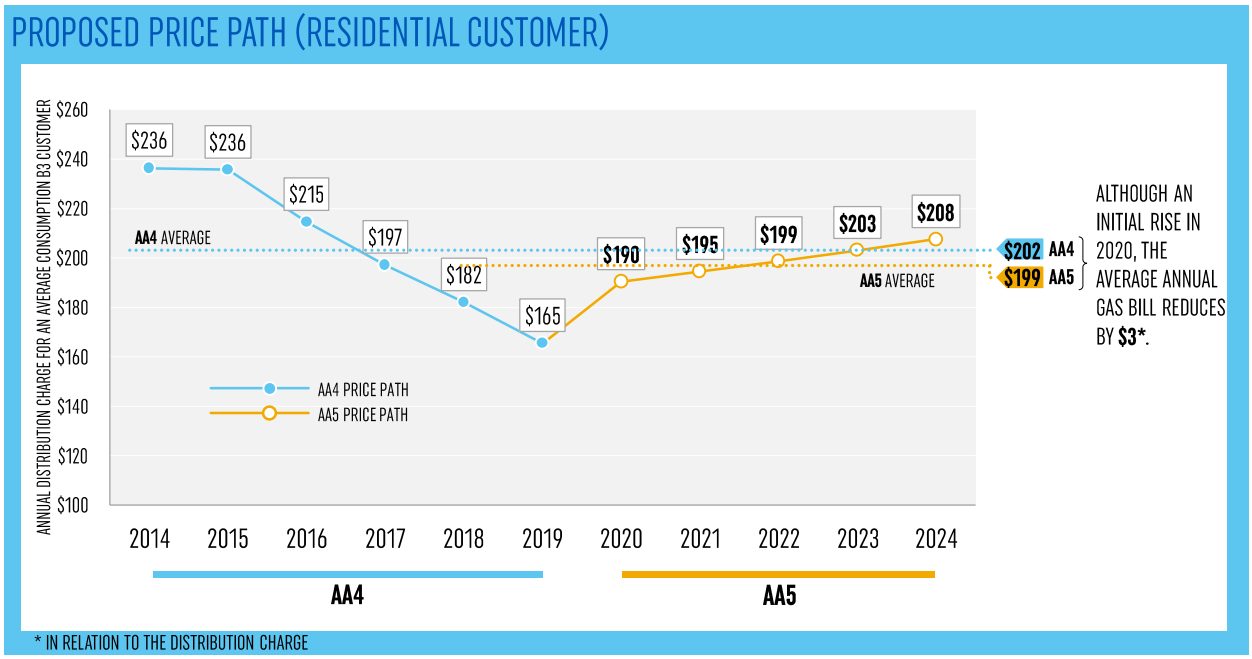


In addition, we remain focussed on providing flexible, innovative solutions to support the State economy now and as our energy environment continues to evolve. Our 2020-24 Revised Plan will:

- Continue to provide a **safe** gas distribution network in accordance with good industry practice, by:
  - Managing our ageing assets to ensure that our network complies with the relevant legislation and operates at an acceptable level of risk.
  - Investing in the safety of our workforce through targeted programs such as the step-touch mitigation program and through ongoing training. Our workforce has a clear focus on the safety and welfare of our customers and the community.
  - Maintaining our 24/7 operational response and on-call field crews to allow us to respond promptly to any safety incidents raised by the public.

- Maintain **reliable** access to gas by:
  - Investing in additional patrols of critical parts of the network to reduce the risk of interruption.
  - Reinforcing the network to ensure reliable gas supply is continued as additional customers are connected.
  - Investments in technology to enable better performance of the network at peak times and to make the network more resilient to damage or failures.
  - Supporting reliability through ongoing replacement, continuous maintenance, and asset protection to prevent outages and damage to our network.
- Provide **affordable** access to gas at a price reflecting our underlying efficient costs resulting in:
  - Average AA5 charges being below average AA4 charges. The average distribution charge (nominal, for an average consumption residential customer) decreases by $3 in AA5. Figure 1.4 outlines the proposed price path for an average residential customer. *See Chapter 17.*
  - The distribution charge in nominal terms at the end of 2024 is *$28 less than it was at the start of the AA4 period in 2014 ($208 vs $236 respectively). See Chapter 17.*

Figure 1.4: Price path for (B3) residential customers - AA4 to AA5 ($nominal)

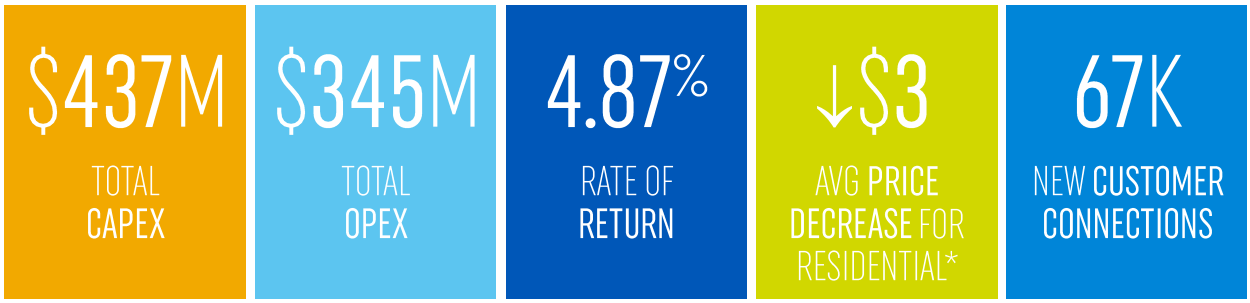


  - Investments in IT systems that will allow us to continue to deliver our services efficiently.
- Support a **competitive retail market** by:
  - Continuing to improve our systems and processes to support larger volumes of consumers switching retailers, including upgrading our existing billing system.
  - Evolving our systems to make it easier for customers to interact with us before they are connected to the network, while they are connected, and when they disconnect.
- Enable the **growth of the Western Australia state economy** by:
  - Connecting over 67,000 new customers (65,000 residential and over 2,000 commercial and industrial) during 2020-24.
  - Supplying an efficient gas energy source to all our customer segments through our dedicated account managers; supporting industry-leading connection timeframes for new and existing customers.

- Collaborating with the other utilities to enable the efficient delivery of upgrade works, minimising the disruption to residents and businesses during upgrades, and minimising the cost of the works.

- Build the **foundation for a clean energy future** by:
  - Ensuring our network designs remain efficient while transitioning to a cleaner energy future.
  - Investing in systems to manage operating pressures that aim to reduce greenhouse emissions through reductions in network losses.

1.3 2020-24 Highlight numbers



*Average annual bill for a residential customer will be $3 lower in 2020-24 than it was in 2015-2019.

PART A:

Introduction

2. Purpose of this Revised Plan

2.1 Introduction

ATCO submits the 2020-24 Revised Plan, pursuant to rule 60 of the National Gas Rules (**NGR**), in response to the recent ERA Draft Decision. This document outlines our response to the required amendments in the Draft Decision, the amended prices we propose to charge retailers over AA5, our amended investment plans, our planned services to Western Australians for the Gas Distribution System (**GDS**) and the findings that emerged from our further customer and stakeholder engagement.

The GDS is a designated pipeline under *the National Gas Access (WA) Act 2009.* This means that we are required to periodically submit revisions to our access arrangement to the ERA in accordance with the requirements NGR.

This 2020-24 Revised Plan is also known as the access arrangement information (**AAI**) for our amended access arrangement revision proposal for the 2020-24 period. The information in this document supports the priorities for our gas network and our services for Western Australian customers. It provides background and supporting information underpinning the access arrangement.

2.2 ERA's Draft Decision

On 31 August 2018, we submitted an access arrangement revision proposal for AA5 to the ERA pursuant to NGR 52. Our AA5 proposal covers the five-year period 1 January 2020 to 31 December 2024. The ERA reviewed our submission against the NGR and undertook further public consultation before issuing their Draft Decision on 18 April 2019.

This 2020-24 Revised Plan has been drafted in response to the ERA's Draft Decision pursuant to NGR 60. For each of the ERA's required amendments, our responses are one of four alternatives;

1. **Accept**: *We accept the ERA's amendment; or*
2. **Accept with modification***: We accept the ERA's amendment with a proposed modification; or*
3. **Do not accept and propose a revised position***: We do not accept the ERA's amendment and propose a revised position to the 2020-24 Plan; or*
4. **Do not accept and maintain our original position:** We do not accept the ERA's amendment and maintain our original proposal from the 2020-24 Plan.

2.3 Structure of this Revised Plan

Our 2020-24 Revised Plan retains the structure of our previous submission (2020-24 Plan), with our response to the required amendments and additional supporting documents for our revisions relating to the Draft Decision. The submission of this Revised Plan includes:

- A revised Access Arrangement
- A revised Template Service Agreement
- A revised Access Arrangement Information (AAI) (this document). Although the same chapter structure is retained in this document, each chapter is prefaced with the related ERA Draft Decision and our respective response.

- Revised supporting documents for our proposed revisions.

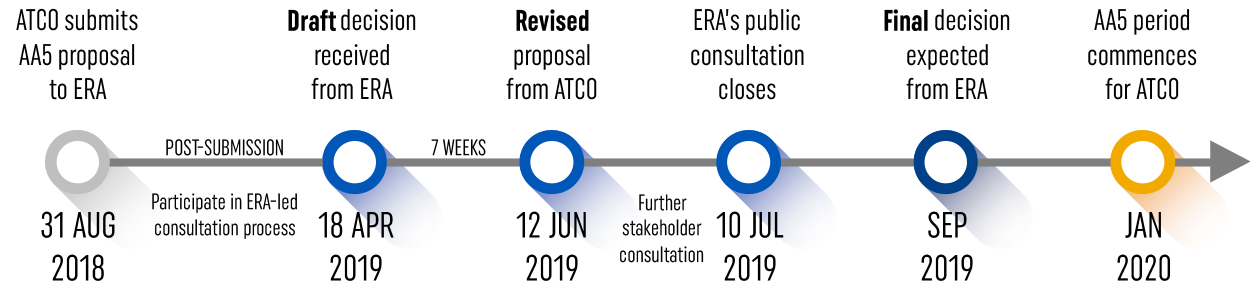
Note, original *unrevised* supporting documents that were provided to the ERA in our 2020-24 Plan are not re-attached to this submission. All information contained in this plan and supporting attachments supersedes information previously provided. An updated document map is provided at [Attachment 01.100: AA5 Document Map].

2.4 Next steps and feedback opportunities

ATCO's lodgement of this revised access arrangement, access arrangement information, and supporting documentation, marks the formal commencement of the second stage of the ERA's review process.

We encourage customers and stakeholders to continue to engage with the ERA's second public consultation process. Submissions close 4:00pm (WST), 10 July 2019, see Figure 2.1. Submissions should be lodged online using the form on the ERA's website: www.erawa.com.au/consultation.

Figure 2.1: Expected timeline for the ATCO AA5 proposal



If you have any questions about our 2020-24 Revised Plan or would like any assistance during the ERA's public consultation process, please contact us via the following options:

1. **Send us an email:** haveyoursay@atco.com.au
2. **Call or visit us in person**: Please contact Matthew Cronin, GM Strategy & Regulation on 08 6163 5000, or via email matthew.cronin@atco.com to arrange an appointment.

The ERA expects to publish their final decision on our revisions to the access arrangement by 19 September 2019.

3. Draft Decision Response Summary

3.1 About the ERA's Draft Decision

The ERA's Draft Decision was not to approve the 2020-24 Plan. The Draft Decision detailed 37 amendments that we are required to make before the ERA can approve the Access Arrangement. Most of these amendments affect the terms and conditions for reference services, which are services commonly sought by users of the gas distribution system.

3.2 Summary of ATCO's response to the Draft Decision

ATCO accepts 24[5] of the ERA's 37 required amendments and has made the relevant changes to the access arrangement and associated documents. We do not accept most of the ERA's amendments to AA4 and AA5 expenditure, as we believe that implementing the Draft Decision would result in adverse consequences for our customers, our business, and the safety and security of our network. Further detail on our responses are provided in each respective chapter, and a full summary is provided in Table 3.1.

Table 3.1: ERA's Draft Decision response summary

#	SUMMARY OF REQUIRED AMENDMENT	ATCO'S RESPONSE	SUMMARY OF ATCO'S RESPONSE
1	Amend the gas distribution systems demand forecasts	Accept with modification	ATCO has updated the gas demand forecast to reflect the inclusion of 2018 actual data for all tariff classes. ATCO has not removed B2 and B3 new connections as it now meets NGR 74. Ref: Section 7.4.1
2	Amend the demand forecast for ancillary services	Accept	ATCO has updated the ancillary services forecast, which now reflects actual data up to 2018. Ref: Section 7.4.2
3	Provide additional information to further explain the choice of asset health indicator (AHI).	Accept	ATCO has provided further information around the choice of the Asset Health Index, providing further clarification and explanation of weightings, and historical Asset Health Index performance as suggested by EMCa. Ref: Section 8.4.1
4	Amend the expenditure KPI targets	Do not accept and propose a revised position	ATCO rejects the ERA's Draft Decision opex forecast and will be revising expenditure targets in line with our revised AA5 opex forecast. Ref: Section 8.4.2
5	Amend the values for total revenue (nominal)	Do not accept and propose a revised position	As ATCO has not accepted all required amendments, (e.g. regarding capex and opex amendments) it is unable to comply with required amendment 5. Ref: Section 16.4

[5] 16 *Accept as required by the ERA*, 8 *Accept with a proposed modification*

#	SUMMARY OF REQUIRED AMENDMENT	ATCO'S RESPONSE	SUMMARY OF ATCO'S RESPONSE
6	Amend the values for opex (real)	Do not accept and propose a revised position	ATCO has updated its 2020-24 forecast and has proposed operating expenditure of $345.1 million for AA5. Ref: Section 9.4
7	Amend the opening capital base (real) at 1 January 2020	Do not accept and propose a revised position	ATCO believes all AA4 capex expenditure meets the NGR and has provided additional information to support this. Ref: Section 5.3
8	Amend the projected capital base (nominal)	Do not accept and propose a revised position	ATCO believes $437 million of AA5 capex expenditure in its revised proposal meets the NGR and has provided additional information to support this. Ref: Section 10.4 and 11.4
9	Amend the rate of return estimate to be 5.70 per cent (vanilla nominal after-tax).	Accept with modification	ATCO recognises that the regulatory framework requires the ERA's final decision to apply the December 2018 Guideline on a binding basis. ATCO has updated the rate of return estimate to incorporate an updated estimate of the risk free rate and bank bill swap rate up to 30 April 2019. ATCO's 2020-24 Revised Plan adopts a rate of return estimate of 4.87 per cent (vanilla nominal after-tax). Ref: Section 12.4
10	Amend the proposed depreciation schedule.	Do not accept and propose a revised position	ATCO does not accept required amendment 10. ATCO forecasts revised proposed depreciation based on its revised forecast capex and opening capital base. Ref: Section 11.5
11	ATCO must amend its calculation of income tax and tax depreciation methods and amend the estimated cost of corporate income tax.	Accept with modification	ATCO has accepted capping the asset lives for regulators and secondary gate stations to 20 years from 1 January 2020. ATCO has not accepted the required amendment to use the diminishing value method of tax depreciation as it is not in the long term interests of consumers. ATCO has not accepted all of the Draft Decision required amendments, (e.g. regarding capex and opex) and is therefore unable to accept the estimated cost of income tax as per Table 79 of the Draft Decision. Ref: Section 13.4
12	Amend the return on working capital calculation.	Do not accept and propose a revised position	As ATCO has not accepted all required amendments, (e.g. regarding capex and opex amendments) it is unable to comply with required amendment 12. Ref: Section 14.4

#	SUMMARY OF REQUIRED AMENDMENT	ATCO'S RESPONSE	SUMMARY OF ATCO'S RESPONSE
13	Amend the allocation of forecast total revenue (nominal) between reference services and other services.	Do not accept and propose a revised position	As ATCO has not accepted all required amendments, (e.g. regarding capex and opex amendments) it is unable to comply with required amendment 13. Ref: Section 16.4
14	Amend Annexure A to reflect the tariffs set out in the draft decision.	Do not accept and propose a revised position	As ATCO has not accepted all required amendments, (e.g. regarding capex and opex) it is unable to comply with required amendment 14. Ref: Section 17.5
15	Amend Annexure B, clause 1.3.1 to specify that the B3 fixed charge will remain constant in real terms. Delete the cost pass through item detailed in Annexure B, clause 2.1(e).	Accept	ATCO has accepted both required amendments to the tariff variation mechanism. We have modified the tariff variation mechanism to: • specify the B3 fixed charge will remain constant in real terms over the AA5 period; and • delete the cost pass through item associated with the network innovation scheme. Ref: Section 17.5
16	Delete the proposed Network Innovation Scheme (Part 12, Incentive Mechanisms) and associated cost pass through item (Annexure B, clause 2.1(e)).	Accept	ATCO has removed the proposed Network Innovation Scheme from the proposed revised access arrangement. Ref: Section 15.4
17	Amend fixed principles 11.2 and 11.3 to include specific dates to remove any ambiguity over the period to which the fixed principle applies.	Accept with modification	ATCO has modified fixed principle 11.2 to extend the application of it for a further 10 years (therefore expiring on 1 January 2031) ATCO has modified fixed principle 11.3 to include the start date of next access arrangement period (AA6 will commence on 1 January 2025) but is unable to be specific on the exact expiry date as the ERA will determine the end date of the AA6 period following the receipt of ATCO's AA6 proposal in September 2023. Ref: Sections 19.5.1, 19.5.2 and 19.5.3
18	Delete fixed principle 11.4.	Do not accept and propose a revised position	ATCO does not accept the required amendment to delete fixed principle 11.5 from the access arrangement. This fixed principle is necessary for the operation of the development rebate scheme. We do not accept that the development rebate scheme is inconsistent with the NGR, and we have presented further information in support of the development rebate scheme in Section 22.6.2. Ref: Section 19.5.4

#	SUMMARY OF REQUIRED AMENDMENT	ATCO'S RESPONSE	SUMMARY OF ATCO'S RESPONSE
19	Amend clause 10.1(a) of the template service agreement to correct the reference to clause "10.1(a)". The reference should be a reference to clause "10.1(c)".	Accept	ATCO accepts the ERA's amendment as proposed in the Draft Decision. Ref: N/A
20	Amend clause 10.3(a) of the template service agreement to retain the 10 business day timeframe for a user to raise a payment dispute, or to provide that a payment dispute must be raised prior to the due date of the payment claim.	Do not accept and maintain our original position	ATCO does not accept that a shortened timeframe may be unreasonable for retailers with substantial numbers of customers. The proposed reduction from 10 to 3 Business Days reflects current actual arrangements with retailers in Western Australia and that the arrangements work efficiently and symmetrically for all market participants. Ref: Section 20.4.1.1
21	Amend clause 15.2(a) of the template service agreement to retain the current (AA4) drafting. Amend clauses 15.1(d) and 15.2(a) to make the clauses expressly subject to the ipso facto regime by adding the words (at the beginning of each clause) "subject to the Ipso Facto Regime,". Insert a definition of "Ipso Facto Regime" in clause 23.1 as follows: Ipso Facto Regime means the amendments made to the Corporations Act 2001 (Cth) by Part 2 of the Treasury Laws Amendment (2017 Enterprise Incentives No. 2) Act 2017 (Cth).	Accept with modification	ATCO accepts the required amendment subject to clarifying the basis of our proposed change. Our drafting of the proposed changes was not made to broaden the scope of the clause, only to reflect the way in which the ipso facto regime is to be triggered. Having considered the ERA's drafting changes, ATCO accepts that the drafting provides clarification of the legal position. Ref: Section 20.4.2.1
22	Amend clause 16.2(k) of the template service agreement to read: If the Approved Security is to be provided by way of bank guarantee, the bank guarantee must be in the form set out in Annexure B (or such other form as is acceptable to).	Accept	ATCO accepts the ERA's amendment as proposed in the Draft Decision. Ref: N/A
23	Amend the time period in clause 19.3(d) of the template service agreement from 14 to 15 business days.	Accept	ATCO accepts the ERA's amendment as proposed in the Draft Decision. Ref: N/A
24	Amend clause 17.1(b) of the template service agreement to replace the words "persons for whom the indemnity is held on trust" (as they appear at the end of the clause) with the words "each Indemnified Person". Amend clause 17.1(a) of the template service agreement to replace the reference to clause "17.1(b)" with a reference to clause "17.1(c)".	Accept	ATCO accepts the ERA's amendment as proposed in the Draft Decision. Ref: N/A

#	SUMMARY OF REQUIRED AMENDMENT	ATCO'S RESPONSE	SUMMARY OF ATCO'S RESPONSE
25	Amend the definition of "insolvency event" in clause 23.1 of the template service agreement to delete paragraphs (g) and (h) from the definition.	Accept with modification	ATCO accepts the required amendment subject to clarifying the basis of our proposed change. Our drafting of the proposed changes was made to remedy the omission of "Insolvency Event" as a defined term, and to reflect the requirements of the ipso facto regime. Having considered the ERA's revised drafting together with the revised drafting proposed by the ERA in respect of required amendment 21, Required Amendment 25 is acceptable as clarification of the legal position. Ref: Section 20.4.3.1
26	Amend clause 23.1 of the template service agreement to amend the definition of: • "payment method" to replace the words "the Template Service Agreement" with the words "this Service Agreement", and "reference service terms and conditions" to replace the reference to clause "22.3" with a reference to clause "22.3(d)".	Accept	ATCO accepts the ERA's amendment as proposed in the Draft Decision. Ref: N/A
27	Amend the template service agreement to delete proposed clause 9(c) of Schedule 3 and clause 12(c) in each of Schedules 4 and 5. Amend proposed clause 9 of Schedule 3 and proposed clause 12 in each of Schedules 4 and 5 to provide that the user is not required to pay the reference tariff if the service provider fails to undertake the meter reading as a result of an event or circumstance within its reasonable control, which the service provider could have prevented or overcome. Amend clause 9 in each of Schedules 1 and 2, clause 8 in Schedule 3 and clause 7 in each of Schedules 4 and 5 in the same manner as ATCO is required to amend the provisions relating to payments for special meter readings (refer to requirement immediately above).	Accept with modification	ATCO accepts the required amendments subject to ERA accepting our further proposed revised drafting changes described in Section 20.4.4.1. We do not accept the proposed deletion of clauses 9(c) of Schedule 3 and 12 (c) of Schedules 4 and 5. Ref: Section 20.4.4.1

#	SUMMARY OF REQUIRED AMENDMENT	ATCO'S RESPONSE	SUMMARY OF ATCO'S RESPONSE
28	Amend clause 4.3 of the template service agreement to insert the words "Subject to clause 4.3A," (at the beginning of the clause). Insert a new clause 4.3A as follows: For the avoidance of doubt, is not required to pay any applicable Charges and other amounts payable under this Service Agreement in accordance with clause 4.1 if an event or circumstance within the control of <Service Provider> prevented<Service Provider> from providing, undertaking or completing the Service. Redraft clause 4.3(a)(ii) of the agreement to make clear the intended effect of the clause.	Accept	ATCO accepts the ERA's amendment as proposed in the Draft Decision. Ref: N/A
29	Amend clause 4.4(a) of the template service agreement to read as follows to clarify the time period in which a delivery point deregistration must occur. "<User> must pay all Charges and other amounts payable under this Service Agreement in respect of the Delivery Point, until such time as the Delivery Point is Deregistered, which time must not exceed the timeframe specified in clause 127 of the Retail Market Procedures;"	Accept	ATCO accepts the ERA's amendment as proposed in the Draft Decision. Ref: N/A
30	Amend clause 9.3(c) of the template service agreement to limit the service provider's discretion to require the user to pay an amount to cover its costs: • by a requirement for it to act reasonably; and • to circumstances where the user has not used reasonable endeavours. The required wording is set out in paragraph 1051 of this draft decision.	Accept with modification	ATCO accepts the required amendment, but subject to clarifying the basis of the amendment, particularly to clarify some of the points made by AGL referred to by the ERA in its Draft Decision at paragraphs 1049. Ref: Section 20.4.5.1
31	Amend clause 10.1(b) of the template service agreement to provide that the payment method or methods notified by the service provider must not be unduly onerous and where possible agreed with the user.	Do not accept and propose a revised position	ATCO does not accept the required amendment and proposes alternative drafting to deal with the issue that has been raised. Ref: Section 20.4.6.1
32	Amend clause 14.5(a)(i) of the template service agreement to include the words "and such consent must not be unreasonably withheld" at the end of the clause.	Accept	ATCO accepts the ERA's amendment as proposed in the Draft Decision. Ref: N/A

#	SUMMARY OF REQUIRED AMENDMENT	ATCO'S RESPONSE	SUMMARY OF ATCO'S RESPONSE
33	Delete clause 15.2(b) from the template service agreement and insert new clause 15.1(g) that reads: if a party is in default ("defaulting party") under any other agreement with the other party under which the provides Reference Services to , and the non-defaulting party reasonably considers that the default under the other agreement will materially impact the non-defaulting party's ability to comply with its obligations under this Service Agreement; or Current (AA4) clause 15.2(g) must be renumbered as new clause 15.2(h).	Accept	ATCO accepts the ERA's amendment as proposed in the Draft Decision. Ref: N/A
34	Amend clauses 15.5(a) and 15.5(b) to include a time limit that is based on the remedy of the default by adding the words "until such time as all defaults have been remedied" at the end of each clause as follows. "(a) refuse to accept delivery of Gas from a Related Shipper of at a Receipt Point until such time as all defaults have been remedied; (b) wholly or partly Curtail Gas deliveries to the at a Delivery Point until such time as all defaults have been remedied;"	Accept	ATCO accepts the ERA's amendment as proposed in the Draft Decision. Ref: N/A
35	Amend clause 16.1 of the template service agreement to insert the words "acting as a reasonable and prudent network operator" as follows. "<Service Provider>, acting as a reasonable and prudent network operator, may by written notice, from time to time under this clause 16.1 require …"	Accept	ATCO accepts the ERA's amendment as proposed in the Draft Decision. Ref: N/A
36	Amend the proposed revised access arrangement to introduce reduced cancellation charges for the following ancillary services that are cancelled with reasonable notice, which is taken to mean more than three business days prior to the scheduled service date. • Special meter reading • Applying a meter lock • Removing a meter lock	Accept	ATCO accepts the ERA's amendment as proposed in the Draft Decision. Ref: Section 17.13
37	Delete section 7.5 (Development Rebate Scheme) from the proposed revised access arrangement.	Do not accept and propose a revised position	ATCO has amended the Development Rebate Scheme to address the matters raised in the Draft Decision In particular, ATCO has clarified the role of the ERA in approving the rebate amounts that can be recovered through reference tariffs Ref: Section 21.6.2

4. Customer and stakeholder engagement

CHAPTER HIGHLIGHTS

1. The insights from our Voice of Customer (**VoC**) Program (customer and stakeholder engagement) continue to underpin our 2020-24 Revised Plan.
2. Customers were consulted on the ERA's Draft Decision on ATCO's proposed investments on growth, innovation, technology and programs to sustain the gas network.
3. Customers were overwhelmingly supportive of our proposed investments.
4. Customers believe that natural gas has an important role in transitioning to a low carbon future.
5. Our proposed C&I program will support C&I customers, a competitive retail market and promote economic growth in WA.

4.1 Introduction

As a global infrastructure and energy solutions provider for over 70 years, ATCO has built a strong reputation as a customer-focussed business. We recognise that our long-term success depends not only on our ability to understand our customers' requirements today, but also to anticipate their needs and expectations tomorrow.

The 'voice' of our customers is an important input into our many business activities and projects, and we regularly monitor our customers' satisfaction with our service. Feedback is captured and incorporated into our planning; through listening and engagement, we have a unique opportunity to develop innovative solutions to current and future challenges.

Furthermore, we actively seek opportunities to collaborate with indigenous communities to develop new infrastructure solutions. ATCO has a long history of valuing the importance of the First Nations in Canada, where we have more than 40 partnerships with indigenous communities on joint-ventures and infrastructure programs. In Australia, we have a Reconciliation Action Plan, officially endorsed by Reconciliation Australia, which builds on our current relationships and sets the vision for reconciliation and partnerships with Aboriginal communities, organisations, and Elders.

Meaningful and ongoing engagement with our customers and communities is at the core of how we operate and is the foundation on which our plans are developed.

While the ERA stated there is no '*regulatory role under the NGL or NGR for the ERA to directly assess customer/stakeholder engagement programs*', ATCO maintains that understanding what householders, industry and government want from their gas supply network is crucial. Furthermore, our VoC program aligns with good practice consultation adopted by regulated businesses throughout Australia and is in line with the ERA's own transparency statement (April 2016), which explicitly notes a commitment to engage with relevant audiences.

ATCO welcomes the recent announcement that the WA State Government has plans to support consumer advocacy in the energy sector (with funding of $900,000) to ensure appropriate representation in the making of decisions that affect them. We believe that's good news for the community, and the energy sector in Western Australia.

This chapter explains our approach to customer and stakeholder engagement and outlines how the process has affected our 2020-24 Revised Plan.

4.2 Our process for engagement

Our VoC program focussed on creating a dialogue with customers and stakeholders across ten distinct phases, as outlined in Figure 4.1.

Figure 4.1: VoC timetable

The VoC program built and extended upon the insights of an early phase of engagement undertaken with gas consumers in December 2016. This engagement was an early exploration of the value proposition of gas, its role within the household energy mix, and its potential role in the future energy landscape.

4.3 Engagement since August 2018

Since August 2018, we have continued to engage with representatives from residential and SME customers, and our large commercial and industrial (C&I) customers and stakeholders as part of our VoC program.

In November 2018, the ERA released public submissions it had received in response to its Issues Paper. This comprised four submissions from retailers (AGL, Alinta, Kleenheat and Synergy), two from industry groups (Kawasaki Heavy Industries and Urban Development Institute (UDIA) and one from Professor Craig Buckley from Curtin University.

Following the release of the Draft Decision in April 2019, Deloitte and ATCO representatives facilitated two workshops with residential and SME customers. The engagement approach was to provide a progress update to customers and capture any additional feedback.

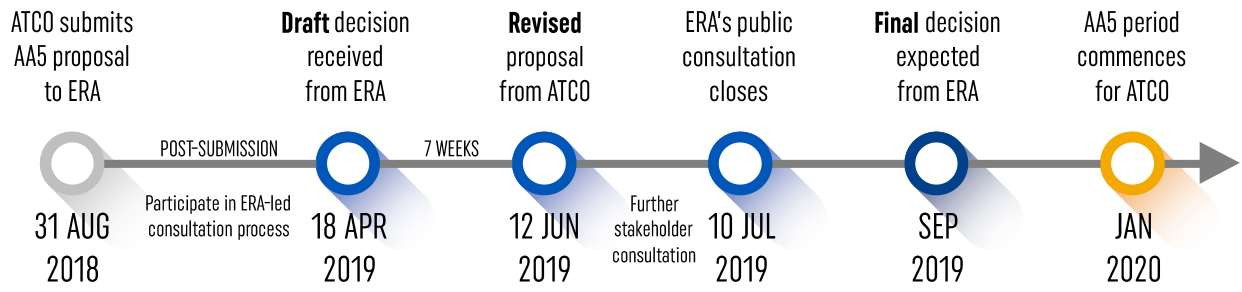
We have reached out to our C&I customers, industry groups and retailers to gather their feedback on the ERA's Draft Decision. While we have not received direct feedback about the Draft Decision (considering short timeframes between the release of the Draft Decision and ATCO's response), we will be encouraging these stakeholders to share their views with the ERA through the public consultation period. Following the submission of this 2020-24 Revised Plan, we will continue to engage key stakeholders and facilitate any queries to assist stakeholders on their submission to the ERA.

4.4 2020-24 Revised Plan

This section provides a summary of the feedback received and how that feedback has been reflected in our 2020-24 Revised Plan. Where relevant, individual chapters of this document also include a 'Stakeholder Engagement' section; highlighting feedback received on the 2020-24 Plan and how we have responded.

We will continue with our engagement throughout this process and note that the ERA will also undertake its own engagement program. Figure 4.2 summarises the milestones for our AA5 submission.

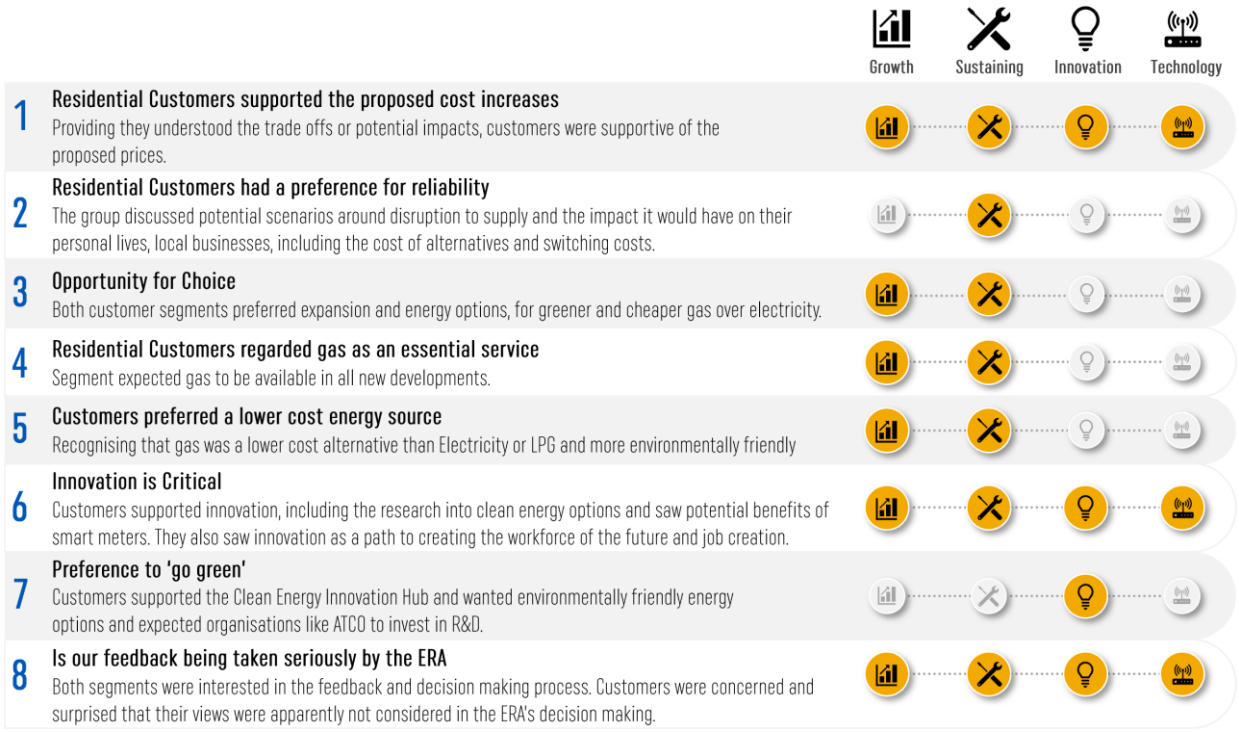
Figure 4.2: Historical and future milestones



At the recent residential and SME workshops, residential customers were presented with five major programs that we plan to undertake over AA5 and the ERA's Draft Decision on those plans. Our customers were surprised that their insights and participation in previous workshops were not given greater weight by the ERA. They were interested in how the ERA's decision making process could be modified to value community consultation.

Following the residential and SME workshops, eight high-level insights were uncovered during the Review phase that support ATCO's 2020-24 Revised Plan, see Figure 4.3.

Figure 4.3: VoC Insights: Draft Decision review



Broadly, residential customers unanimously supported ATCO's plans to grow the network, innovate for future generations and to invest in technology. Residential customers regarded natural gas as an essential service and expected gas to be available in new homes, developments and subdivisions. Customers also agreed that putting preventative measures in place to minimise disruptions and enable efficient operations was important.

Customers supported ATCO's plan to invest in technology, including smart metering that will enable self reads and more efficient connection and retailer switch processes.

Customers also supported the Clean Energy Innovation Hub, believing that companies such as ATCO should invest in research and development to meet the needs of future generations, providing cleaner, alternative sources of energy.

Customers understood and were supportive of the potential price for our proposed programs, believing the impact on their gas bill would be minimal, and further, that our programs met their expectations of the services and experience from a utility provider.

More than 80% of SME customers who attended the workshop also supported ATCO's plans. SME customers agreed that natural gas was greener and cheaper, and wanted the choice of natural gas when buying or moving into a new property. The majority agreed that energy options impacted the viability of business and would weigh on their decision-making process to expand their business if gas was not available. Customers also recognised natural gas was a cheaper and cleaner energy alternative compared to electricity or LPG.

The majority of customers supported ATCO's security of supply program, recognising the impact of a loss of supply would have significant impact to people, families and businesses, especially those experiencing hardship during colder months.

SME customers also felt a sense of urgency around the need to invest in technology and innovation to drive opportunity and support the workforce of the future through job creation.

The VoC report (May 2019)[6] details the findings and insights uncovered in the workshops.

4.4.1 C&I Insights

ATCO disagrees with the ERA's Draft Decision regarding AA5 capex spend in relation to greenfield and brownfield, AL18 new commercial meters, network reinforcement and the Developer Rebate Scheme. This decision will have a significant impact on C&I customers and impede the growth of the WA economy and adversely affect the competitive retail market.

ATCO reached out to its C&I customers following the release of the Draft Decision but did not receive specific feedback given the short timeframes. In response to the ERA's Issues Paper, the UDIA submitted feedback in support of ATCO's Developer Rebate Scheme.

4.4.2 Retailer Insights

AGL, Alinta, Kleenheat and Synergy all provided comprehensive submissions to the ERA in response to its Issues Paper. The feedback from the retailers has been incorporated in the stakeholder feedback sections throughout this document.

[6] [Attachment 04.100: Voice Of Customer: Stakeholder Insights Report]

4.5 Ongoing engagement

We will continue to engage with our customers and stakeholders outside the formal regulatory process. The purpose of this engagement is to facilitate ongoing improvements in our business, the experience of our customers, and to improve our organisation's appreciation of the social and economic context in which we operate. We will continue to engage directly with retailers, large industrial customers, residential gas customers, and industry and advocacy groups.

We encourage customers and stakeholders to engage with the ERA's second public consultation process to ensure that their feedback is incorporated into the ERA's Final Decision.

5. Past performance

ERA required amendment 7:

ATCO must amend the opening capital base (real) at 1 January 2020 to reflect the values set out in Table 53 of this draft decision.

ATCO Response Summary: Do not accept and propose a revised position

ATCO believes $484.8 million of AA4 capex expenditure meets the NGR and has provided additional information to support this.

CHAPTER HIGHLIGHTS

1. We are proud to be delivering customer service levels, safety, and network reliability that meet our customers' expectations and consistently meet industry benchmarks.
2. We are forecast to deliver opex improvements of $52.8 million against the ERA's AA4 Final Decision.
3. Total capex in AA4 is expected to be $484.8 million, which is $4.8 million lower than the ERA's allowances. Over 60% of our expenditure was focussed on customer-initiated growth projects and continuing our mains replacement program to maintain safety and reliability.
4. We have consistently met our key performance indicators (**KPIs**).
5. We have efficiently delivered our commitments over AA4, and we benchmark as one of the most efficient gas distribution businesses in Australia.

5.1 Introduction

ATCO has delivered a strong and balanced performance during AA4. We are proud to be delivering customer service levels, safety and network reliability that meet and exceed our customers' expectations while maintaining high levels of safety performance and operating efficiency compared to our peers.

This chapter provides an update for 2018 actuals and provides further information regarding our response to the ERA's Draft Decision.

5.2 Summary of the ERA's Draft Decision

In its Draft Decision, the ERA proposed an amendment requiring ATCO to "amend the opening capital base (real) at 1 January 2020 to reflect the values set out in Table 53 of this draft decision"[7]. The values in Table 53 of the Draft Decision reflect an AA5 opening capital base of $1,271.1 million compared to ATCO's proposed AA5 opening capital base of $1,347.5[8] million, i.e. a reduction of $76.4 million.

The ERA assessed ATCO's proposed opening capital base for the AA5 period pursuant to NGR 77 and 79. This included:

[7] Draft Decision, Required Amendment 7

[8] Table 13.2 in the 2020-24 Plan

- Determining ATCO's opening capital base for AA5, taking into account an assessment of:
  - conforming capital expenditure in AA4;
  - capital contributions; and
  - depreciation.
- Assessing ATCO's general method of calculating the capital base.

The primary reason for the $76.4 million amendment in the opening capital base was the ERA's decision on the level of conforming capex in AA4. In the 2020-24 Plan, ATCO proposed that AA4 capex is expected to be $497.1 million (includes $1.1 million of equity raising costs). The ERA accepted $421.6 million of our proposed AA4 capex but determined that a total of $75.5 million of AA4 expenditure is not conforming capital expenditure under NGR 79 and should not be rolled into the opening capital base of AA5. This decision was "*mainly because ATCO did not provide adequate information to justify how its capital expenditure was prudent and efficient under rule 79(1) and rule 79(2) of the NGR*"[9].

The capital expenditure that the ERA determined as not conforming comprises:

- $41.5 million on network sustaining capital expenditure
- $2.8 million on network growth capital expenditure
- $4.4 million on structures and equipment capital expenditure
- $1.3 million on information technology capital expenditure
- $25.6 million on overheads capitalisation.

The following sections outline the ERA's rationale in making this determination.

5.2.1 Draft Decision: AA4 Network sustaining capex (-$41.5M Amendment)

ATCO proposed expenditure of $236.2 million for network sustaining capex in AA4[10]. The ERA proposed that $41.5 million of this capex does not satisfy NGR 79. This comprises of the adjustments in the following sections.

5.2.1.1 Draft Decision: Metallic mains replacement (-$16.7M)

ATCO proposed expenditure of [redacted] million for this program, being $16.7 million above the ERA allowance of $49.3 million[11]. The ERA has rejected the $16.7 million additional expenditure noting that

> *"ATCO did not adequately explain how the additional expenditure of $16.7 million satisfied the conforming capital expenditure criteria under rule 79(1)(a) and rule 79(2)(c)(i) and (ii) of the NGR. Specifically, ATCO did not justify why accelerating the replacement of metallic mains during AA4 was considered a prudent decision. In addition, the increased expenditure appears to be inconsistent with the AA4 Final Decision, in which ATCO accepted the ERA's view that some replacement works and expenditure could be deferred."*[12]

The ERA notes that ATCO provided its approved business case for replacing all unprotected metallic mains by the end of 2020. EMCa's review of ATCO's CEAR indicated that ATCO had increased its volume of

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9 Draft Decision, Para 301

10 2020-24 Plan, Table 5.4

11 EMCa report, Para 190

12 Draft Decision, Para 306

replacement from [redacted] km included in the ERA's AA4 Final Decision to [redacted] km in 2017. The ERA proposes that

> *"ATCO did not provide sufficient information to explain this increase, following the ERA's request for more information."*[13]

5.2.1.2 Draft Decision: Odd size unprotected steel ([redacted]M)

ATCO expects to incur [redacted] million capex for the EOL replacement of odd sized unprotected steel, being [redacted] million above the ERA allowance of [redacted] million.[14] The ERA notes that

> *"ATCO did not provide adequate information to justify the additional costs of [redacted] million. As a result, the ERA considers that the additional expenditure of [redacted] million incurred in the odd size unprotected steel replacement does not satisfy the conforming capital expenditure criteria under rule 79(1)(a) and 79(2)(c)(i) of the NGR."*[15]

5.2.1.3 Draft Decision: (Unplasticised polyvinyl chloride) PVC mains and services ([redacted]M)

ATCO expects to incur [redacted] million capex for replacement of PVC mains and services, which is [redacted] million higher than the ERA allowance.[16] The ERA has rejected the additional expenditure of [redacted] million noting that

> *"ATCO did not provide adequate information to explain the increase in the PVC mains replacement rate during AA4 and how the accelerated replacement was reflected in its strategy for AA4."*[17]

5.2.1.4 Draft Decision: Multi-storey buildings risk reduction ([redacted]M)

ATCO expects to incur [redacted] million capex for risk reduction in multi-storey buildings.[18] The ERA notes that this is [redacted] million above the ERA's AA4 Final Decision forecast for the multi-storey building risk reduction project, explaining that the project was completed in April 2018. The ERA has rejected this additional expenditure of [redacted] million. The ERA also notes that

> *"ATCO's explanation appears to suggest that it had already completed the original project at a total cost of [redacted] million. However, ATCO did not adequately explain why the multi-storey building risk reduction project was extended to 2018, with a total cost of [redacted] million. Specifically, ATCO only justified the inclusion of [redacted] million out of [redacted] million but did not explain if the scope of the program was subsequently extended, and how the residual amount of [redacted] million satisfied the capital expenditure criteria under the NGR."*[19]

5.2.1.5 Draft Decision: Caversham security of supply project ([redacted]M)

ATCO proposed to spend [redacted] million for security of supply projects commencing in 2019 and completing in 2020 for Caversham. The ERA determined that three security of supply projects in AA5 were not justified,

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13 Draft Decision, Para 304

14 EMCa report, Para 198

15 Draft Decision, Para 309

16 EMCa report, Para 203

17 Draft Decision, Para 312

18 EMCa report, Para 212

19 Draft Decision, Para 316

including the Caversham project (see Section 10.3.1.4). The ERA considers therefore, that this project does not satisfy the conforming capital expenditure criteria under NGR 79.

5.2.1.6 Draft Decision: AA4 Network sustaining capex summary

The ERA considers that, after accounting for the adjustments presented in paragraphs 303 to 318, only $194.7 million of ATCO's network sustaining capital expenditure is reasonable and conforming under 79 of the NGR[20]. Table 5.1 outlines the ERA's amended network sustaining capex compared to ATCO's proposed forecast.

Table 5.1: ERA's amended AA4 network sustaining capex ($M real as at 31 December 2019)

NETWORK SUSTAINING CAPEX	JUL TO DEC 2014	2015	2016	2017	2018 (F)	2019 (F)	TOTAL
ATCO proposed capex	**14.5**	**32.7**	**42.7**	**50.3**	**51.8**	**44.2**	**236.2**
Metallic mains	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Odd size unprotected steel	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
PVC mains & services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Multi-storey buildings	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Security of supply - Caversham	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total ERA amended capex	**14.4**	**32.4**	**36.2**	**38.7**	**35.9**	**37.1**	**194.7**

5.2.2 Draft Decision: AA4 Network growth capex (-$2.8M Amendment)

ATCO proposed AA4 growth capex of $187.4 million which was $0.2 million higher than the ERA's Forecast for AA4.[21] The ERA has rejected $2.8 million of expenditure on the basis that [redacted] million relating to the sub-meter to master meter program and [redacted] million relating to the Murdoch Drive reinforcement project do not meet the NGR 79 criteria.

The ERA assessed ATCO's Net Present Value (**NPV**) model for its AA4 network growth projects and reviewed ATCO's assumptions applied to its NPV model and the assessment of these assumptions made by EMCa.

The ERA considers that the following adjustments should be made to assess whether the AA4 new connections meet the incremental revenue test as required by NGR 79(2)(b):

- Exclusion of ATCO's assumed new connections at Kalgoorlie and Albany from the model, as both areas are not part of the GDS.
- Exclusion of the conversion of sub-meter to master meter from the model, which added materially to the modelled cash flow.
- Revision of volume per B2 and B3 connection, B3 connection costs and incremental maintenance costs per B3 customer to ensure the same assumptions applied to both AA4 and AA5 network growth NPV tests, as ATCO used inconsistent numbers in its AA4 and AA5 models.[22]

[20] Draft Decision, Para 319

[21] 2020-24 Plan, Table 5.4

[22] Draft Decision, Para 325

After making the above adjustments to ATCO's model, the ERA's assessment demonstrated a positive cash flow for a few years within the first 25-year timeframe but showed a negative cash flow for almost ten years afterwards.

While the ERA notes that most of ATCO's network growth projects demonstrated a positive NPV over the assessment period, the ERA has made the determination that:

- ATCO did not provide adequate information to justify the inclusion of the [redacted] million sub-meter to master meter program.
- ATCO expected to incur an additional [redacted] million above its approved business case for the Murdoch Drive reinforcement project, which was not included in the ERA's AA4 Final Decision. ATCO did not adequately explain the [redacted] million overspend of the project, and how the additional expenditure satisfied the capital expenditure criteria under NGR 79.

After the total reduction of this $2.8 million, the ERA considers that only $184.6 million of ATCO's network growth capital expenditure for AA4 meets the test under NGR 79(2)(b) and should be rolled into the regulatory asset base in AA5[23].

Table 5.2 outlines the ERA's amended network growth capex compared to ATCO's proposed forecast.

Table 5.2: ERA's amended AA4 network growth capex[24] ($M real as at 31 December 2019)

NETWORK GROWTH CAPEX	JUL TO DEC 2014	2015	2016	2017	2018 (F)	2019 (F)	TOTAL
ATCO proposed capex	**21.9**	**41.3**	**35.2**	**29.4**	**26.5**	**33.1**	**187.4**
Sub-meter to master meters	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Reinforcement – Murdoch Dr	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ERA amended capex	**21.9**	**41.3**	**37.5**	**27.3**	**24.6**	**32.1**	**184.7**

5.2.3 Draft Decision: AA4 Structures and equipment capex (-$4.4M Amendment)

ATCO proposed expenditure for structures and equipment of $42.1 million in AA4, this was $2 million lower than the ERA forecast of $44.2 million[25]. Although the $2 million variance between ATCO's actual expenditure and the ERA's AA4 Final Decision was relatively minor, the ERA noted a relatively large movement in two projects; *the Jandakot redevelopment and training facility, and Clean Energy Innovation Hub*. The ERA made the following points to support their Draft Decision.

5.2.3.1 Draft Decision: Jandakot Redevelopment and Training Facility ([redacted]M Amendment)

During AA4 ATCO expects to incur [redacted] million capex to complete the warehouse redevelopment ([redacted]m) and to establish its training centre ([redacted]m). This level of project capex will exceed the ERA allowance for this project by [redacted] million.[26] The ERA notes that:

> *"there was limited information available on the proposed training centre in ATCO's AA4 Access Arrangement Information. […]. While accepting the inclusion of the full value of the project at the*

[23] Draft Decision, Para 328

[24] Draft Decision, Table 47

[25] 2020-24 Plan, Table 5.4

[26] EMCa Report, Para 281

time of assessment, this inclusion was subject to an ex-post review and the relevant information available in ATCO's business case and cost-benefit analysis."[27]

The ERA has determined that ATCO has not adequately justified why the additional expenditure satisfies the criteria under the NGR and have therefore removed [redacted] million from the AA4 forecast.

5.2.3.2 Draft Decision: Clean Energy Innovation Hub ([redacted]M Amendment)

ATCO proposed to establish a Clean Energy Innovation Hub (**CEIH**) at its Jandakot site at a cost of [redacted] million. ATCO explained that the CEIH project aimed to investigate and demonstrate how cleaner energy sources and energy storage could be integrated into an effective energy grid by combining gas, electricity and heat for use in homes and industry. ATCO provided a Business Case to explain that it expected the construction of its Clean Energy Innovation Hub to be complete by 2019.

The ERA proposes that the CEIH project "appears to be a research and development project mainly for marketing purposes"[28]. The ERA considers that ATCO has not justified how this [redacted] million capex satisfies NGR 79 and has removed it.

5.2.3.3 Draft Decision: Blue Flame Kitchen (-$0.1M Amendment)

In the ERA's AA4 Final Decision, the capex for ATCO's Jandakot Blue Flame Kitchen (which was primarily positioned as a marketing project) was not accepted. The ERA notes that "ATCO did not explain why it included the capital expenditure of Blue Flame Kitchen in its AA4 proposed conforming capital base"[29] and have subsequently removed the $0.1 million incurred on this project from their AA4 forecast.

5.2.3.4 Draft Decision: AA4 Structures and equipment capex summary

For the reasons described above, the ERA determined that a total of $4.4 million on structures and equipment capex does not meet the capital expenditure criteria under NGR 79. The ERA considers that only $37.7 million of ATCO's structure and equipment capex for AA4 should be rolled into the regulatory asset base in AA5. Table 5.3 shows ATCO's actual and estimated structures and equipment capex, and the ERA's amendments.

Table 5.3: ERA's amended AA4 structures and equipment capex ($M real as at 31 December 2019)[30]

STRUCTURES & EQUIP. CAPEX	JUL TO DEC 2014	2015	2016	2017	2018 (F)	2019 (F)	TOTAL
ATCO proposed capex	**2.2**	**3.9**	**6.1**	**5.0**	**16.6**	**8.4**	**42.1**
Jandakot redevelopment and training facility	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Blue Flame Kitchen	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
Clean Energy Innovation Hub	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ERA amended conforming	**2.1**	**3.9**	**6.1**	**5.3**	**11.9**	**8.4**	**37.7**

27 Draft Decision, Para 333, 334

28 Draft Decision, Para 339

29 Draft Decision, Para 341

30 Draft Decision, Table 48

5.2.4 Draft Decision: AA4 Information technology capex (-$1.3M Amendment)

ATCO proposed IT expenditure of $30.2 million in AA4, this was $1.3 million higher than the ERA Forecast of $28.9 million[31]. Although the $1.3 million variance was relatively minor, the ERA noted some "relatively large movements in the information technology (**IT**) project portfolio". These projects include [redacted] million on the Springboard program, [redacted] million on Asset Management Optimisation and [redacted] million on the Geographical Information Systems (GIS) upgrade.

The ERA reviewed the justification for the Springboard program and is satisfied that the program aligns with good practice and ATCO's approval of this program aligns with the investment governance framework[32].

However, the ERA considers that "ATCO has mistakenly included Asset Management Optimisation ([redacted] million) and the GIS upgrade ([redacted] million) in its AA4 proposed conforming capital expenditure. As both projects are part of the ATCO's AA5 project (Asset Management Optimisation) or expected to commence during AA5 (GIS upgrade), the ERA considers that these programs should not be included in ATCO's proposed conforming capital expenditure for AA4."[33]

After this deduction of $1.3 million, the ERA considers that only $28.9 million of ATCO's AA4 IT capex should be rolled into the regulatory asset base in AA5. Table 5.4 shows ATCO's actual and estimated IT capex, and the ERA's amendments.

Table 5.4: ERA's amended AA4 IT capex ($M real as at 31 December 2019)[34]

IT CAPEX	JUL TO DEC 2014	2015	2016	2017	2018 (F)	2019 (F)	TOTAL
NATCO's proposed capex	**5.3**	**3.1**	**8.8**	**7.7**	**3.1**	**2.2**	**30.2**
Asset Management Optimisation	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
GIS upgrade	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ERA amended capex	**5.3**	**3.1**	**8.8**	**7.7**	**3.1**	**0.9**	**28.9**

5.2.5 Draft Decision: AA4 Overhead capitalisation (-$25.6M Amendment)

The ERA noted that ATCO had changed its overheads capitalisation method during AA4; introducing a time writing tool, which enabled office staff and field supervisors to allocate hours to both capex and opex projects. This enabled ATCO to capture direct and indirect labour costs separately.

Prior to this new method, ATCO allocated direct labour costs to be part of its reported overhead costs. As a result, ATCO's actual reported capitalised overhead value represented the estimated value of direct labour hours (rather than the actual hours) and true overheads (indirect costs) during AA3 and AA4 (until December 2017).

The ERA proposes that due to the new capitalisation method, ATCO capitalised overheads equivalent to 23.5% of its "capital expenditure attracting overheads", or 8.5% more than the ERA's AA4 allowance of 15.0%.

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31 2020-24 Plan, Table 5.4

32 Draft Decision, Para 346

33 Draft Decision, Para 347

34 Draft Decision, Table 48

The ERA assert that "by capitalising its overheads at a higher rate, ATCO proposed to roll the relevant operating expenditure into the regulatory asset base (that is, the estimated value of direct labour costs during AA4 under ATCO's previous overheads capitalisation method) that was included in AA4 tariffs, as conforming capital expenditure and recover this expenditure again over the life of the asset. This would result in customers paying twice for the recovery of this expenditure, which is inconsistent with the national gas objective. This regulatory accounting movement from operating expenditure to capital expenditure partly explains ATCO's reduced operating expenditure."[35]

The ERA calculated that the additional capitalised overhead is around $27.6 million. After excluding the project-based overhead adjustment of $2.0 million, the ERA determined that a total of $25.6 million of overhead does not meet the capex criteria. The ERA's calculation is shown in

Table 5.5: Summary of overhead capitalisation in AA3, AA4 and AA5 driver ($M real as at 31 Dec 2019)[36]

	AA3 ALLOWANCE	AA3 ACTUAL	AA4 ALLOWANCE	AA4 ACTUAL	AA5 FORECAST
Capex attracting overheads	251.6	233.1	383.1	323.0 (a)	376.2
Overhead (%)	15.0	14.2	15.0 (b)	23.5 (c)	16.5
Difference (c-b) (%)	-	-	-	8.5 (d)	
Additional overheads in AA4 (a x d)				27.6	
Less overhead included in the project-based adjustment				2.0	
Overhead capitalisation adjustment				25.6	

5.2.6 Draft Decision: ERA's revised AA4 capex forecast

Considering the conclusions reached in the previous sections regarding ATCO's proposed AA4 capex, the ERA determined that:

- $421.6 million (85.0%) of ATCO's expenditure complies with the criteria set out in NGR 79 and can be included in the opening value of the asset base for the AA5.
- $49.9 million (9.9%) of ATCO's expenditure does not comply with the criteria set out in NGR 79 and should not be included in the opening value of the asset base for AA5.
- $25.6 million (5.2%) of ATCO's capitalised overhead does not comply with the criteria set out in NGR 79 and should not be included in the opening value for AA5.

This breakdown is set out in Table 5.6.

[35] Draft Decision, Para 354

[36] Draft Decision, Table 50

Table 5.6: ERA's amended conforming capex by AA4 project driver ($M real as at 31 December 2019)[37]

	JUL TO DEC 2014	2015	2016	2017	2018 (F)	2019 (F)	TOTAL
ATCO proposed capex (a)	**43.9**	**80.9**	**92.9**	**92.4**	**98.0**	**87.9**	**496.0**
Sustaining amendments	-0.2	-0.2	-6.5	-11.6	-15.9	-7.1	-41.5
Growth amendments	-	-	2.2	-2.0	-2.0	-1.0	-2.8
Structures and equipment amendments	-	-	-	0.3	-4.6	-	-4.4
IT amendments	-	-	-	-	-	-1.3	-1.3
Total proposed reductions (b)	**-0.2**	**-0.2**	**-4.3**	**-13.3**	**-22.5**	**-9.4**	**-49.9**
Equity raising costs (c)	-	-	-	-	0.3	0.8	1.1
ERA amended capex (by project) (a+b+c)	**43.7**	**80.7**	**88.6**	**79.1**	**75.8**	**79.3**	**447.1**
Overhead capitalisation adjustment	-1.2	-7.7	-7.5	-6.5	-0.9	-1.9	-25.6
Total ERA amended capex	**42.5**	**73.0**	**81.1**	**72.6**	**74.9**	**77.4**	**421.6**

5.3 ATCO's response to the Draft Decision

ATCO does not accept the ERA's disallowance related to metallic mains replacement projects, multi-storey building risk reduction project, sub-meter to master-meter project, Murdoch Drive Reinforcement, Fleet, IT and overheads. We propose that capex reductions related to the Blue Flame Kitchen and overhead capitalisation will be added to the speculative capital expenditure account.

We believe $484.8 million of AA4 capex related to these projects meets the NGR, as shown in Table 5.7.

Table 5.7: ATCO's proposed AA4 conforming capex ($M real as at 31 December 2019)

	JUL TO DEC 2014	2015	2016	2017	2018	2019 (F)	TOTAL
ATCO actual capex (a)	**43.8**	**80.9**	**92.8**	**92.3**	**95.5**	**87.6**	**492.9**
Less Blue Flame Kitchen	-0.0	-0.0	-	-	-	-	-0.0
Less overheads adjustment	-1.2	-1.0	-1.5	-1.0	-2.6	-1.7	-9.0
Total proposed reductions (b)	**-1.2**	**-1.0**	**-1.5**	**-1.0**	**-2.6**	**-1.7**	**-9.0**
Equity raising costs (c)	-	-	-	-	0.3	0.7	1.0
Total ATCO AA4 conforming capex (a+b+c)	**42.6**	**79.8**	**91.3**	**91.3**	**93.2**	**86.5**	**484.8**

We are proposing a revised AA4 conforming capex forecast of $484.8 million, $11.2 million less than ATCO's submitted 2020-24 Plan, but $63.2 million higher than the ERA's Draft Decision. The investment needs for each project are identified in business cases and supported by capital expenditure appropriation requests (**CEAR**s). Please refer to the attachments referenced within each section as appropriate.

[37] Draft Decision, Table 51

5.3.1 ATCO's response: Network Sustaining capex

The ERA accepted $194.7 million of ATCO's proposed network sustaining capex for AA4. The ERA proposed that $41.5 million of AA4 network sustaining capex did not satisfy NGR 79.

We disagree with the ERA's Draft Decision and have proposed $228.6 million for AA4 capex relating to network sustaining projects. ATCO is dedicated to the delivery of safe, reliable and affordable gas to our customers. We believe that the capital works program in AA4 effectively managed the safety, reliability and integrity of the network and responded to the evolving risk challenges that emerged during AA4. For example, during AA4 we prioritised additional asset replacement activities as new information and insights regarding the condition and risks associated with parts of our network became available.

In AA4, we have also demonstrated our commitment to prioritising the safety of customers, the community and our employees by incurring additional cost over and above the AA4 capex allowance and undertaking additional leak surveys and reactive maintenance where required. Despite the unprecedented volatility in capital markets that is driving investment returns below the level that would provide a reasonable opportunity to recover at least efficient costs, ATCO remains committed to demonstrating the prudency of the AA4 works program and delivering safe, reliable and affordable services to our customers in AA4, AA5 and beyond.

The ERA has requested additional information before deciding to approve aspects of our AA4 mains replacement program in the Final Decision, our response is detailed in the following sections.

5.3.1.1 ATCO's response: Metallic mains replacement

The ERA has rejected the $16.7 million of the program expenditure noting that ATCO did not adequately explain how the additional this capex satisfied the conforming capital expenditure criteria under NGR 79. ATCO considers that its total [redacted] million[38] of actual expenditure on the Metallic Mains Replacement Program over AA4 meets NGR 79(1) and NGR 79(2)(c)(i) and(ii).

The AA4 capex allowance for the initiatives under the Metallic Mains Replacement Program was [redacted] million. Actual AA4 expenditure (including the updated 2019 forecast capex) will be [redacted] million. All of ATCO's metallic mains replacement capex was supported by business cases and CEARs. In further support of our revised submission, we have provided a full list of related Business Cases and CEARs for review [see Attachment 01.102: Document Index and Confidentiality Claims].

In its Draft Decision, the ERA proposed that ATCO did not provide sufficient information to justify the additional $16.7 million[39], particularly in relation to the additional volume of replacement, and "*why accelerating the replacement of metallic mains during AA4 was considered a prudent decision*."[40]

The two reasons for the variance above the ERA's AA4 allowance are an increase in the volume of replacements delivered and the increased unit cost of delivery, relative to the AA4 forecasts. These are explained in further detail below, and full detail can be found in our supporting document [see Attachment 05.102: AA4 - Compliance summary - Metallic Mains] attached to our 2020-24 Revised Plan.

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38 Note this figure was reported as $66.0 million in the 2020-24 plan but has since been adjusted to accommodate 2018 actual data and other amendments.

39 The variance is now $15.4 million following ATCO's latest forecast and an updated inflation rate

40 Draft Decision, Para 306

Increase in AA4 metallic mains replacement volumes

In its AA4 proposal, as accepted by the ERA, ATCO proposed a replacement schedule for the metallic mains that spread the task over all 5.5 years of AA4. However, during AA4, the actual profile differed with the metallic mains replacements exceeding forecast replacement volumes in 2017 and 2018 (See Table 5.8).

The actual metallic mains forecast to be replaced in AA4 is [redacted] km[41], compared to the AA4 approved forecast of [redacted] km.

Table 5.8: Approved and actual annual metallic mains replacement volumes (km/year)

	2014 (JUL-DEC)	2015	2016	2017	2018	2019 (FORECAST)	TOTAL
AA4 Approved Forecast	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
AA4 Actual / Forecast	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
VARIANCE	**-0.1**	**0.2**	**-5.3**	**11.6**	**23.8**	**-16.4**	**13.9**

The increase in volume is due primarily to the identification of significant **opportunities for more efficient delivery** (e.g. bringing forward and bundling projects that were in the same suburb), and the **inclusion of meterage that was unforeseen** (and unforeseeable) at the time of preparation of the AA4 forecasts. This information arose from the field assessments of the best reconnection options. These variances are explained below.

- **Opportunities for more efficient delivery and minimising stakeholder impact (approx. 6.9km)**

  The higher than forecast metallic mains replacement activity in 2017 and 2018 is due to projects brought forward to align with other projects and take advantage of operational and cost efficiency as well as minimise disruption to the community.

  By scheduling adjacent projects to align with one another, ATCO achieved significant reductions in construction, traffic management, planning and reinstatement costs.

  In the case of the odd size steel and metallic mains projects, where these projects were interconnected (e.g. Bentley and Morley odd size steel and metallic mains projects), the construction team recognised opportunities for savings to replace the mains at the same time, instead of connecting into the remaining steel mains and returning in the future to complete metallic mains replacements as a discrete project. This approach also reduces the overall impact on residents, public and road users since we will conduct works in these locations once.

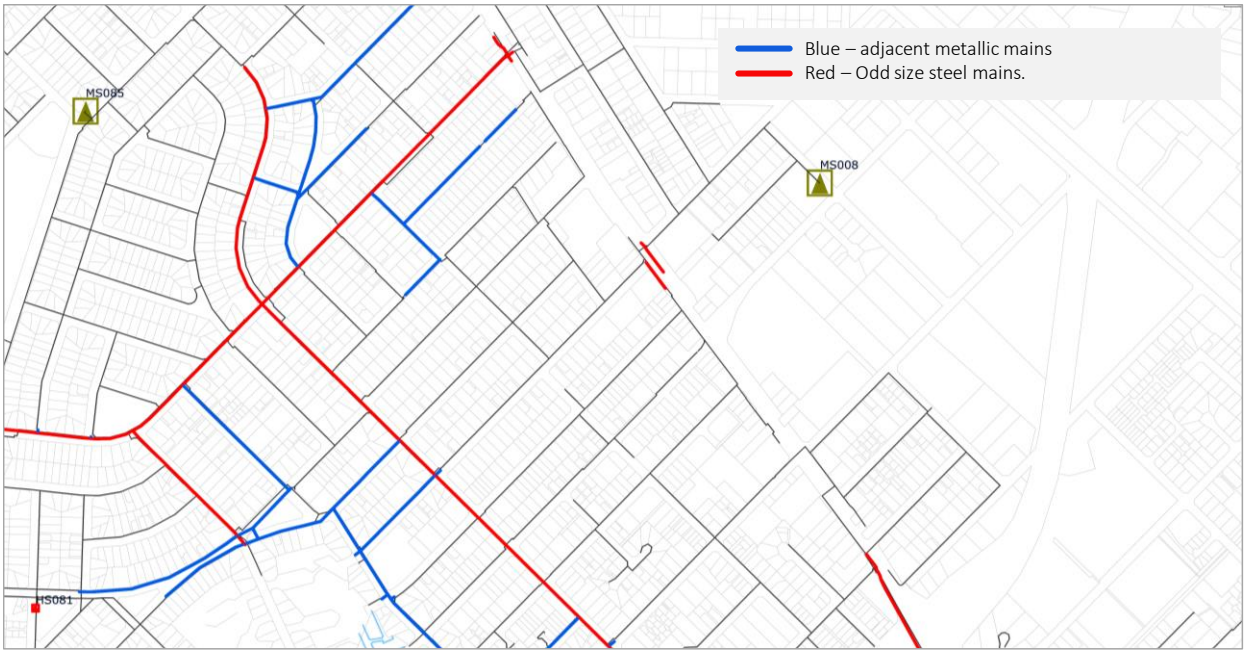
  An additional benefit of bundling works is eliminating the use of mechanical fittings to connect PE to metallic mains. Mechanical fittings are a potential leak source.

  ATCO's active consideration of these opportunities occurred throughout AA4, largely through the direct communications between the construction and asset management teams, which then informed executive-level consideration and approval of relevant CEARs. Examples of this 'officer-to-officer' communication are provided for the ERA's consideration [Attachment 05.107: AA4 - Compliance Summary - Supporting documentation provided].

  Please see Figure 5.1 for an example of odd size steel replacement interconnection with metallic mains, from the Bentley project.

[41] [redacted] km of which explicitly approved by the business through AA4 CEARs, 4km of expenditure brought forward through an existing CEAR of another project, and [redacted] km of unforeseen meterage.

Figure 5.1: Bentley odd size steel replacement interconnection with metallic mains



- **Unforeseeable meterage at the time of project planning (approx. 7km)**

  The remaining 7km variance is due to unforeseeable meterage at the time of project planning at the beginning of AA4. Key contribution factors to the variance are:

  a) Inaccuracies of historical records where metallic mains extend further than the drawings indicated.

  b) Changes in roads, street frontage and other infrastructure since the old metallic mains were installed. The replacement of the old assets required adjustment to ensure the new mains were connected and integrated safely and in alignment with the present street and other infrastructure layout. This required connection tie-in points to be added away from road intersections, or where the metallic mains were connected to other potentially problematic assets crossing under roads. In the latter case, it was considered prudent to extend the mains replacement a short distance to reach an efficient reconnection tie-in location while addressing potential future leak points under the sealed surfaces.

  Across the program to date, unforeseeable meterage accounted for 5% of total delivered replacement length but was not accounted for in the AA4 initial plan.

Increase in AA4 metallic mains unit costs

Increased unit costs to deliver a given volume of work were higher over the AA4 period than were originally foreseen. The differences between previous unit cost assumptions (implied by the volumes and capex comprising the ERA approved forecast for AA4) and the actual costs and volumes achieved are summarised in Table 5.9.

Table 5.9: Forecast (implied) and actual unit costs for metallic mains ($/m)

	2014 (JUL-DEC)	2015	2016	2017	2018	2019 (F)	TOTAL
AA4 forecast implied unit rates ($/m)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
AA 4 actual unit rates ($/m)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
VARIANCE (%)	**3%**	**17%**	**44%**	**19%**	**5%**	**51%**	**14%**

In some years, the variances in unit costs relative to implied assumptions under the approved forecast are relatively large and different factors have contributed to these variations according to the year in question.

- **2015:** the works were carried out pursuant to an individual contract tender, prior to the establishment of the new contract with the replacement contractors, which may have been attended by additional costs – as can often be the case with isolated projects.
- **2016**: with the commencement of a new contractor 'CivCon', ATCO had to make allowances in the work program to give CivCon time to build capability. At the same time, the projects in 2016 encountered other factors that increased the cost of delivery, including an increased service frequency, hard ground conditions as the project moved toward Fremantle and a greater requirement for regulators to allow for a pressure increase.
- **2017:** A significant share of the work was planned for areas with higher than normal cost factors, such as rock and service density. The relevant CEAR notes this particular difficulty.
- **2019:** The set of replacement projects comprises many small segments and hard to reach assets that are expensive to replace on a per metre measure. As noted in the 2019 CEAR [Attachment 05.107: AA4 - Compliance Summary - Supporting documentation provided], "In previous years, the scope of work was concentrated mainly in one suburb; the 2019 scope of work is made up of numerous jobs scattered over different sites across the Metro, with a significant amount of traffic management requirements and night works expected. The scope also includes some very complex jobs such as the freeway crossings as well as a number of rail crossings." When the AA4 forecasts were prepared, ATCO had not accounted for the significantly higher cost per metre associated with completing these small and complex projects, whereas this was accounted for by the time the relevant CEARs were presented to the executive team.

ATCO proposes that all AA4 capex associated with the replacement of metallic mains is prudent and satisfies the conforming capital expenditure criteria under NGR 79(1)(a) and 79(2)(c)(i) and (ii) as established by the relevant business cases and CEARs.

5.3.1.2 ATCO's response: Odd size steel mains replacement

The ERA has rejected [redacted] million of the proposed expenditure on the basis that ATCO did not provide adequate information to justify that the additional costs meet NGR 79 criteria. ATCO considers that the [redacted][42] million of actual expenditure on the Odd Size Steel Mains Replacement Program over AA4 meets NGR 79(1)(a) and 79(2)(c)(i) and (ii).

The Odd Size Steel Mains Replacement (**OSS**) Program started in 2006, driven by the operational risks associated with odd size steel mains being difficult to isolate during an emergency. To ensure the safety, reliability and integrity of the distribution network, the gradual replacement of these assets has been proposed and accepted over successive regulatory periods.

The AA4 capex allowance for the initiatives originally brought under the OSS program was [redacted] million.[43] Actual AA4 expenditure, including expenditure forecast to occur in 2019, is expected to be [redacted] million, all of which is supported by business cases and CEARs.

In its Draft Decision, the ERA notes that "ATCO did not provide adequate information to justify the additional costs of [redacted] million. As a result, the ERA considers that the additional expenditure of [redacted] million incurred in the odd size unprotected steel replacement does not satisfy the conforming capital expenditure criteria under rule 79(1)(a) and 79(2)(c)(i) of the NGR." This variance is shown in Table 5.10,

[42] Note this figure was reported as [redacted] million in the 2020-24 plan but has since been adjusted to accommodate 2018 actual data and other amendments.

[43] All expenditure figures in this document are presented in real $2019.

noting that the variance has adjusted from the ERA Draft Decision due to updates in 2018 actuals and the updated 2019 forecast.

Table 5.10: AA4 OSS expenditure: Approved vs Actual ($M real as at 31 December 2019)

	2014 (JUL-DEC)	2015	2016	2017	2018	2019 (FORECAST)	TOTAL
ERA AA4 FINAL DECISION	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Actual by project							
E.Perth, Kings Park, T.Hill & Maylands	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Fremantle	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Nollamara	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Dianella	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Bentley and Morley	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ACTUAL TOTAL	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
VARIANCE ($M)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The reason for the variance is an **increase in the cost of delivering the program**, primarily due to original AA4 cost estimates being based on projects that turned out to be unrepresentatively simple and hence considerably less expensive to implement. AA4 cost estimates were based on historical unit rates from OSS replacement projects in East Perth, Kings Park, Tuart Hill and Maylands. These projects began in 2012 and 2013 and were the best estimate at the time of the AA4 submission. The estimated number of services was based on experience, that OSS mains were traditionally designed with limited service connections. Though not anticipated during the development of the AA4 forecasts, we encountered increasing proportions of service replacements in AA4 that increased the unit cost of OSS mains replacements. In some cases, the assets being replaced were not expected to have many services connected to them because the main was duplicated by a PVC asset that would, under typical network planning arrangements, have taken most of the service connections. Some mains were found to have numerous services connections, increasing the required service relay rate from 180m to every 20m on average.

Other factors driving higher than expected costs of works included increased traffic management costs, including night works, complexity of the area such as soil type (hard ground conditions) and reinstatement requirements due to mains locations (road, footpaths).

For further evidence and justification for this variance, please refer to [Attachment 05.103: Compliance Summary - Odd Size Steel, Section 2.3]. In summary, ATCO proposes that this expenditure is conforming capex under NGR 79(1)(a) and 79(2)(c)(i) and (ii), as established by the relevant business cases and CEARs.

5.3.1.3 ATCO's response: Unplasticised polyvinyl chloride (PVC) mains and services replacement

The ERA has rejected expenditure of [redacted] million of the total proposed expenditure noting that "ATCO did not provide adequate information to explain the increase in the PVC mains replacement rate during AA4 and how the accelerated replacement was reflected in its strategy for AA4". ATCO considers that its revised AA4 forecast expenditure of [redacted] million[44] on the PVC Mains and Services Replacement Program over AA4 meets NGR 79(1)(a) and 79(2)(c)(i) and (ii) and has been adequately documented as per our

[44] Note this figure was reported as [redacted] million in the 2020-24 plan but has since been adjusted to accommodate 2018 actual data and other amendments.

compliance summary, [refer to Attachment 05.101: AA4 - Compliance summary - PVC Mains Replacement Program].

The PVC Mains and Services Replacement Program started in 2015, driven by the operational risks arising from the aging pipes reaching their service lifetime and resulting in increasing leak rates. In 2017, the PVC network had the highest reported leak rate on the GDS at 0.057 leaks per km, followed by steel (0.047 leaks per km). This compares to 0.008 leaks per km for PE pipe.

To ensure the safety, reliability and integrity of the network, the gradual replacement of PVC assets is a core component of ATCO's risk-based asset lifecycle management. ATCO proposed to continue with this ongoing replacement program during AA4 and the ERA endorsed a capex forecast that included removing [redacted] km of PVC mains and services and replacing them with fully-fused PE mains.

In its Draft Decision, the ERA notes that "ATCO did not provide adequate information to explain the increase in the PVC mains replacement rate during AA4 and how the accelerated replacement was reflected in its strategy for AA4." (see Section 5.2.1.3)

This variance is shown in Table 5.11, noting that the variance has been adjusted from the ERA Draft Decision due to updates in 2018 actuals and the updated 2019 forecast.

Table 5.11: AA4 expenditure: Approved vs Actual ($M real as at 31 December 2019)

	2014 (JUL-DEC)	2015	2016	2017	2018	2019 (FORECAST)	TOTAL
ERA AA4 Final Decision	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Actual by EOL REPLACEMENT project[45]							
PVC Mains and Services (2015)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
PVC Mains and Services (2015)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
PVC Mains & Services (2018)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
PVC (2018)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ACTUAL TOTAL	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
VARIANCE	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The AA4 capex allowance for the initiatives originally brought under the PVC Mains Replacement Program was [redacted] million. Actual AA4 expenditure (including 2019 forecast capex) will be [redacted] million, all of which is supported by business cases and CEARs. The reason for the variance is a significant increase in the volume of replacements delivered relative to forecast, due to the emergence of a higher rate of leaks in some PVC assets and the opportunities for more efficient delivery identified during AA4.

Notwithstanding the fact that the rate of PVC replacement was higher than originally forecast, individual projects were carried out in accordance with specific CEARs, ensuring that ATCO prudently managed the increased level of investment and endorsed the reasons for it [see Attachment 05.107: AA4 - Compliance Summary - Supporting documentation provided].

ATCO follows a Project Management Manual (PMM) that manages projects according to the principles described within ISO 21500 Guidance on Project Management and applies methods consistent with the Project Management Institute's Project Management Body of Knowledge (PMBoK).

[45] Business case details are provided in source documents [Attachments 05.107] and summarised in [Attachment 05.101: AA4- Compliance summary- PVC Mains Replacement Program, Section 2.2]

The fact that the actual costs to deliver the PVC Replacement Program over AA4 exceeded the ERA-approved AA4 forecast is entirely explained by reference to increased replacement volumes. Importantly, the extent of the overspend relative to the forecast was far less than it would have been had ATCO not achieved considerable reductions in the unit cost of asset replacement relative to the assumptions underpinning the ERA approved forecast.

Increase in PVC mains replacement volumes

In its AA4 proposal, as accepted by the ERA, ATCO proposed a replacement schedule for the PVC mains that was evenly spread over all 5.5 years of AA4. However, during AA4, the actual replacement profile differed, with the PVC mains replacements ramping up annually and exceeding replacement volumes in all years from 2015 (See Table 5.12).

Table 5.12: Approved and actual annual PVC mains replacement volumes (km/year)

	2014 (JUL-DEC)	2015	2016	2017	2018	2019 (FORECAST)	TOTAL
AA4 Approved Forecast	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
AA4 Actual / Forecast	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
VARIANCE	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The reasons for the increase in volumes are outlined below, and further information can be found in [Attachment 05.101 AA4 - Compliance summary - PVC Mains Replacement Program, Section 3.2].

- **New information and insights concerning the PVC network**

  In AA4, ATCO acquired new information through leak data and insights from the Mains Replacement Prioritisation (MRP) tool, into the deteriorating conditions and risks associated with parts of its PVC network. ATCO reported a 43% increase in the mains leak rate in 2016 compared to the previous year; a finding circulated throughout the business as part of the Operations Monthly Report produced by Asset Services. The highest increase in leak rate was on PVC mains, which increased from 0.05 to 0.09 leaks/km. The leaks were identified during planned suburb routine leak survey. Suburbs are on a 5 yearly leak survey frequency. Increased number of leaks were identified in older suburbs, i.e. Bayswater, Swan View, Midland, Midvale and North Perth, where leaks are more probable given the age and condition of assets.

  During AA4, ATCO implemented the MRP Tool. This software considers asset specification such as age, historical leak data from material failure and fittings and exposure criteria to estimate pipe condition. The MRP tool provided more insights into the risk of each segment of PVC mains. The semi-quantitative risk outcomes from the MRP tool reflect the risk to public safety from each PVC main segment and have been correlated to the ATCO Risk Management Matrix, in accordance with our Safety Case.

  Considering this new information, ATCO acted prudently in increasing replacement rates above the approved AA4 forecast. ATCO targeted sections of the PVC associated with High risk and suburbs with elevated leak rates to maintain the safety and integrity of the gas distribution system. The need and timing for the specific initiatives undertaken as part of the Mains Replacement Program are outlined in a series of business cases, approved between 2015 and 2018. These are provided to support our proposal [Attachment 05.107: I007. CEAR PVC 01.03.18_Mains and Services Aprvd].

- **Evolving scope of works**

  A second order driver of scope increases was the identification of opportunities to combine delivery with other replacement projects to achieve higher efficiency and better outcomes for stakeholders (for example, the Lathlain PVC project [See Attachment 05.107: I007. CEAR PVC 01.03.18_Mains and Services Aprvd]). In some cases, ATCO also conducted two adjacent mains replacement projects in conjunction to reduce the overall impact on residents, public and road users. ATCO conducts works in the same locations once instead of returning in the future, minimising disruption to the community.

  For further evidence and justification for this variance, please refer to [Attachment 05.101: AA4 - Compliance summary - PVC Mains Replacement Program].

In summary. ATCO considers that this expenditure is conforming capex under NGR 79(1)(a), and 79(2)(c)(i) and (ii).

5.3.1.4 ATCO's response: Multi-storey buildings risk reduction

The ERA has rejected expenditure of [redacted] million of the total proposed expenditure of [redacted] million, on the basis that is does not meet NGR 79.

ATCO proposes that:

- [redacted] million of actual expenditure on the Risk Reduction – Multi-storey Buildings Program over AA4 (which was accepted by the ERA in the Draft Decision) meets NGR 79; and
- [redacted] million of actual expenditure on the Risk Reduction – Multi-occupancy Buildings Program over AA4 (which was not accepted by the ERA in the Draft Decision) meets NGR 79.

ATCO does not accept the ERA's disallowance of the [redacted] million for multi-storey building risk reduction completed in AA4. The ERA has disallowed the expenditure based on inadequate justification of the cost variance. However, the AA4 Final Decision included two projects:

- Risk Reduction - Multi-storey Buildings
- Risk Reduction - Multi-Occupancy Buildings

The ERA has associated the so-called 'overspend' with the multi-storey building risk reduction project, whereas this [redacted] million actually relates to the *multi-occupancy risk reduction project* (in respect of which [redacted] million was allowed in the AA4 Final Decision). As a result, this amount does not comprise an overspend against the AA4 allowance, but in fact comprises a significant ([redacted] million) underspend.

All the expenditure for both projects is supported by business cases and CEARs.

The AA4 capex allowance for the initiatives and the actual AA4 expenditure is shown in Table 5.13 and Table 5.14.

Table 5.13: ERA AA4 Final Decision vs. Actual Risk Reduction - **Multistorey** Buildings

	2014	2015	2016	2017	2018	2019	TOTAL
ERA Final Decision AA4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Actual Expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table 5.14: ERA AA4 Final Decision vs. Actual Risk Reduction - **Multi-Occupancy** Buildings

	2014	2015	2016	2017	2018	2019	TOTAL
ERA Final Decision AA4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Actual Expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Overview of multi-storey and multi-occupancy buildings risk reduction

Gas infrastructure within multi-storey and multi-occupancy buildings has arisen from historic practices. The investment need was identified through a formal safety assessment (**FSA**) required as part of the Safety Case. The FSA identified the risk of gas leakage and consequences associated with internal gas risers, gas infrastructure within multistorey/ occupancy buildings, and services under buildings as not being ALARP.

ATCO engaged with EnergySafety to develop a solution that would reduce the risks associated with these assets. A risk-based program to replace assets in multistorey buildings commenced in AA3 and continued into AA4. A risk-based approach has been used to prioritise the upgrade infrastructure throughout all buildings identified. The program was divided into the following two areas of focus:

- **Multi-storey buildings risk reduction:** Infrastructure within multi-storey buildings greater than or equal to 3 storeys.
- **Multi-occupancy buildings risk reduction:** Infrastructure within multi-occupancy buildings (2 storey).

The ERA's Draft Decision was mistaken in describing these two separate programs as a single program, in fact they are two separate programs with similar drivers.

The expenditure relating to these two programs is shown in Table 5.15.

Table 5.15: Multi-storey and multi-occupancy projects ($M real as at 31 December 2019)

	BUSINESS CASE	ACTUAL	VARIANCE (%)
Multi-storey	[redacted]	[redacted]	[redacted]
Multi-occupancy	[redacted]	[redacted]	[redacted]

- **Multi-storey buildings risk reduction**

  The business case for the multi-storey buildings risk reduction project was approved for [redacted] million. The project was approved in December 2013 and was completed in March 2016. The project was under the budgeted expenditure in the business case; however, this project exceeded the ERA's AA4 approved capex by [redacted] million or around 4%. The main driver for the variance from ERA's approved expenditure is due to higher number of sites than was originally forecast in the AA4 submission. [Please refer to Attachments 05.114, 05.115 and 05.116]. The ERA has accepted in its Draft Decision that this expenditure satisfies NGR 79.

- **Multi-occupancy buildings risk reduction**

  There are two business cases associated with the multi-occupancy buildings risk reduction project, and the total project was approved for [redacted] million. The project was approved in 2016 and completed by 2018. Actual expenditure was 9% higher than the business case-approved levels, although significantly under the ERA's AA4 approved amount by [redacted] million, or around 54%. [Please refer to Attachments 05.112 and 05.113].

The AA4 expenditure on the Risk Reduction – Multistorey Buildings and Risk Reduction – Multi-occupancy buildings satisfies NGR 79(1)(a) as the works did not exceed the amount that 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. The efficiency of the investment can be demonstrated through the:

- prudent assessment of each property to determine the mitigation action required and planning and design of each property to minimise cost and impact on the customer;
- efficient procurement of the external contractor services to carry out the works using a strategic contracting approach that incentivises the contractors while efficiently sharing and managing risks; and
- application of thorough project management methodology throughout project procurement, construction and sign-off.

Based on the above, it can be concluded that the Risk Reduction – Multistorey and Risk reduction – Multi occupancy investments during AA4 satisfy NGR 79 based on the following:

- the investment represents the amount that would have been invested by a service provider achieving the lowest sustainable cost of providing services; and
- the investment satisfies the 'maintain the integrity of services' and 'maintain and improve the safety of services' tests.

In summary, ATCO considers that this expenditure is conforming capex under NGR 79(1)(a) and 79(2)(c)(ii).

5.3.1.5 ATCO's response: Caversham security of supply project

ATCO accepts ERA's disallowance for the [redacted] million on the Security of Supply – Caversham project in AA4. Since the Draft Decision, ATCO is revisiting the risk reduction factors. This will be discussed in Section 10.4.1.4.

5.3.2 ATCO's response: Network Growth capex

The ERA accepted the $184.7 million proposed in the 2020-24 plan and rejected $2.8 million of expenditure on the basis that [redacted] million relating to the Murdoch Drive reinforcement project and [redacted] million relating to the sub-meter to master meter (*Subs-to-Masters*) program do not meet NGR 79 criteria.

We do not accept the ERA's disallowance of $2.8 million and we propose $182.9 million[46] of AA4 capex.

5.3.2.1 ATCO's response: Reinforcement – Murdoch Drive

The ERA disallowed [redacted] million that was incurred above the approved business case for the Murdoch Drive Reinforcement project. ATCO does not accept the ERA's disallowance of [redacted] million and proposes that the additional [redacted] million of actual expenditure in AA4 meets NGR 79(1)(a) and 79(2)(c)(ii).

Overview of the Murdoch Drive Reinforcement project

The project was commissioned to install [redacted] km of high pressure steel pipeline to reinforce the distribution network in the Fremantle area. The existing steel pipeline is a small diameter steel pipeline with a critical regulating facility at the end. The hydraulic modelling indicated that the reinforcement of the existing steel pipeline was required to ensure adequate gas supply pressure to regulator facility HS127 in order to ensure

[46] Note this figure is derived from the $187.4 million reported in the 2020-24 plan, Table 47, but has been adjusted to accommodate 2018 actual data, reforecast 2019 data, a reduction in the sub-meter to masters meter project scope and other amendments.

security of supply to the 15,500 domestic and 2 commercial customers in the Fremantle distribution network from 2019.

The reinforcement was brought forward to 2016 to combine works with the Main Roads' project to upgrade Murdoch Drive. The project (conducted with MRWA) provided two efficiency benefits:

- A utility service corridor provided with the road widening to ease the congested services currently existing within the road reserve.
- A reduction of reinstatement works as the pipe installation would be conducted prior to the completion of the MRWA's road upgrade.

This project was approved in December 2015 for [redacted] million [see Attachment 05.110: AA4 Business Case & CEAR Reinforcement - Murdoch Drive 1521-2015-GCA1-SM-067]. The project began in 2016 and was completed in 2018. Changes to the MRWA's project, driven by factors beyond management control, occurred after the business case was approved and impacted the pipeline route. The changes were related to the cancellation of the 'Roe 8' project after the WA State election. The revised pipeline route affected the installation method. The original proposal was for installation through open trench; however, this was not viable in the new route and the pipeline was installed via horizontal directional drilling. The revised costs due to the design changes were approved in a revised CEAR and resulted in an additional [redacted] million. This brought the total approved budget to [redacted] million [see Attachment 05.111: AA4 Revised CEAR Reinforcement - Murdoch Drive 1520-GCA1-SM-0386].

The project's actual expenditure was [redacted] million, approximately [redacted] million above the original business case, and [redacted] million over the revised CEAR (within the ATCO policy on acceptable variations before additional approvals must be sought).

The project with the additional expenditure meets NGR 79(1)(a) as the works did not exceed the amount that 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. The efficiency of the investment can be demonstrated by the way in which the pipeline installation was undertaken to achieve combined works efficient delivery. This approach reduces public impacts and minimises the reinstatement costs resulting in [redacted] million[47] lower forecast expenditure [see Attachment 05.110: AA4 Business Case & CEAR Reinforcement - Murdoch Drive 1521-2015-GCA1-SM-067].

This project also meets NGR 79 (2)(c)(ii), the reinforcement is required to maintain the integrity of services. Ongoing connections in and around Fremantle indicated that network reinforcement would be required to support customer growth while maintaining network reliability to existing customers.

In summary, ATCO considers that this expenditure is conforming capex under NGR 79(1)(a) and 79(2)(c)(ii).

5.3.2.2 ATCO's response: Subs-to Masters project

The ERA disallowed [redacted] million that was incurred for the Subs to Masters project due to inadequate information provided. ATCO does not accept the ERA's decision and proposes our revised forecast of [redacted] million of expenditure on the Subs-to Masters project in AA4 meets NGR 79(1)(a) and 79(2)(c)(i) or (ii).

The Subs to Masters Project was not included in the AA4 Final Decision forecast, however it is proposed to be included as conforming capex in AA5 (see Section 10.4.2.2). Please refer to [Attachment 05.105: Compliance Summary - Subs to Masters].

47 $ nominal

Our distribution network contains sub-networks and meters that are privately owned and operated downstream of existing ATCO owned *master* meters. These sub-networks are typically installed in high density residential housing complexes and many installations are approaching 'end-of-useful life'. While these installations are not our legal responsibility, the Subs to Masters Project was identified as a prudent intervention to address real safety and reliability issues, and maintain customers' positive experience regarding reliability and cost efficiency of services.

The Subs to Masters Project is intended to maintain the integrity of services by upgrading the connection assets in multistorey buildings and, in so doing, reduce the incidence of supply failures and safety incidents. This needed to be done in a manner that would avoid imposing onerous costs on our customers. The Subs to Masters Project does not provide additional throughput of gas through the network, but does result in additional connections and therefore additional incremental revenue.

Actual and forecast AA4 expenditure on the project, net of customer contributions, is expected to be [redacted] million (see Table 5.16). All this expenditure is supported by business cases and CEARs, and a robust process for evaluating incremental revenue and determining customer contributions. The expenditure was not originally forecast for AA4 because the deficient and potentially unsafe assets targeted through the project are not currently owned by ATCO. The need to address the safety and reputational liabilities associated with this group of assets became clearer during AA4. We propose that this expenditure is conforming capex under NGR 79.

Actual expenditure for the Subs to Masters project is shown in Table 5.16, broken down by individual project and investments under the 2017 Business Case. Note that we received capital contributions from a proportion of customers who received a sub-meter to master meter conversion and service connection upgrade. These contributions are applied to offset part of the actual capex.

Table 5.16: Actual Subs to Masters Project capex ($M real as at 31 December 2019)

CEAR / YEAR	2014 (JUL-DEC)	2015	2016	2017	2018	2019(F)	TOTAL
Individual Project – 3 Anstey St South Perth	[redacted]						
Individual Project – 59 Herdsman Pde Wembley	[redacted]						
Individual Project – 46 Cunningham Tce Daglish	[redacted]						
Individual Project – 23 Hensman Rd, Subiaco	[redacted]						
Subs to Masters Program Business Case	[redacted]						
SUB-TOTAL:	[redacted]						
Less: Capital contributions	[redacted]						
TOTAL	[redacted]						

5.3.3 ATCO's response: Structures and Equipment capex

The ERA accepted $37.7 million of ATCO's proposed structures and equipment expenditure for AA4 but rejected expenditure of $4.4 million on the basis that ATCO has not justified how the capital expenditure satisfies the capital expenditure criteria under NGR 79.

We disagree with the ERA's Draft Decision and have proposed $42.5[48] million for AA4 capex relating to structures and equipment. Our response is detailed in the following sections.

[48] Note this figure was reported as $42.1 million in the 2020-24 plan but has since been adjusted to accommodate 2018 actual data and other amendments.

5.3.3.1 ATCO's response: Jandakot Redevelopment - Phase 2 project

ATCO does not accept the ERA's determination that the capex associated with Jandakot Redevelopment project is non-conforming. We propose a revised AA4 capex forecast of [redacted] million[49] for this facility.

The Jandakot Operations Centre Upgrade, comprising expansion of the existing training facility and warehouse capacity, is Phase 2 of the Jandakot Redevelopment project, which commenced during AA3. During AA4, we incurred [redacted] million to complete the facility, exceeding the ERA's AA4 Final Decision forecast by [redacted] million for both warehouse and training centre Redevelopment.

The ERA propose that ATCO has not adequately justified why the additional expenditure satisfies the criteria under the NGR and have therefore removed [redacted] million (adjusted from [redacted] million[50]) from the AA4 forecast. ATCO considers that this expenditure is conforming capex under NGR 79(1)(c)(i), (ii) & (iii), in that the project maintains and improve the safety of services, maintains the integrity of services, and complies with a regulatory obligation or requirement.

We have provided further justification in the sections below. Please also refer to [Attachment 05.104 Compliance Summary - Jandakot Phase 2 Redevelopment].

Jandakot Redevelopment Project history and reconciliation

The actual and forecast growth in the gas network required upgrades to the structure and capacity of the depot facilities to accommodate increasing demand and volume of staff and contractors requiring training, as well as to accommodate increased operations and operational supplies. In particular, ATCO's training facility and warehouse constraints were putting pressure on ATCO's ability to meet its safety and training obligations and restricting operational efficiency. Furthermore, ATCO was required to address several issues on site in order to comply with strict environmental controls and to receive development approval.

- **Training Facility:** ATCO's old training facility in Jandakot was a shed built in the 1980s with a total internal and external area of around 490m^2. The old training facility consisted of a small classroom of 67m^2, a training workshop of 180m^2, and an external trench training area of around 200m^2. The old training facility had a maximum capacity of around 1,200 training delivery hours per annum. However, since 2014, the actual training delivery hours had exceeded 1,200 hours.

  ATCO is required under the *Gas Standards (Gas Supply and System Safety) Regulations 2000* (**GSSSR 2000**) to ensure, so far as is reasonable and practicable, that any employee or contractor engaged in carrying out a prescribed activity is given instruction and training, and tested for competence in how to safely apply and use those standards, procedures and practices.
- **Warehouse Facility:** The warehouse at Jandakot was built in the 1980s and ATCO had outgrown the available storage space in the warehouse [See Attachment 05.104: AA4 - Compliance summary - Jandakot Phase 2 Redevelopment - Picture A.5]. Increased warehouse capacity was required to meet the increasing material storage demand of the growing network and storage demand of new stock items needed to meet required network obligations (e.g. larger diameter pipes and associated fittings). At the time of developing the Jandakot Redevelopment project business case, we had worked around the warehouse space shortfall by storing network materials such as PE pipes, meter boxes and meter sets in the carpark areas and the yard on dirt. These were not prudent storage solutions for network materials in the long term to ensure their integrity.

[49] Note this figure was reported as [redacted] million in the 2020-24 plan but has since been adjusted to accommodate 2018 actual data and other amendments.

[50] Adjustment from the amount noted in the Draft Decision, due to inflation updates, 2018 actuals, and refreshed 2019 forecasts.

The training centre and warehouse redevelopment were treated as two projects in the ERA forecast. However, as the projects occurred simultaneously and involved cross-overs, the two projects became integrated into a single project. The project was included in our AA4 submission in 2014.

Table 5.17 outlines the expenditure and approval milestones for the Jandakot Redevelopment project.

Table 5.17: Investment reconciliation overview

EXPENDITURE BREAKDOWN		$M 2019 REAL
Internal approvals	AA4 Submission	[redacted]
	Business Case: Supports the completion of the redevelopment of the existing Operations Depot at the Jandakot site at a cost of $9.6M. The preferred option exceeded the AA4 allowance of $6.8M. As such, the business case proposes the remaining amount ($2.9M) to be re-allocated from the planned Osborne Park Depot purchase[51].	[redacted]
	Pending Change Control	[redacted]
NGR Compliance	**Total actual capex ($M 2019 real)**	[redacted]
	NGR 79 – AA4 Actual + Forecast	[redacted]
	NGR 82 – Capital contribution	[redacted]
	NGR 84 – Speculative Investment	[redacted]
	Total capex to add to the RAB ($M 2019 real)	[redacted]
Variances	To AA4 submission	[redacted]
	To internal approvals	[redacted]
	TOTAL CAPEX ($M 2019 REAL)	[redacted]

Variance compared to AA4 approved capex forecast

The ERA-approved AA4 forecast, developed in 2013, was based on a preliminary scope of works and design that resulted in a high-level cost estimate. Following the firming up scope of works and design as part of the development of the business case, including through external design and construction advice, a more accurate cost estimate was developed.

The transition from preliminary to detailed cost estimate has resulted in the AA4 forecast being substantially underestimated, with the actual project capex of [redacted] million exceeding the ERA-approved allowance by [redacted] million (warehouse and training centre). However, the actual AA4 project capex was in line with the independent cost estimate prepared by a registered quantity surveyor as outlined and approved in ATCO's business case.

Further, the final approval and delivery of the Jandakot Operations Centre Upgrade project in AA4 was underpinned by the following expenditure planning and governance process steps consistent with NGR prudency and efficiency requirements:

- a substantiated identified need
- a clearly specified project scope of works and project design
- well-planned and executed procurement and delivery project phases.

[51] The proposed Osborne Park Deport will now be in Malaga, resulting in reduced land costs. The land will be acquired by Q4 2019 and construction will commence in 2020 [see Attachment 05.109: AA4 Malaga Approved Business Case and CEAR].

Variance compared to budgeted expenditure

Actual expenditure was [redacted] million (~5%) over our business case approved levels. This variance is well within the business' policy on acceptable variations before additional approvals must be sought. While no additional approval was required, the expenditures were reviewed monthly by Finance, and reported to the Investment Governance Committee.

Several items contributed to the overspend, including the removal of temporary buildings from site (which have permeable floors and hence are a risk to groundwater), the need for hard-standing and kerbing of all operational areas, and the removal of the waste area and its subsequent hard-standing and partial covering. See [Attachment 05.104 Compliance Summary - Jandakot Phase 2 Redevelopment, Section 3.3] for a more detailed variance explanation.

5.3.3.2 ATCO's response: Clean Energy Innovation Hub (CEIH)

We propose to include [redacted] million[52] of capex required to develop the Clean Energy Innovation Hub (CEIH), net of an ARENA capital grant, in our AA5 asset base.

ATCO does not accept the ERA's assertion that the CEIH is a research and development project mainly for marketing purposes.

CEIH Project history and reconciliation

As a prudent network operator and in alignment with the NGR 79, this project will design and construct a commercial scale Hybrid Energy Microgrid System (H_2Micro) at ATCO's Jandakot site. This demonstration project has four main objectives.

1. Reduce ATCO's overall energy costs, while improving the reliability of the supply of electricity to the Jandakot head office and depot.
2. To identify how disruptive technologies, customer desire for greater control of their energy requirements, and their growing acknowledgement of climate change would potentially drive Commercial and Industrial (C&I) energy connections away from gas towards self-generation and consumption of electricity.
3. To develop a commercial scale Hybrid Energy Microgrid system to inform ATCO's future gas network service provision, particularly for C&I customers.
4. To investigate the feasibility and role of hydrogen production and distribution, including its use in a Microgrid set-up.

In proposing the project, we are building on our successful GasSola residential hybrid energy system trial and are seeking to implement a commercial scale version, which incorporates roof top solar PV and batteries, along with a control system that will integrate with the existing natural gas-fired generation.

Budget reconciliation

The CEIH project during AA4 was undertaken pursuant to one business case. The approved business case and original CEAR [see Attachment 05.106: AA4 - Compliance summary - Clean Energy Innovation Hub (CEIH)] were approved for [redacted] million with ATCO's contribution of [redacted] million and ARENA's contribution of [redacted] million. A revised CEAR was submitted in February 2019 and sought approval for an additional [redacted], bringing the total forecast to [redacted] million. The additional expenditure for this project was due to:

[52] Note this figure was reported as [redacted] million in the 2020-24 plan but has since been adjusted to accommodate 2018 actual data and other amendments.

- changing electrolyser technology from Alkaline to proton-exchange membrane (**PEM**). During the detailed planning phase, the PEM electrolyser was selected as it better met the project's requirement compared to the alkaline electrolyser.
- increased cost to deliver the multi-criteria analysis tool. The market tested rates were [redacted] higher than budgeted.

These changes were discussed and agreed upon with ARENA and detailed in the revised CEAR. ARENA has increased their contribution and the total project cost of [redacted] million is broken down to ATCO's contribution of [redacted] million and ARENA's contribution of [redacted] million.

There was an incorrect input for the *2019 forecast* in the original submission for the 2020-24 Plan. The correct 2019 forecast at the time of submission is [redacted] million. ATCO's total expenditure forecast for AA4 at the time of submission was expected to be [redacted] million, an increase to the [redacted] million that was submitted to the ERA.

Since submission, ATCO has included the 2018 actual expenditure and re-forecast the 2019 expenditure. The expected total expenditure net of contribution is [redacted] million. This has been corrected in this 2020-24 Revised Plan.

Table 5.18 shows our actual and forecast expenditure for the CEIH in AA4.

Table 5.18: Actual / forecast CEIH expenditure in AA4 ($M real as at 31 Dec 2019)

COST CATEGORY / YEAR	2014 (2ND HALF)	2015	2016	2017	2018	2019 (F)	TOTAL
TOTAL CEIH Project	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Less ARENA funding	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
AA4 Conforming capex	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

NGR 79 compliance

We propose the CEIH investment will achieve ongoing reductions in opex valued in NPV terms at [redacted] million over a 25-year period [Attachment 05.106: AA4 - Compliance summary - Clean Energy Innovation Hub (CEIH)]. This benefit will be supplemented by a range of non-quantifiable benefits associated with future gas network service provision, including the potential addition of hydrogen into the gas supply.

On this basis, ATCO considers that the entire expenditure, net of an ARENA capital grant, is conforming capex under NGR 79(1)(a) and NGR 79(1)(b):

- **NGR 79(1)(a):** The data collected from this demonstration project will help the business promote efficient investment and operation of gas assets for the long-term interests of consumers (aligned to the National Gas Objective) and achieve the lowest sustainable cost of delivering pipeline services (aligned to NGR 79).

  The efficiency of the investment can be demonstrated through the:

  - identification of a feasible option that immediately reduces ongoing operating costs, presenting the lowest NPV investment to continue to meet ATCO's operational requirements and future gas customer energy demands;
  - robust options analysis process set out in the relevant business case, which identified the least cost option that efficiently addressed all the business' objectives for securing ATCO's energy requirements and meeting customer demands for affordable, reliable and sustainable energy;
  - extensive oversight of the expenditures by ATCO's Executives through their consideration of the business case, CEARs and monthly reporting that explained the costs of works;

- efficient procurement of the external experts and contractor services to carry out the works using a strategic contracting approach; and
- application of thorough project management methods during project procurement, construction and sign-off.

The cost of the project did not exceed the amount that would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice.

- **NGR 79(1)(b):** It increases the efficiency of ATCO's operations by reducing energy costs and providing a more reliable energy source, in turn enabling a more reliable service to customers and is conforming under NGR 79(2)(a).

  More generally, the research and development component of the project will be used to develop our understanding of future services to customers that will retain or increase connections to the gas distribution network (e.g. microgrids) and is conforming under NGR 79(2)(a). Higher network utilisation benefits current and future connected gas customers.

5.3.3.3 ATCO's response: Blue Flame Kitchen

ATCO accepts the ERA's position that the capex related to the Blue Flame Kitchen is non-conforming at this time and hence this has been added to ATCO's speculative capital expenditure account, in accordance with Section 10 of ATCO's Access Arrangement and is to be dealt with in accordance with NGR 84.

5.3.4 ATCO's response: IT capex

The ERA did not accept $1.3 million of ATCO's AA4 IT capex totalling $30.2 million. This reduction consists of [redacted] million 'mistakenly' included in the Asset Optimisation Program, and [redacted] million for the GIS upgrade. The ERA proposes that both projects are part of the ATCO's AA5 project (Asset Management Optimisation) or expected to commence during AA5 (GIS upgrade). ATCO disagrees with the ERA's position and maintains that expenditure of $30.2 million is conforming IT capital expenditure for AA4. Our response is detailed below.

5.3.4.1 ATCO's response: 'Asset Optimisation'

As noted by the ERA, ATCO incorrectly submitted [redacted] million for the Asset Management project. The [redacted] million **should have been submitted for the Telephony Upgrade project** as part of the Application Renewal Program as noted in the Information Technology Asset Strategy, and therefore is appropriately included as IT capex.

As a natural gas distributor, ATCO must be able to comply with its licence and service obligations and respond to customer calls 24/7, 365 days a year. To facilitate this, the '*Geomant Contact Expert*' platform is used to manage all inbound and outbound calls for our Contact Centre, Control Centre Emergency Team and Planning Team.

The Geomant Contact Expert software, version 5.6.2 is an integrated Lync contact centre and interactive voice response (IVR) system based on Microsoft Unified Communications platform. It is typically deployed in high availability environments. The solution is underpinned by a database that holds operational statistics, contact centre setup and configurations, contact information, dialling lists and conversation recording metadata.

A review of the performance, capabilities and complex architecture of the Geomant system has concluded that the Telephony Upgrade/Replacement project will replace the Geomant system. This project will:

- Evaluate telephone software products available in the market based on the following:

- Alignment with ATCO's business requirements and the requirements of the Western Australia gas marketplace.
- Alignment with ATCO's Technology Control Standards.
- Cost

- Implement the recommended telephony solution ensuring our critical telephony system is prudently maintained and is operating on vendor-supported and up-to-date software consistent with good industry practice.
- Secure the recommended solution implementation services through a competitive tender process.

ATCO will complete the Telephony Upgrade/Replacement project in 2019 and submits it is conforming capital expenditure under NGR 79(1)(a) and 79(2)(c)(iii).

5.3.4.2 ATCO's response: GIS Upgrade

ATCO submitted [redacted] million for the GIS upgrade planning and scoping phase in its AA4 capex forecast with implementation being completed in 2020 as part of AA5. In support of the planning and scoping phase of the project, ATCO engaged Esri Australia to prepare a Location Strategy, providing a roadmap for transitioning from our current state and key challenges to a future state including:

- Invest and update its technology, including planned security patches.
- Redevelop business applications, with a focus on less customisation and complexity.
- Make strategic data management improvements, revisiting what data is captured and how.
- Build a workforce capable of running and managing the GIS capability.

Since our 2020-24 Plan, we have moved forward with this project with the GIS Location Strategy now complete [Attachment 10.106: ESRI - Location Strategy Review Report]. As a result, costs will be incurred in 2019 progressing the planning and scoping phase of this project.

Based on the timing of the GIS upgrade project, ATCO has secured extended support from Esri Australia to mitigate the risk of application failure until the implementation phase of the project is complete in 2020.

The deliverables of this phase of the GIS Upgrade project include documentation of business requirements, integration requirements, data migration considerations and regulatory compliance requirements. These outputs will be used in the GIS Upgrade *Solution Design* phase and are an integral first step in the development of the technology solution and are directly attributable to the ultimate intangible asset.

ATCO will secure project implementation services through a competitive tender process.

ATCO will complete the GIS Upgrade project in 2020 and submits it is conforming capital expenditure under NGR 79(1)(a) and 79(2)(c)(i), (ii) and (iii).

5.3.4.3 ATCO's response: AA4 actual and forecast summary IT capex

For the reasons set out above, ATCO's revised AA4 IT Capex is shown in Table 5.19:

Table 5.19: AA4 IT capex ($M real as at 31 December 2019)

IT CAPEX	2014 JUL TO DEC	2015	2016	2017	2018	2019 (F)	TOTAL
ATCO's proposed capex	**5.3**	**3.1**	**8.8**	**7.7**	**2.7**	**2.2**	**29.8**

5.3.5 ATCO's response: AA4 Overhead capitalisation (**Part I: ERA allowable overhead**)

ATCO does not accept the ERA's determination that $27.6 million of overhead does not meet the capex criteria. We propose a revised overhead value of $50.8 million. This is a reduction of $9.0 million to our adjusted AA4 proposal of $59.7 million.

In the Draft Decision, the ERA proposed that ATCO had capitalised overheads in AA4 at a higher rate than had been allowed, from 15% in the ERA's AA4 Final Decision to 23.5%. The ERA calculated that the additional capitalised overhead is around $27.6 million. After excluding the project-based overhead adjustment of $2.0 million, the ERA determined that a total of $25.6 million of overhead does not meet the capex criteria.

We propose in our response, that the ERA and EMCa have misinterpreted the information provided by ATCO in relation to the overhead allocation process. As discussed with EMCa and through submitted information[53], the $76 million of reported overhead in AA4 contained an amount of $19.2 million of *direct labour.* This is a 'nuance' of our reporting system that subsequently *overstates* the overhead amount. The '*true overhead*' amount for AA4 is $56.8 million, a percentage of 16.6%[54].

ATCO asserts that with the correct interpretation of the information provided, the actual overhead capitalisation in AA4 is lower than the ERA's stated 23.5%. This interpretation is considered further in the following sections.

ATCO accepts the ERA's capitalised overhead allowance of 15% and the consequential reduction of AA4 capitalised overheads to an allowable overhead value of $50.8 million. This is a reduction of $9.0 million to our *adjusted* AA4 proposal of $59.7 million (see Table 5.21).

5.3.5.1 Background to ATCO's overhead allocations

In late 2014, ATCO management reviewed the allocation of costs to opex, capex and third-party works. This review highlighted that costs incurred were not being appropriately accounted for. The greatest area of discrepancy was the contribution that Corporate and IT departments made through indirect support services to the capex program and the contribution that Network departments made to capex through direct labour.

As a result of this review, two items were determined:

- **Corporate and IT** departments were key components of the capex program that were not being adequately allocated to capex; and
- **Network** department costs were not being fully allocated because field supervisors and office staff who worked directly on projects did not have a timesheet tool to capture their hours against capex projects.

Corporate and IT

Corporate departments such as finance, legal, regulatory and executive management play a key role in supporting the delivery of the capital program through reporting, contract execution, oversight and governance. However, until 2015, no portion of these costs was allocated to the capex program as support

[53] EMCa 42 AA5 Submission Q&A Form Part 1 of 2, Part 2 of 2 and Part 3.

[54] Note – these figures are in relation to those proposed in the 2020-24 Plan. Qualifying capex and the associated overhead percentage have since been adjusted to accommodate 2018 actual data and other amendments (see Figure 5.2). This percentage is now 17.4%

costs.[55] ATCO defines support costs as those expenses necessary for delivering the capex program but not directly attributable to capex projects via source documents such as work orders, invoices or timesheets[56]. As a result, the monetary contribution of these departments to capex was being understated.

In order to address this issue, each corporate department was tasked with determining the percentage of time that their unallocated resources contributed to the capex program. This percentage was established by analysing historical cost data and reviewing the nature of costs and cost drivers for each department. The percentage was determined in consultation with the department's managers and financial managers. The percentage was applied to the value of unallocated costs for each department and added to the capitalised overhead. This resulted in corporate and IT costs being correctly capitalised over the period from 2015 onwards.

Network

As well as reviewing the support service cost centres, the late 2014 review identified that network departments reported a significant under allocation of direct labour costs to capex because field supervisors and office staff did not have a tool to capture their direct labour hours against projects. These network departments were conducting design, engineering and project management activities that were not being appropriately accounted for. Management considered that investing in a timesheet system to record these hours was the best long-term course of action but in the interim, these direct labour hours would be allocated to capex using our existing overhead mechanism

The overhead mechanism was an automated process that could be extended to include the allocation of network department costs until *a direct time allocation* system could be implemented. Similar to the review that took place across IT and Corporate departments, the General Manager of Assets and Engineering and the Financial Controller assessed each Network department involved in delivering capex and determined a percentage of unallocated costs that represented the proportion of time that supported the capex program. Management used the hours allocated to capex by the field staff in each department as an indicator of the capex contribution by their supervisors and office-based staff. This percentage was determined to represent both direct labour as well as any network support and administration costs required to complete the capex jobs, i.e. a combined direct and indirect cost percentage.

At the end of each month, the charges in each cost-centre were re-allocated to capex (capitalised overhead) through the application of the *allocable percentage*. This process was in place until 1 January 2018, when the new timesheet system was implemented. The new timesheet system allowed the internal labour costs associated with field supervisors and office staff to be *allocated directly* to qualifying capital projects. This reduced the cost base to which the allocable percentage was applied, in turn reducing overheads.

Between the 2015 change in accounting policy and the 2018 introduction of timesheets, each department's overhead allocation percentage was reviewed quarterly to ensure that any changes in cost drivers or application of resources to the capex program were captured and the overhead allocation percentage was adjusted accordingly.

The consequence of including direct labour in the overhead capitalisation process was an increase in the capitalised overhead percentage compared to the percentage adopted in the ERA's AA4 Final Decision.

For example, in the Construction cost-centre, the annual average capitalised overhead from 2015 to 2017 was $1.6 million. In 2018, the capitalised overhead was $300k and the remaining ~$1.3 million was

[55] Evidenced by the table showing percentage of costs allocated to overheads by each department provided in response to EMCA question 42, excel document "EMCa 42 – Overheads Part 3 no links"

[56] 2020-24 Plan Section 12.12.1

allocated directly to the projects that the labour resources within the Construction cost-centre were working on.

In percentage terms, the allocable percentage for the Construction cost-centre remained unchanged at 100% from 2015 through 2018 (i.e. 100% of unallocated costs from the cost-centre were allocated to capex). In 2018, unallocated costs had reduced to $300k, as $1.3 million had been *allocated* as *direct labour, and therefore,* $300k was allocated as *overhead.*

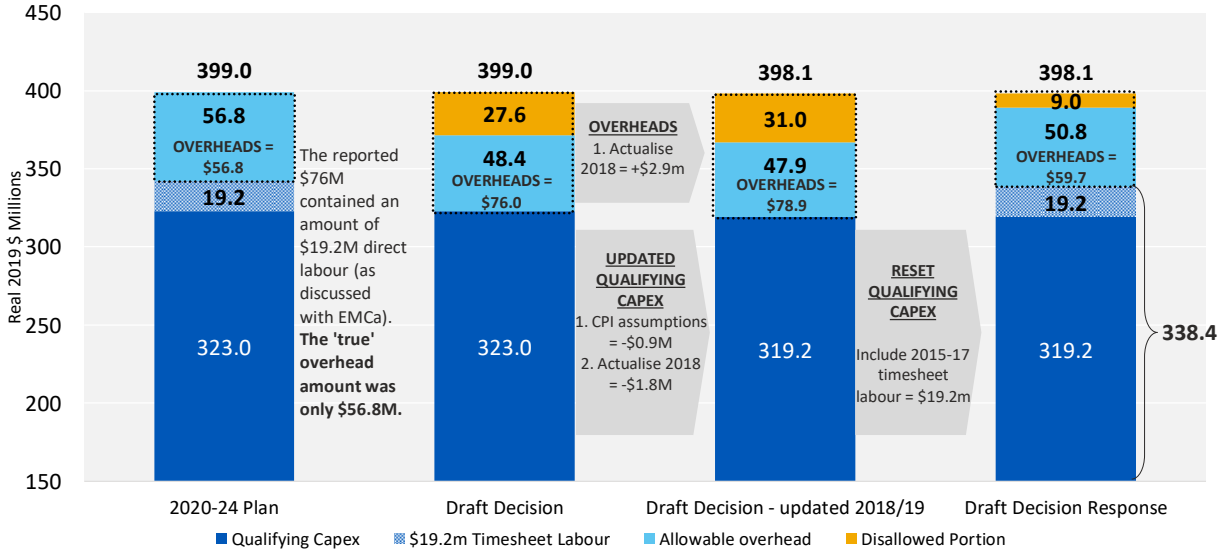
5.3.5.2 ATCO Revised Proposal

As a result of the financial accounting treatment of labour during AA4 discussed above, ATCO does not accept the calculation used in the Draft Decision for overhead capitalisation.

The overheads incurred during 2015, 2016, and 2017, (prior to the change in our overheads capitalisation process), included direct labour costs (i.e. qualifying capex) in addition to typical overhead costs (e.g. administration staff within a cost-centre that would not charge directly to a capex or opex project). ATCO asserts that prior to the application of the 15% overhead allowance to qualifying capex, the direct labour costs incurred during 2015 through 2017 (being $19.2 million) should be removed from the overhead amount and added directly to the qualifying capex, as occurred in 2018.

Figure 5.2 illustrates the change to the qualifying capex, allowable overhead and the calculated disallowed portion based on *correctly allocating direct labour costs* in 2015, 2016 and 2017, and the application of the approved AA4 capitalised overhead of 15% of qualifying capex. The chart shows that the qualifying capex determined by the ERA of $323.0 million is required to be adjusted to include $19.2 million qualifying capex for direct labour but reduced by $3.8 million due to actualising 2018 and updating the 2019 forecast. The adjusted qualifying capex is therefore $338.4 million. By applying the AA4 capitalised overhead of 15% to this value, ATCO's allowable overhead is $50.8 million, and the calculated disallowed portion is $9.0 million.

Figure 5.2: Capitalised overhead, Draft Decision and Draft Decision Response ($M real as at 31 Dec 2019)



The following sections outline the calculation process that ATCO used to determine the quantum of direct labour in 2015 to 2017. This amount should be added to qualifying capex and removed from the overhead amount prior to the application of a capitalised overhead percentage.

5.3.5.3 Determining the direct labour component in capitalised overheads

Using the time writing data collected during 2018 from the new timesheet system, ATCO '*back-cast*' (see Section 5.3.5.4) the direct capex labour costs in the 2015 to 2017 period. The value of direct labour capex not time written during that period was calculated to be $19.2 million.

ATCO asserts that the qualifying capex for AA4 should be increased by this amount to align, and be consistent with, the cost allocation process in 2018. Using the approved 15% capitalisation rate, the allowed overheads should be $50.8[57] million during AA4.

Due to the timing of the access arrangement, the calculation was performed based on the data available in the system six months following implementation. It was observed that over the course of 2018, as personnel became more familiar with the timesheet system and the requirement to correctly allocate their time, more internal labour time was being allocated directly to qualifying capital projects. This explains the difference between the "Direct labour included in overheads" values calculated for 2015, 2016 and 2017, and the "Total Direct Labour" charges in 2018.

ATCO considers that the calculated value is conservative; however, has retained the value of direct labour included in overheads that was submitted to the ERA in August 2018 rather than updating the back-cast calculation based on the 2018 full year of timesheeting.

5.3.5.4 Direct labour back-cast calculation

This section outlines the method that ATCO used to determine the quantum of direct labour in 2015 to 2017. The direct labour component was back-cast using information collected during 2018 and historical overhead cost breakdowns by cost-centre and line item. The inputs into this calculation are base salary costs, total employment-related expenses, a representative ratio and a productive time adjustment. The formula used is:

$$Direct\ Costs_{Cost\ Centre} = \text{minimum}(\text{'}Salaries - Ordinary\ Time\text{'} * Ratio_{2018}, total\ employment\ expenses^{58}{}_{Cost\ Centre} * Productive\ Time)$$

The 'Salaries – Ordinary Time' item (a sub-component of Internal Labour Expenses) was used to normalise the direct costs timesheeting information collected during 2018 for previous years.

$Ratio_{2018}$ is the ratio of total direct labour costs (including employment-related expenses[59]) collected by the timesheet system to the total labour ordinary time wage costs based on the 2018 data. Where the ratio is greater than 1, the total direct labour costs (including employment-related expenses) are higher than the labour ordinary time costs. Cost-centres with ratios greater than 1 are all directly related to the capital program. For cost-centres where the ratio is less than 1, only a fraction of the labour is apportioned to direct capex.

Where new cost-centres have replaced previous cost-centres, the previous 2015-2017 cost-centre has been allocated the average of the ratios for the new cost-centres. This applied to the "Construction" and "Gas Projects" cost-centres.

The ratios calculated using the 2018 time sheet data are provided in Table 5.20.

[57] After accounting for an update to the 18/19 qualifying capex – refer section 5.3.5.2

[58] Employment expenses is the sum of employee costs, IT costs, motor vehicle costs and internal labour expenses

[59] Ibid 2

Table 5.20: Ratio of total direct costs to labour costs

COST-CENTRE DESCRIPTION	$RATIO_{2018}$
Capital Projects Growth	1.95
Capital Projects Sustaining	1.81
Capital Projects, Multi-Storey and Metering	1.68
Construction	1.65
Construction QA Inspection	1.65
Gas Projects	1.64
Workshop	1.44
Capital Planning	1.13
Engineering Services	0.90
Equipment and Calibration	0.84
Asset Services	0.7
IT	0.66
Technical Services	0.16
Management	0.1
HSE	0.08
Gas Inspectors	0.03
Technical Compliance	0.02
Finance	0.01
All other cost-centres	0

In each year (i.e. 2015, 2016 and 2017), the 'Salaries – Ordinary Time' value for each cost-centre was multiplied by the relevant cost-centre ratio in Table 2. Due to annual variability of both the 'Salaries – Ordinary Time' costs and the employment expenses within each cost-centre, this method had the potential to allocate more costs to the direct capex than had actually been incurred in the cost-centre.

To safeguard against this situation occurring, a "Productive Time" comparison ensured that the back-cast cost was lower than the actual cost incurred. The productive time values are the same for all cost-centres and were capped at 90%.

5.3.5.5 Comparison to AA3

During the 2010-14 period (AA3), ATCO capitalised overheads of $33.0 million at a rate of 14% of qualifying capex of $233.1 million. Using the same back-cast assumptions, we estimate that approximately $9.0 million of the capitalised overheads related to direct labour that should have been capitalised via timesheets[60] and been reported as part of qualifying capex. This would have made ATCO's qualifying capex $242.1 million and reduced the capitalised overhead rate to 10%, which is significantly lower that AA4 capitalised overhead levels. The difference between the capitalised overhead rate in AA3 and AA4 is attributed to two factors:

- ATCO did not capitalise an appropriate level of support services; and

[60] Provided the ERA in response to EMCa question # 42 on 22/10/2018.

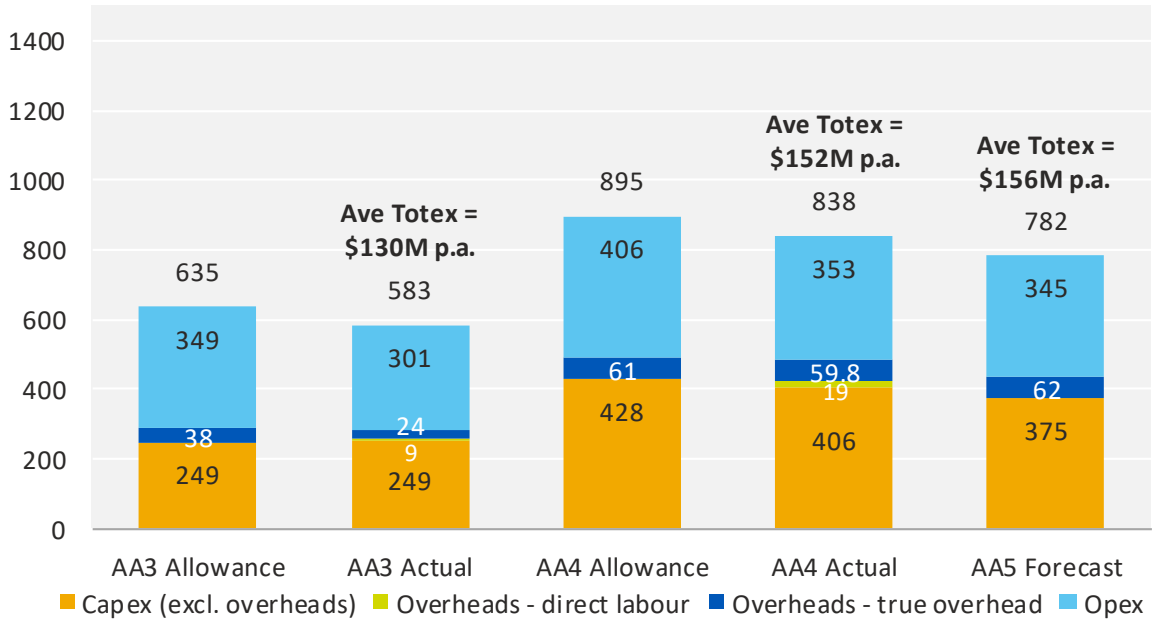
- The WA Gas Distribution business had lower expenditure due to it being in a pre-acquisition phase from 2010 to 2011 when it was owned by a global investment and advisory firm, and in a cost rationalisation phase from 2011 to 2014 when ownership changed to ATCO.

The lower level of capitalised support services is documented in Section 5.3.5.1. This was rectified through the change in accounting in 2015.

The lower level of expenditure came about as a result of the instability created when the WA Gas Distribution business underwent a change in ownership in July 2011. Prior to the acquisition, the business was controlled by the Babcock and Brown Infrastructure Group who were preparing to sell the business, and as a result, all expenditure was maintained at a low pre-sale level. Following the business' change in ownership in 2011, the business underwent a transition phase for the remainder of AA3 during which the business was adjusted to reflect the ATCO Group's strategic objectives.

It is difficult to compare the business between AA3 and AA4 given how the operating model changed between these two periods. It is therefore difficult to use the value of overheads and qualifying capex in AA3 as a reference point to test AA4 overheads, because the business was not operating under comparable assumptions. The contrast between AA3 and AA4 (as well as AA5) is demonstrated in Figure 5.3, which shows that the actual average total expenditure (**totex**) for AA3 of $130.0 million per annum was 14% lower than the actual average totex for AA4 of $152.0 million.

Figure 5.3: ATCO Totex comparison including AA3, AA4 and AA5



As a result of the above assessment, AA3 should not be used as a benchmark for our overhead capitalisation in AA4, given that the assumptions in these periods are not comparable. It is recommended that the work conducted by ATCO in AA4 in order to rationalise its overhead and review its capitalisation policy should be considered sufficient justification for AA4 overhead values.

5.3.5.6 Conclusion to ATCO's overhead allocations

Based on the system improvements that ATCO implemented in 2018, costs within the business can now be accurately recorded against individual projects. As a result, there are lower costs subject to apportionment to the capital program through the capitalised overhead allocation process.

As the changes only occurred in 2018, the overhead costs in the earlier years of the AA4 period need to be adjusted so that a consistent apportionment can occur. Based on the 2018 timesheet data, ATCO has back-cast the expected direct capex costs for each cost-centre and determined that $19.2 million should be correctly transferred from capitalised overheads to qualifying capex.

The remaining capitalised overhead results in an overhead capitalisation rate of *17.7%*, however, ATCO accepts the ERA's reduction of AA4 capitalised overheads to meet our allowance of 15% - equating to $50.8 million. This is a reduction of $9.0 million to our adjusted AA4 proposal of $59.7 million.

These calculations are shown in Table 5.21.

Table 5.21: AA4 revised capitalised overheads, with reconciliation ($M real as at 31 December 2019)

	2014[61]	2015	2016	2017	2018	2019	TOTAL
Reported overheads	5.9	15.6	16.9	16.6	12.4	11.5	78.9
Less: Direct Labour							
Network operations and maintenance	-	-0.0	-0.0	-0.0	-	-	-0.1
Network construction	-	-3.5	-3.9	-4.3	-	-	-11.7
Network engineering and asset mgt	-	-1.8	-2.2	-2.0	-	-	-5.9
Property and fleet	-	-	-	-	-	-	-
IT	-	-0.2	-0.2	-0.2	-	-	-0.7
Customer and corporate services	-	-0.3	-0.3	-0.2	-	-	-0.8
Total Direct Labour		-5.8	-6.6	-6.7	-	-	-19.2
'True' Overheads	5.9	9.8	10.3	9.9	12.4	11.5	59.7
Less disallowed ERA overheads	1.2	1.0	1.4	1.0	2.6	1.7	9.0
Revised AA4 capitalised overheads	**4.7**	**8.7**	**8.8**	**8.9**	**9.8**	**9.8**	**50.7**
Qualifying capex	**31.7**	**58.2**	**58.7**	**59.4**	**65.1**	**65.3**	**338.3**
Overhead %	*15.0%*	*15.0%*	*15.0%*	*15.0%*	*15.0%*	*15.0%*	*15.0%*

5.3.6 ATCO's response: AA4 Overhead capitalisation (**Part II: AA4 opex outperformance**)

ATCO is forecast to spend $353.0 million in opex compared to the ERA's approved forecast of $405.9 million, i.e., an outperformance of $52.8 million. In the Draft Decision, the ERA states that ATCO has capitalised its overheads at a higher than allowable rate during AA4 in order to roll opex into the regulatory asset base. The ERA has indicated that this would result in customers paying twice for the recovery of this expenditure; once as AA4 opex, and again as part of the opening RAB for AA5. The ERA has also indicated that the assumed regulatory accounting movement from opex to capex partly explains ATCO's reduced AA4 opex[62].

ATCO asserts that the reduction in AA4 opex, other than the $9.0 million identified in Section 5.3.5, has not been achieved through higher overheads or an opex to capex accounting movement as asserted by the ERA. As outlined in Section 5.3.5, ATCO has determined that only $9.0 million of the opex outperformance is attributed to the higher overheads, the remaining $43.8 million is due to opex efficiency

[61] Note: there is no direct labour embedded in overheads in 2014 because this was prior to the overhead methodology changes made in 2015 after the AA4 Draft Decision was received.

[62] Draft Decision paragraph 354

gains (-$44.3M), lower unaccounted for gas (**UAFG**) (-$4.3M), offset by higher ancillary services ($4.7M). The majority of our opex outperformance has been achieved through a combination of cost saving initiatives, process improvements and asset management improvements over AA4. The reduced opex is bridged as per Table 5.22 and each item is explained in detail below.

Table 5.22: AA4 opex reconciliation ($M real as at 31 December 2019)

OPERATING EXPENDITURE	$M
ERA Forecast Operating Expenditure	405.9
Cost saving initiatives	*-44.3*
Higher overhead capitalisation	*-9.0*
Lower UAFG	*-4.3*
Higher ancillary services	*4.7*
Total	-52.8
ACTUAL/FORECAST OPEX	**353.0**

5.3.6.1 Cost savings initiatives - Overview

Cost savings initiatives were triggered in late 2014 when ATCO received the ERA's AA4 Draft Decision on 14 October 2014. In our proposed AA4 Submission on 17 March 2014, we submitted opex of $462.0 million and capex of $665.7 million, i.e. totex of $1,127.6 million[63]. The Draft Decision proposed that opex be capped at $347.5 million and capex be capped at $314.1 million[64] resulting in a 38% reduction in proposed totex.

Given that the ERA proposed a reduction in expenditure by more than one third over AA4, ATCO's management commenced several reactive strategies in order to better position the business for an anticipated adverse Final Decision outcome. Ultimately, we received a Final Decision on 1 October 2015 and an Appeal Decision on 1 July 2016, resulting in a 21 month period of uncertainty for the business. Until mid-2016, the lack of assurance on the Final Decision outcome resulted in a prolonged period of operational uncertainty and a reluctance to make long term cost commitments, which will be explained in further detail below.

In late 2014 through to early 2015, ATCO's management formulated a two-part strategy in order to reshape the business to ensure that it could transition to the lower-cost operating model proposed by the ERA. The strategy aimed to implement efficiencies in network systems and processes and sought to reduce IT and corporate costs, while continuing to prioritise the safe and reliable delivery of gas to our customers.

The first part of the strategy (known as Tier 1) targeted non-labour savings across the business and the second part (Tier 2) focussed on labour-related savings. ATCO's Canadian parent company endorsed these cost saving initiatives in early 2015.

The Tier 1 cost savings initiative targeted a reduction of 15% in non-labour operating costs from selected departments across the organisation. Tier 2 initiatives commenced in March 2015 and targeted a 10% reduction in labour costs (from a headcount of 327).

The major changes were:

- IT improvements: review of IT managed services and licencing fees

63 AA4 Draft Decision paragraph 21, converted to Real 31 December 2019 $.

64 AA4 Draft Decision paragraph 25, converted to Real 31 December 2019 $.

- Headcount reduction: review of organisation structure and headcount numbers
- Labour vacancies: implement a temporary headcount freeze across the organisation
- Remuneration review: pausing the annual discretionary salary and wage increases
- Other operating improvements: review of all contracts and expenditure across the organisation
- Change in accounting: review of accounting for costs to ensure correct accounting treatment, refer to Section 5.3.5.

A description of these initiatives and their results are as follows:

5.3.6.2 Cost savings initiatives - IT improvements

During April 2015, ATCO commenced the 'One ATCO' project, which brought together several of our individual IT systems onto a single platform. The program aimed to simplify, stabilise and standardise the IT environment while achieving cost efficiencies. The primary focus was to deliver an IT platform that was more cost effective but enhanced the security and performance of the user base.

Through evolving technologies and "best practice" data management, we achieved efficiencies by decommissioning several servers, reducing storage and reducing the number of user accounts. We also replaced certain access hardware with more cost effective software solutions and reduced the number of telephone accounts. This initiative also set out to upgrade security and operating systems and enhance the system lifecycle-refresh program. During AA4, we are forecast to save $2.6 million due to the 'One ATCO' initiative.

ATCO's IT department also reviewed software licences across all platforms and consolidated software licences where possible. As with the 'One ATCO' program, the primary focus was finding a cost effective solution that supported and maintained the business performance. The purchase of licences was deferred, and a number of regular memberships and subscriptions were renegotiated in order to reduce costs. During AA4, we saved $2.9 million as a result of the review of software licences.

5.3.6.3 Cost savings initiatives - Headcount reduction

During March 2015, management reviewed internal and external business deliverables and concluded that ATCO's resources required restructuring in order to optimise services, while ensuring the safe and reliable delivery of gas to customers. This review enabled the key decision makers to streamline resources across the business and align with the current operating environment. [redacted]

For the duration of AA4, as part of the review of business requirements and resources needs, several labour process improvements were made in order to ensure a more efficient operating model. Changes to operational processes and activities include:

- Implementation of electronic Inspectors Orders (IO) and the automation of the notice of defect (NOD) and notice of completion (NOC) processes to replace the previous paper-based system. This enabled ATCO to achieve efficiencies and elimination of manual tasks.
- Introduction of the "gas left on" card which resulted in fewer call outs for relights and retests as customers have been able to relight appliances themselves. Given that a large proportion of these activities occur after hours when customers return home after work, there has been a reduction in activity levels and saving on overtime as a result.
- The operations team have aligned the Commercial Meter Change and Meterset Upgrade programs in order to increase efficiency. This has reduced the number of site visits and inductions required and consequently reduced operational costs associated with attending the same site more than once.
- ATCO has altered its AL30 Meter Change process to include high-risk leak survey and corrosion inspection activities. This removes the need for several visits to the same site, reducing labour and associated on-site costs.
- Regional personnel have been trained to conduct motorcycle leak surveys that were previously being walked. This has reduced leak survey completion time by 2 weeks and resulted in a saving of 75 man hours, which has improved leak survey activity rates.
- Customer service personnel have been trained to complete AL30 commercial meter change tasks (using bypass) and HP valve maintenance tasks therefore removing the need for Facilities Maintenance personnel to be on site. This has reduced the number of jobs being redirected to the Facilities Maintenance staff and therefore improved efficiency of services performed at each site.
- [redacted].

The efficiency gains from the above process changes have enabled us to defer the recruitment of resources resulting in lower labour costs. [redacted]

[redacted]

ATCO estimates that the opex savings in labour and the associated user IT expenditure, employee vehicle costs, individual telecommunication costs and other costs associated with the roles that were restructured is $22.5 million over AA4.

5.3.6.4 Cost savings initiatives - Remuneration review

Between March 2014 when ATCO submitted its proposed AA4 to the regulator and July 2016 when the final Appeal Decision was received, remuneration reviews were not undertaken, and discretionary bonuses were not paid. Given the level of uncertainty around the approved level of expenditure during this period, management determined that remuneration levels would not be reviewed, and bonuses would not be paid during this period. In 2017, 2018 and 2019, remuneration-reviews resumed and were executed at an average labour cost escalation rate of [redacted] respectively.

The AA4 Appeal Decision, which was delivered in July 2016, included an annual labour cost escalation factor of 1.34%[65] per annum based on the proposed labour complement. [redacted]

5.3.6.5 Cost savings initiatives - Insurance

Compared to the AA4 allowance of $7.9 million, ATCO is forecasting insurance expenditure of $5.4 million, resulting in a saving of $2.5 million between 2015 and 2019. The reasons for the savings are as follows:

- A significant reduction in property insurance premium with the removal of domestic meters from the policy.
- A discount achieved as a result of ATCO's association with its parent company and receiving benefits for being part of the global group policy with the insurer.
- Not proceeding with business interruption insurance due to a review of the coverage. The original forecast included a policy to cover loss of income in the event of a major interruption to network and gas supply. The policy had a 30 to 45 day waiting period. Considering that our risk of a 45-day outage is low and the rate for the policy was higher, the expenditure was not considered efficient or prudent and therefore we did not proceed, resulting in savings.

[65] Table 26 AA$ Final Decision

- Not proceeding with OHS liability insurance as originally forecasted due to a delay in the introduction of OHS harmonisation legislation in WA.
- Successful negotiation of lower insurance premiums for public and products liability and workers compensation with a new insurer, premiums with the former insurer were forecasted to significantly increase due to claims history.
- Significant reduction in broker fees due to ATCO Group's global agreement with the insurer.

5.3.6.6 Cost savings initiatives - Human Resources

ATCO has saved $1.6 million in HR costs over the AA4 due to lower HR technology costs, largely achieved through the adoption of more cost-effective Group HR tools, the consolidation of HR engagements with the global ATCO Group, and lower consultant fees.

Previously, we used an external employee performance-tracking tool that supported the compensation process. We implemented the Group HR tool in 2014, which resulted in lower subscription costs. We also forecast to complete internal engagement surveys at an Australian level, incurring the full cost. Since 2017 this has been launched out of the Canadian HQ allowing us to share the cost with other global business units. We have also transferred all remuneration benchmarking information to a new service provider under the corporate group banner. This has allowed us to leverage the group buying power for the surveys and data and save costs.

The AA4 allowance for HR also included the cost of planning retirement seminars as well as consultant fees for the EA negotiation advice and ballot. As a result of cancelling the planned retirement sessions due to insufficient employee interest and negotiating better consultant rates, HR costs were lower than originally forecast.

5.3.6.7 Cost savings initiatives - IT consulting fees

The IT forecast for AA4 included costs for IT advisory consultants as well as the cost of attending conferences and technology events. Given the projects undertaken in AA4 and the level of the involvement that was anticipated but not undertaken, we outperformed the allowance by $1.6 million over AA4.

5.3.6.8 Cost savings initiatives - Training

In AA4, there was a reduction in the number of leadership, management and employee development training courses through creation of streamlined career development programs. We have significantly changed our approach to leadership development over recent years and developed a framework to support our managers and their development in a more structured and targeted manner. This has involved rolling back some of the external training and instead involved the development of internal courses, workshops and seminars. Using externally developed best practice content is still an important part of keeping our managers' skills relevant, but this change has resulted in the material being more practical and applicable to the way they work and a lesser reliance on more expensive external resources. This resulted in a saving of $1.2 million across AA4.

5.3.6.9 Cost savings initiatives - Business subscriptions and memberships

ATCO negotiated better unit rates with Dial Before You Dig as a result of the high volume of activity under the contract. [redacted]

5.3.6.10 Cost savings initiatives - Other operating savings

Expenditure relating to the operations and maintenance of the gas network is forecast to be lower than the AA4 allowance due to several cost efficiencies. These included the following:

- Renegotiation of sub-contractor rates in 2016 resulting in lower costs through consolidation of services that were previously outsourced to multiple parties.
- Technology improvements by implementing change to the security systems in the businesses control room. The legacy analogue and digital systems were combined into one piece of software, allowing the removal of previously required, and more expensive, legacy hardware.
- Internalisation of the calibration and testing function within the business has allowed us to reduce costs by substituting more expensive contractors with internal resources. This has also allowed a greater degree of risk management given that this specialist activity is now in-house.
- Modification of operations training delivery through greater use of video conferencing and online training. Previously trainers were travelling to regional areas in order to deliver training sessions, which required additional travel, accommodation and course material costs.
- ATCO has achieved fuel savings during AA4, partly due to a change to vehicles with a more favourable fuel consumption rating, and partly due to lower than forecast prices. Vehicles of both field staff and managers and inspectors have been gradually changed over AA4 and as a result, we have seen improved fuel efficiency, and therefore fuel cost savings of $0.3 million.
- Telecommunication costs were $0.9 million lower than the AA4 allowance as a result of the cancellation of several accounts in AA3. The account closures included data lines, satellite phones, telemetry devices and vehicle trackers.

5.3.6.11 Cost saving initiatives - Conclusion

As a result of cost saving initiatives initiated in 2014, ATCO has outperformed the ERA's approved opex forecast for AA4 by $44.3 million (11.1%). This outperformance is not a reclassification of costs from opex to capex but as a result of prudent and efficient business decisions that have resulted in a more sustainable and efficient level of operating costs, which will ultimately benefit customers in AA5.

5.3.6.12 Lower UAFG

As documented in the 2020-24 Plan[66], lower UAFG is due to a combination of a measurement error on the metering system, overstated higher heating value (**HHV**), and lower network losses. Throughout AA4, we conducted mains replacement, meter replacement and other projects to ensure the continued reduction of UAFG. This is evidenced through the historical UAFG 12-month rolling percentage (UAFG %), which remained consistent from 2013 to 2016.

In November 2016 a metering error occurred on a new third-party gate station in the South Metro network. The metering error resulted in a lower UAFG charge that was not recouped. Coupled with this metering error, it was determined that the HHV management plan was weighted in favour of one transmission supply resulting in an over-registration of consumed gas. The result of mains replacement, metering error and an overstated HHV has caused the total UAFG % to be 2.09% at the end of 2017 and 2.06% at the end of 2018.

[66] 2020-24 Plan Figure 10.6

5.3.6.13 Ancillary Services

During AA4, increased retail competition in the residential gas market has driven up the volume of ancillary services, including applying a meter lock, removing a meter lock, deregistering a delivery point, disconnecting a delivery point, and reconnecting a delivery point. To highlight the change in retailer activity, there was a ten-fold volume increase in the non-reference service 'special meter reading'; from 12,457 in 2013 to over 119,000 in 2017. As a result, ancillary services expenditure was higher than forecast in the ERA's AA4 Final Decision.

5.3.6.14 ATCO's AA4 opex outperformance conclusion

Savings of $52.8 million have been achieved consistently since the start of AA4, largely due to targeted initiatives that commenced in late 2014. This $52.8 million consists of $9.0 million due to higher overheads capitalisation, and the remaining $43.8 million is due to opex efficiency gains ($44.3M), lower UAFG ($4.3M), offset by higher ancillary services (-$4.7M).

The efficiency gains as a proportion of the ERA forecast have been relatively consistent year-on-year at 15% to 18%, except for 2019. This consistency demonstrates our ongoing commitment to the revised operating model established in 2015 and that the efficiencies achieved were sustainable. Given that the changes made are embedded in the 2018 Base Year, these efficiencies will flow to customers in AA5. Table 5.23 and Table 5.24 show how these efficiency gains have been achieved in AA4.

Table 5.23: AA4 opex outperformance ($M real as at 31 December 2019)

OPERATING EXPENDITURE	2014	2015	2016	2017	2018	2019	AA4 TOTAL
ERA Forecast	34.0	73.8	73.4	73.9	75.1	75.7	405.9
Actual/ Forecast	34.0	62.0	61.2	60.6	64.1	71.2	353.0
Efficiency gains	-	11.8	12.2	13.3	11.0	4.5	52.8
Percentage of ERA Forecast	-	16%	17%	18%	15%	6%	13%

It is also important to note that the efficiency gains have been achieved across all regulatory opex spend categories, except for ancillary costs that have increased due to increased demand. This demonstrates that we have not targeted one area of operations, but rather recalibrated spending across the entire business in order to achieve broader efficiency outcomes.

Table 5.24: AA4 opex variance by category ($M real as at 31 December 2019)

OPERATING EXPENDITURE	ERA FORECAST	ACTUAL/ FORECAST	EFFICIENCY GAINS	PERCENTAGE OF TOTAL
Network	187.2	160.9	26.3	50%
Corporate	109.7	97.2	12.5	24%
Information technology	61.3	46.9	14.5	27%
UAFG	44.1	39.9	4.3	8%
Ancillary	3.5	8.2	-4.7	-9%
TOTAL	**405.9**	**353.0**	**52.8**	**100%**

ATCO has demonstrated that the efficiency gains and outperformance savings have been achieved through prudent decision making rather than through a reclassification of costs from opex to capex and therefore, customers are not at risk of paying twice for the recovery of this expenditure.

5.4 ATCO's Response: AA4 performance summary

The purpose of this section is to provide a summary of ATCO's AA4 performance. Since our 2020-24 Plan, this information has been revised to incorporate actuals for 2018 and an updated forecast for 2019.

5.4.1 How we performed against our KPIs

In 2018, ATCO continued to perform well against the eight KPIs that were incorporated into AA4. Our performance should continue to provide reassurance that we have been delivering services in a manner that meets our customer service expectations, that our asset management practices over AA4 have maintained the integrity of the network, and that our efficiency in delivering the services has improved.

Our 2018 operating expenditure KPIs have been impacted by one-off costs such as AA5 regulatory preparation costs. This explains the year-on-year increase compared to prior year.

Table 5.25 outlines our performance against the approved KPIs to 2018 and our forecast for 2019.

Table 5.25: ATCO's AA4 KPIs

KEY PERFORMANCE INDICATOR	TARGET	2014 JUL-DEC	2015	2016	2017	2018	2019(f)
CUSTOMER SERVICE							
Domestic customer connections within five business days	**>99.5%**	99.3%	98.9%	96.3%	99.3%	99.0%	99.0%
Attendance to broken mains and services within one hour	**>99.7%**	99.9%	99.9%	100.0%	100.0%	100.0%	>98%
Attendance to loss of gas supply within three hours	**>99.7%**	100.0%	100.0%	100.0%	99.9%	100.0%	>98%
NETWORK INTEGRITY							
Total public reported gas leaks per one kilometre main	**<0.70**	0.63	0.66	0.82	0.64	0.67	0.67
System Average Interruption Frequency Index (SAIFI)	**<0.0044**	0.0044	0.0040	0.0035	0.0035	0.0037	0.0037
Unaccounted for Gas (UAFG)	**See below**						
EXPENDITURE							
Opex per km of main	**$5,071**	$4,561	$4,567	$4,460	$4,388	$4,578	$5,043
Opex per customer connection	**$101**	$87	$89	$85	$83	$86	$95

UAFG	2014 JUL-DEC	2015	2016	2017	2018	2019(f)
Target	2.52%	2.63%	2.62%	2.62%	2.60%	2.58%
Actual	2.59%	2.64%	2.64%	2.09%	2.06%	2.38%

5.4.2 Capital expenditure (capex)

During AA4, we have invested prudently and efficiently in our network investment program consistent with the ERA's approved allowances. Our capex investment profile is shown in Figure 5.5 and Table 5.26.

Figure 5.5: AA4 actual and forecast capex vs AA4 ERA FD

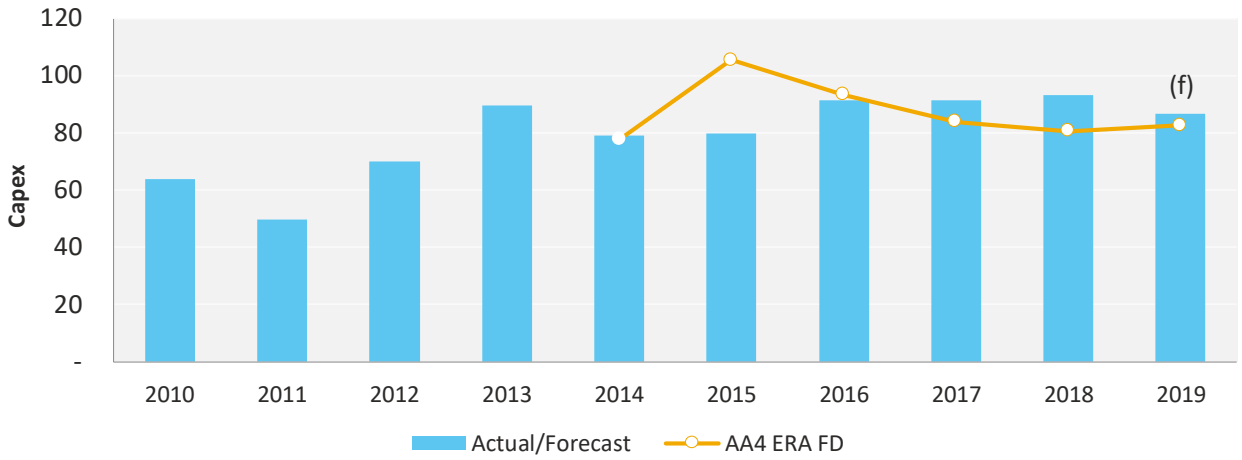


Table 5.26 shows the ERA's approved forecast compared with our projected AA4 expenditure.

Table 5.26 AA4 conforming capex by category vs AA4 ERA FD ($M real as at 31 December 2019)

COST DRIVER CATEGORY	2014 (JUL-DEC)	2015	2016	2017	2018	2019 (f)	TOTAL AA4	ERA FD	VAR.
Network Sustaining	14.0	32.2	41.9	49.6	49.0	41.9	**228.6**	**228.4**	0.2
Network Growth	21.2	40.7	34.5	29.0	26.3	31.3	**182.9**	**187.0**	-4.1
Information Technology	5.3	3.1	8.8	7.7	2.7	2.2	**29.8**	**28.9**	1.0
Structures & Equipment	2.1	3.9	6.1	5.0	14.9	10.5	**42.5**	**44.2**	-1.7
Equity Raising Costs	-	-	-	-	0.3	0.7	**1.0**	**1.1**	-0.1
TOTAL	**42.6**	**79.8**	**91.3**	**91.3**	**93.2**	**86.5**	**484.8**	**489.6**	-4.8

ATCO forecasts $484.8 million of capex by the end of AA4. This amount is $4.8 million ($2019) or 1.0% less than the forecast amount approved by the ERA.

Table 5.27 shows AA4 capex by asset class compared to the forecast approved by the ERA. The ERA's approved forecast has been escalated to 2019 dollars using CPI (weighted average of eight capital cities).

Table 5.27 AA4 conforming capex by asset class vs ERA FD ($M real as at 31 Dec 2019)

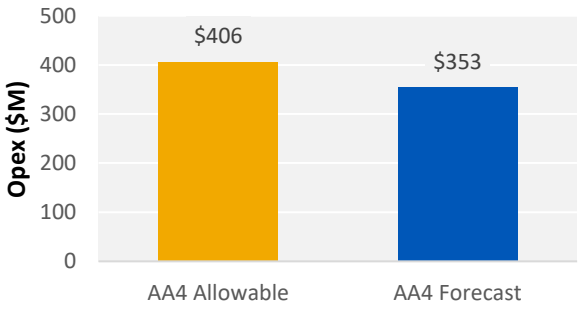
ASSET CLASS	2014 (JUL-DEC)	2015	2016	2017	2018	2019 (f)	TOTAL AA4	ERA FD	VAR.
HP mains – steel	0.8	0.6	2.6	7.1	5.9	2.8	**19.7**	**28.9**	-9.1
HP mains (PE)	1.2	1.5	0.8	0.5	0.6	-	**4.6**	**3.5**	1.1
Med and low press. mains	13.7	35.1	34.2	33.8	36.3	29.2	**182.3**	**156.5**	25.8
Regulators	1.5	2.8	4.4	5.2	1.6	0.8	**16.4**	**11.3**	5.2
Secondary gate stations	0.0	0.0	-	0.2	0.7	5.5	**6.4**	**20.1**	-13.6
Buildings	0.2	0.5	0.7	1.4	10.0	2.9	**15.6**	**14.6**	1.0
Meter and services pipes	18.0	32.5	33.1	31.0	29.1	34.3	**178.1**	**190.2**	-12.1
Equipment and vehicles[67]	0.4	1.2	1.1	1.1	1.6	2.0	**7.4**	**6.9**	0.5
Vehicle	1.5	1.3	2.2	2.1	3.4	3.6	**14.0**	**16.3**	-2.3
IT (including telemetry)	5.3	3.3	9.8	8.5	3.6	2.9	**33.5**	**34.0**	-0.5
Land	-	0.9	2.4	0.4	0.0	2.0	**5.7**	**6.3**	-0.6
Equity Raising Costs	-	-	-	-	0.3	0.7	**1.0**	**1.1**	-0.1
TOTAL	**42.6**	**79.8**	**91.3**	**91.3**	**93.2**	**86.5**	**484.8**	**489.6**	-4.8

In the event that the ERA find any AA4 capex to be non-conforming with NGR 79, to the extent that the expenditure is not to be recovered through a surcharge on users or a capital contribution, that expenditure will be added to ATCO's speculative capital expenditure account, in accordance with section 10 of ATCO's Access Arrangement and is also to be dealt with in accordance with NGR 84.

5.4.3 Operating expenditure (opex)

ATCO's AA4 opex forecast is $353.0 million. We are forecast to outperform against the ERA's Final Decision for AA4 by $52.8 million. Figure 5.5 shows the comparison of total opex over AA4 between allowable and actual spend ($M real as at 31 December 2019).

Figure 5.6: AA4 Opex, Allowable vs Actual



Our AA4 opex variance against the ERA's approved allowance is largely due to targeted cost saving initiatives, including:

- transition to a lower-cost operating model;
- productivity gains in corporate resourcing and activities;
- enabling shared costs with other agencies; and
- higher reliability in the gas network due to proactive asset management and third-party damage prevention.

Our actual and forecast opex over AA4 is shown in Table 5.28.

[67] At the start of AA4, vehicles were separated into a new asset class ('Vehicles'). The asset class 'Equipment and Vehicles' only contains capex for plant and equipment, not vehicles.

Table 5.28: Opex actual/forecast as at Dec 2018 ($M real as at 31 December 2019)

	2014 (JUL-DEC)	2015	2016	2017	2018	2019 (F)	TOTAL AA4
Network	13.9	26.4	30.1	27.6	31.0	31.9	**160.9**
Corporate	11.3	18.1	13.5	16.2	19.2	19.0	**97.2**
Information technology	4.3	8.8	8.5	9.7	6.8	8.8	**46.9**
Unaccounted for gas	4.4	7.8	8.2	6.0	6.1	7.4	**39.9**
Ancillary services	0.2	0.9	0.9	1.0	1.0	4.0	**8.2**
TOTAL	**34.0**	**62.0**	**61.2**	**60.6**	**64.1**	**71.2**	**353.0**

PART B:

Our Proposal

6. Pipeline services

CHAPTER HIGHLIGHTS

1. We will retain the current reference services into AA5.
2. We will introduce special meter reading as an ancillary reference service in AA5.
3. In certain cases, we will negotiate non-reference services with customers that require services that are different from reference services.

6.1 Introduction

Pipeline services on the GDS are delineated into *reference services* and *non-reference services:*

- Reference services describe our services that are likely to be used by a large proportion of our customer base.
- Non-reference services are typically negotiated on a case-by-case basis with customers and are only sought by a small portion of the market.

6.2 Stakeholder engagement

In preparing this 2020-24 Revised Plan we have continued to engage with stakeholders, including through the submissions to the ERA on our 2020-24 Plan.

There were 3 stakeholder submissions that referred to the services proposed in our 2020-24 Plan (see Table 6.1). The submissions were supportive of the proposed pipeline services described in the 2020-24 Plan.

Table 6.1: Consideration of Stakeholder Feedback on Pipeline Services

STAKEHOLDER FEEDBACK ON THE 2020-24 PLAN	OUR RESPONSE TO FEEDBACK ON THE 2020-24 PLAN
AGL in their submission to the ERA supported the introduction of the new special meter reading service: *"AGL strongly supports the introduction of a new special meter reading service."* **Alinta Energy** in their submission to the ERA supported the proposed reference services and the introduction of the special meter reading service as a reference service: *"Alinta Energy agrees with ATCO's proposal to retain the current AA4 haulage reference services in AA5.* *The inclusion of the new 'special meter reading' reference service as an ancillary reference service is supported."* **Kleenheat** in their submission to the ERA supported the introduction of the new special meter reading service: *"Kleenheat supports the introduction of special meter reads as a reference ancillary service, and welcomes a decrease in this tariff."*	**No change from 2020-24 Plan -** Our pipelines services remain consistent with those outlined in the 2020-24 Draft Plan, the 2020-24 Plan and those currently applying across our network.

STAKEHOLDER FEEDBACK ON THE 2020-24 PLAN	OUR RESPONSE TO FEEDBACK ON THE 2020-24 PLAN
AGL in their submission suggested that an enhanced street disconnection service be made available: *"The proposal is for a street valve to be installed, so that once the initial excavation works are completed, the customer can be re-connected or disconnected from the street using the valve, rather than by excavation."*	**No change from 2020-24 Plan:** We are happy to offer the service as a non-reference service as opposed to an ancillary reference service. We are aware that the cost to provide this service will vary on a case by case basis due to variable site conditions and we also have no evidence before us to suggest the service will be "sought by a significant part of the market". Therefore, we consider the service being requested is better classified as a non-reference service. We will however reconsider the classification of the service at the next AA review if demand for the service warrants reclassification.

6.3 Summary of the ERA's Draft Decision

The ERA's Draft Decision accepts ATCO's proposal to retain its existing reference services into AA5 with the addition of a new "special meter reading" service. ATCO has addressed the Draft Decision discussion on the tariff for the special meter reading service and cancellation charges for certain ancillary services (apply meter lock, remove meter lock and special meter reading) in Section 17.9.2.

6.4 ATCO's response to the Draft Decision

ATCO has made no further changes to the reference service for AA5 in response to the Draft Decision. The reference services for AA5 continue to reflect what ATCO initially proposed in its August 2018 submission (the 2020-24 Plan).

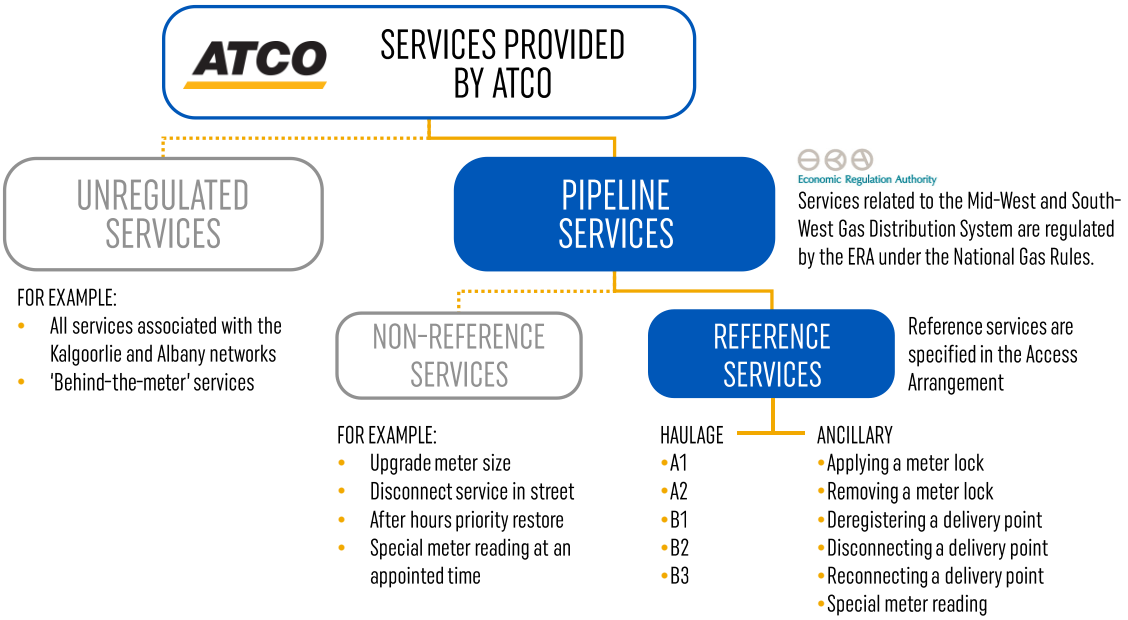
6.5 AA5 reference services

In AA5, we will continue to offer five pipeline haulage services as reference services. These reference services, labelled A1, A2, B1, B2, and B3, are currently offered under AA4 and are unchanged in AA5.

In AA5, we will offer 'special meter reading' as an additional *ancillary reference service* to support the increased retail competition in the Western Australian market. The other five ancillary reference services are substantially the same as those offered in AA4. Details on how these services are proposed to be priced can be found in Chapter 17.

Our proposed service classification for AA5 is illustrated in Figure 6.1.

Figure 6.1: Proposed AA5 service classification



Reference services comprise of *haulage* reference services and *ancillary* reference services. The proposed haulage reference services for AA5 are the same as those applying in AA4 (see Table 6.2). Our haulage reference services relate primarily to the transportation of gas from the transmission pipeline to the customer. Haulage services also include the installation and maintenance of a standard meter, meter reading, and associated data collection and reporting.

Table 6.2: AA5 haulage reference services

REFERENCE SERVICE	DESCRIPTION
A1	A1 is a pipeline service under which ATCO delivers gas to a user at a delivery point on the network, where the following preconditions were met at the time the user (then a prospective user), submitted an application for the service: • The prospective user is reasonably expected to take delivery of **35 terajoules (TJ) or more** of gas during each year of the haulage contract; and • The prospective user is reasonably expected to require a contracted peak rate of 10 GJ or more per hour; and • The prospective user requests user-specific delivery facilities.

A2	A2 is a pipeline service under which ATCO delivers gas to a user at a delivery point on the network, where the following preconditions were met at the time the user (then a prospective user), submitted an application for the service:
	• Either (or both):
	  ○ The prospective user is reasonably expected to take delivery of **10 TJ or more of gas, but less than 35 TJ of gas**, during each year of the haulage contract, or is reasonably expected to require a contracted peak rate of less than 10 GJ per hour; and
	  ○ An Above 10 TJ Determination[68] was, or was likely to have been, made under the Retail Market Procedures (WA); and
	• The prospective user requests user specific-delivery facilities.

[68] Section 139(3) of the Retail Market Procedures (WA) requires the Australian Energy Market Operator (AEMO) to make an Above 10 TJ Determination if, in AEMO's opinion, the gas deliveries to the Delivery Point are likely to exceed 10 TJ in the year immediately following the

REFERENCE SERVICE	DESCRIPTION
B1	B1 is a pipeline service under which ATCO delivers gas to a user at a delivery point on the network, where the following preconditions were met at the time the user (then a prospective user), submitted an application for the service: • Either the prospective user is reasonably expected to take delivery of **less than 10 TJ** of gas during each year of the haulage contract, or is reasonably expected to require a contracted peak rate of less than 10 GJ per hour; and • The prospective user requests user-specific delivery facilities or standard delivery facilities that include a standard meter with a badged capacity of **18 cubic meters per hour (m^3/h) or more.**
B2	B2 is a pipeline service under which ATCO delivers gas to a user at a delivery point on the **medium pressure and low pressure parts of the network** using standard delivery facilities that include a standard meter with a badged capacity of **greater than or equal to 12 m^3/h and less than 18 m^3/h**.
B3	B3 is a pipeline service under which ATCO delivers gas to an end-use customer at a delivery point on the **medium pressure and low pressure parts of the network** using standard delivery facilities that include a standard meter with a badged capacity of **less than 12m^3/h**. End-use customers who receive B3 reference services consume less than 1 TJ of gas per year and are small use customers as defined in the *National Gas Access (WA) (Local Provisions) Regulations 2009.*

The proposed ancillary reference services for AA5 are the same as those applying in AA4, with the addition of special meter reading (see Table 6.3).

Table 6.3: AA5 ancillary reference services

REFERENCE SERVICE	DESCRIPTION
Applying a meter lock	A lock is applied to a valve that comprises part of the delivery facility to prevent gas from being received at the relevant delivery point. This service is available for reference service B2 and B3 users, subject to the suitability of the meter control valve.
Removing a meter lock	A lock that was applied to a valve to prevent gas from being received at the relevant delivery point is removed. This service is available for reference service B2 and B3 users.
Deregistering a delivery point	A delivery point is permanently deregistered by removing the delivery facility permanently, removing the delivery point in accordance with the Retail Market Procedures (WA) and removing the delivery point from the delivery point register. This service is available for all reference service users.
Disconnecting a delivery point	A delivery point is physically disconnected and prevents gas from being delivered to the delivery point. This service is available in respect of delivery points at which a user is provided with reference service B2 or B3.
Reconnecting a delivery point	The delivery point is reconnected to allow gas to be delivered to the delivery point. This service is available in respect of delivery points at which a user is provided with reference services B2 or B3.

day of determination. The Retail Market Procedures (WA) are available here: https://www.aemo.com.au/Gas/Retail-markets-and-metering/Market-procedures/Western-Australia

REFERENCE SERVICE	DESCRIPTION
Special meter reading	An out of cycle reading of a standard meter at the relevant delivery point. This service is available in respect of delivery points at which a user is provided with reference service B1, B2 or B3 with a manually read meter.

Occasionally, our customers may require additional services that do not form part of our reference services listed above. These services are referred to as *non-reference services,* and in such cases, we will negotiate a price directly with the customer.

The forecast costs and demand associated with providing non-reference services are not included in the forecasts presented in this document. We allocate costs between reference and non-reference services in accordance with the method described in our Cost Allocation Method, provided as Attachment 1.3 to our August 2018 submission.

7. Demand forecast

ERA required amendment 1:

ATCO must amend the gas distribution systems demand forecasts for the fifth access arrangement period in accordance with this draft decision, which includes updating the demand forecast to reflect 2018 actual data for all tariff classes.

ATCO Response: Accept with modification

ATCO has updated the gas demand forecast to reflect the inclusion of 2018 actual data for all tariff classes. ATCO proposes that the demand forecast is reasonable, and hence meets the requirements of NGR 74. ATCO has not removed B2 and B3 new connections as it meets NGR 79.

ERA required amendment 2:

ATCO must amend the demand forecast for ancillary services for the fifth access arrangement period in accordance with this draft decision, which includes updating the demand forecasts to reflect 2018 actual data.

ATCO Response: Accept

ATCO has updated the ancillary services forecast which now reflects 2018 actual data.

CHAPTER HIGHLIGHTS

1. The 2020-24 demand forecast in this chapter has been revised based on expert advice from Core Energy Group ('**Core**')[69].
2. The ERA did not raise significant concerns with Core's methodology, noting that Core implemented several of the ERA's recommendations in AA4. The ERA removed greenfield and brownfield B2 and B3 new connections on the basis that the expenditure does not meet NGR 79[70].
3. The ERA's consultant EMCa did not identify any material concerns with Core's forecasting methodology and noted that the forecast for the B3 tariff class appears to account for the main trends[71].
4. ATCO has not removed proposed greenfield and brownfield B2 and B3 gross connections as it meets NGR 79 following a revision of all assumptions as outlined in Section 10.4.2.
5. ATCO has updated the forecast to include 2018 actual data for both the demand and ancillary services forecast. Core have considered the comments made by the ERA and their consultant EMCa, and have revised the approach to forecasting B3 new connections and disconnections.

[69] [Attachment 07.100: Core Demand Forecast Report - AA5]

[70] Draft Decision – para 76

[71] EMCa report to the ERA – para 107

6. During AA5, the number of customers is forecast to grow at an annual rate of 1.4%. *Consumption per customer* during AA5 is forecast to decline; resulting in a decline in *overall consumption* forecast at an annual rate of 0.7%.

7.1 Introduction

This chapter outlines our forecast of customer numbers and demand volumes for reference services over AA5. These forecasts inform the AA5 forecast capex, opex, and reference tariffs. The 2020-24 demand forecast in this chapter is based on expert advice from Core Energy Group ('**Core**').

7.2 Stakeholder feedback

In preparing this 2020-24 Revised Plan we have continued to engage with stakeholders, including through the submissions to the ERA on our 2020-24 Plan.

There were 3 stakeholder submissions that referred to the demand forecast proposed in our 2020-24 Plan (see Table 7.1). The submissions were mixed in their support for the proposed demand forecast detailed in the 2020-24 Plan.

Table 7.1: Consideration of Stakeholder Feedback on Demand Forecast

STAKEHOLDER FEEDBACK ON THE 2020-24 PLAN	OUR RESPONSE TO FEEDBACK ON THE 2020-24 PLAN
AGL in their submission to the ERA supported the demand forecasts in the 2020-24 Plan: *"…the ATCO gas forecast appears reasonable;…"* **Alinta Energy** in their submission to the ERA did not support the demand forecasts in the 2020-24 Plan: *"As there are now five gas retailers actively competing for residential customers by offering considerable discounts, we would not anticipate the significant decline in average demand per customer suggested by ATCO."* **Kleenheat** in their submission to the ERA did not support the demand forecasts in the 2020-24 Plan: *"Kleenheat questions the reasonableness of the demand forecasts, in particular the relatively steep decline in B3 demand per customer."*	ATCO acknowledges the positive effects of retailer competition. The decline in average demand per connection is also influenced by other factors such as new gas users having lower consumption levels due to smaller dwellings and more efficient appliances. This decline in average gas demand per user is compounded by the change-over of old inefficient gas appliances to modern appliances. This, over time, reduces the average gas demand per user. We note that the originally submitted 2018 forecast gas demand for B3 users of 10,082TJ was close to the actual gas demand for 2018 of 10,078TJ and the underlying forecast methodology proved accurate. The forecast decline per user is reflective of historical observations and refer the reader to the Core report [Attachment 07.100: Core Demand Forecast Report - AA5] for further information.
Alinta Energy in their submission supported the approach to weather normalisation: *"We agree with ATCO's normalisation of the effect of weather on demand (Item 20 of the Issues Paper) and would expect that doing so would result in a stable load forecast into the future."*	As noted above, there are long-run effects such as appliance change-overs, which over time reduce the average demand per user. Over AA4, this reduction was compensated for by new customers joining as evidenced by historically high levels of B3 connection growth from 2014 to 2018 (93,419 connections), which kept the overall load relatively stable. However, connection growth is forecast to return to normal levels (65,164 connections over AA5) given the downturn in the housing cycle and new connections can no longer fully offset the impact of declining average consumption. The total demand is therefore forecast to resume a slightly negative trend of -0.7% p.a. over AA5. For further information we refer the read to the Core report [Attachment 07.100: Core Demand Forecast Report - AA5].

7.3 Summary of the ERA's Draft Decision

7.3.1 GDS Demand (required amendment 1)

In reviewing ATCO's demand forecast of haulage reference services over AA5, the ERA considered several submissions by retailers (see Table 7.1). The Draft Decision notes submissions relating to ATCO's demand forecast.

The ERA has assessed ATCO's demand forecast and has proposed amendments to the B2 and B3 customer tariff class demand.

7.3.1.1 Draft Decision: A1, A2 and B1 demand forecast

The ERA accepted ATCO's demand forecast for A1, A2 and B1 tariff class customers, noting:

- In the AA4 Final Decision, the ERA proposed that ATCO surveyed A1 and A2 customers to forecast their consumption. ATCO accepted the ERA's recommendation and surveyed its industrial customers to forecast gas consumption during AA5.
- In the AA4 Final Decision, the ERA also proposed that ATCO considers the effect of economic growth on B1 and B2 consumption. As a result of econometric analysis, we found that the economic effect applied only to commercial connections, not volume per commercial connection.

  ATCO's forecast for B1 and B2 connections included two statistical relationships: commercial connection forecast and gross state product, and commercial connection forecast and greater Perth business numbers. We used the corresponding coefficients from those statistical analyses to forecast the growth of B1 and B2 connections for AA5.

  ATCO forecast usage per B1 and B2 new and existing connection based on weather-normalised demand data and other factors that affected usage per connection, such as own-price and cross-price elasticity effect on usage. We accounted for the effect of gross state product and business numbers in the greater Perth area on our B1 demand forecast. The ERA considers this a better approach to reflect the responsiveness of gas demand to the economic conditions over AA5.

7.3.1.2 Draft Decision: B2 and B3 demand forecast

The ERA did not accept ATCO's demand forecast for B2 and B3 tariff class customers, primarily due to the removal of the greenfield and brownfield growth capex from the AA5 forecast (see Section 10.3.2). In their Draft Decision, the ERA makes the following points:

- ATCO's projected growth over AA5 assumed that ATCO was not constrained in its ability to meet the demand for connections of new B2 and B3 customers. However, the ERA considers that ATCO's proposed greenfield and brownfield growth capex is not conforming capital expenditure, as it does not meet the incremental revenue test under NGR 79(2)(b).

  As a result of the growth capex amendment, the ERA has "removed associated customers and usage assumed by ATCO for its proposed greenfield and brownfield growth capital from the demand forecast. Specifically, the ERA has revised ATCO's B2 and B3 demand forecast [by 5030TJ and 198,014 TJ respectively], by:

  - Reducing ATCO's greenfield connections forecast from 1,555 to zero for B2 new connections, and from 77,414 to zero for B3 new connections over AA5 and removing the associated gas usage.
  - Reducing ATCO's brownfield connections forecast from 465 to zero for B2 new connections, and from 3,599 to zero for B3 new connections over AA5 and removing the associated gas usage.

- Adjusting ATCO's forecast of the average usage per B2 and B3 connection per year by using the average connection number, rather than ATCO's approach of using the closing connections per year. The ERA considers that the use of average connections (an average of the number of opening and closing connections) as the mid-point is appropriate for the tariff revenue calculation. The use of either the opening or closing connection number would overestimate or underestimate the tariff revenue during the year."[72]

7.3.1.3 Draft Decision: ERA's amended GDS demand forecast for AA5

The ERA's amended AA5 forecast for gas usage and customers by tariff class is outlined in Table 7.2. In preparing this forecast, the ERA has used actual B2 and B3 2017 data as a base. The ERA proposes that ATCO uses actual 2018 data for all tariff classes, when available, to update the demand forecast for AA5. This will ensure that the demand forecast represents the best estimate as required under NGR 74(2)(b).[73]

Table 7.2: ERA's amended GDS demand forecast for AA5[74]

TARIFF CLASS	2020	2021	2022	2023	2024
A1 CUSTOMERS					
Customers	72	72	71	69.5	69
Usage (TJ)	9,828	10,066	9,649	9,270	9,143
A2 CUSTOMERS					
Customers	96	96	96	96	96
Usage (TJ)	1,669	1,630	1,592	1,555	1,519
B1 CUSTOMERS					
Customers	1,816	1,885	1,949	2,010	2,069
Usage (TJ)	2,094	2,133	2,168	2,200	2,223
B2 CUSTOMERS					
Customers	12,337	12,262	12,185	12,106	12,025
Usage (TJ)	1,384	1,363	1,343	1,322	1,296
B3 CUSTOMERS					
Customers	739,695	735,996	732,316	728,655	725,011
Usage (TJ)	9,801	9,579	9,313	9,053	8,810
TOTAL					
Customers	**754,016**	**750,312**	**746,618**	**742,936**	**739,270**
Usage (TJ)	**24,776**	**24,771**	**24,064**	**23,399**	**22,991**

7.3.2 Ancillary Services Demand (required amendment 2)

The ERA has proposed an amendment to ATCO's ancillary services demand forecast, primarily to adjust for the amended demand forecast outlined in Table 7.2. The ERA makes the following points:

[72] Draft Decision, Para 95

[73] Draft Decision, Para 100

[74] Draft Decision, Table 10

- ATCO used 2015 and 2016 data to determine all forecast ancillary services, except for special meter reading where it used data for 2016 and 2017. The ERA does not consider that using these years to determine forecast demand would represent the best forecast possible in the circumstances as required by NGR 74(2)(b) due to increased competition in the retail market and the associated levels of churn. The ERA considers that the most recent information should now be used by ATCO to use to inform the forecast number of special meter readings during AA5 in its response to the Draft Decision.[75]
- The ERA has adjusted the demand for ancillary services to account for the revised forecast total B3 connections for AA5 as outlined in Table 7.2. The ERA's revised forecast demand for ancillary services is shown in Table 7.3 and has been calculated by[76]:
  - Using the most recent ancillary service actual data for 2017.
  - Calculating a ratio of the 2017 actual demand for each ancillary service to the total B3 connections in 2017.
  - Applying the ratio for each ancillary service to the amended B3 connection forecast from 2020 to 2024.

Table 7.3: ERA's amended forecast demand for ancillary services over AA5[77]

ANCILLARY SERVICE	2020	2021	2022	2023	2024
Applying a meter lock	9,559	9,510	9,461	9,412	9,361
Removing a meter lock	8,756	8,712	8,667	8,622	8,575
Deregistering a delivery point	2,932	2,917	2,902	2,887	2,871
Disconnecting a delivery point	4,031	4,011	3,990	3,969	3,948
Reconnecting a delivery point	3,138	3,122	3,106	3,090	3,073
Special meter reading	122,109	121,493	120,866	120,229	119,582

7.4 ATCO's response to the Draft Decision

7.4.1 ATCO's response: GDS Demand (required amendment 1)

ATCO has implemented the ERA's amendment for A1, A2 and B1 tariff classes. ATCO has partially implemented the ERA amendment for B2 and B3 demand, except for the requested removal of B2 and B3 gross connections given they now pass the NGR 74 and NGR 79 test (see Section 10.4.2).

7.4.1.1 ATCO's response: A1, A2 and B1 demand forecast

We have incorporated actual gas demand and economic data for 2018 to revise our forecast. We note that Core's forecast for 2018 was largely in line with actual gas demand except for A1 gas demand.

[75] Draft Decision, Para 101, 105

[76] Draft Decision, Para 103

[77] Draft Decision, Table 11

Table 7.4: 2018 Core forecast demand compared to 2018 actual demand – A1, A2 and B1

TARIFF CLASS	2018 SUBMITTED DEMAND (TJ)	2018 ACTUAL DEMAND (TJ)	VARIANCE (TJ)	% VARIANCE
A1	10,184	11,225	1,041	10.2%
A2	1,770	1,788	18	1.0%
B1	1,986	2,005	19	1.0%

The elevated A1 demand is largely reflective of three large industrial customers exceeding their forecast volumes. The A1 forecast has been accordingly revised upwards in line with recent trends.

Both A2 and B1 demand were within 1% of the original Core forecast. As per the ERA's required amendment, we have updated the forecast to include the most recent data for 2018. Refer to the updated Core report[78] as per [Attachment 07.100: Core Demand Forecast Report - AA5] for a full summary and basis of the updated gas demand forecast.

7.4.1.2 ATCO's response: B2 and B3 demand forecast

ATCO has incorporated actual gas demand and economic data for 2018 and revised its forecast. We have not removed greenfield and brownfield connections on the basis that it now meets NGR 74 and NGR 79 as outlined in Section 10.4.2.

As can be seen in Table 7.5, the original forecast demand was relatively accurate compared to actual 2018 results.

Table 7.5: 2018 Core Forecast demand compared to 2018 Actual Demand – B2 and B3

TARIFF CLASS	2018 SUBMITTED DEMAND (TJ)	2018 ACTUAL DEMAND (TJ)	VARIANCE (TJ)	% VARIANCE
B2	1,372	1,354	-18	-1.3%
B3	10,082	10,078	-4	-0.0%

New B3 gross connections in 2018 of 12,487 was 980 connections below our submission forecast. Considering this variance and the EMCa critiques[79], Core has revised its methodology on B3 gross connections and disconnections. This revision has aligned the projected B3 gross connections with the medium-term housing outlook and reduced our forecast new B3 gross connections by 15,850 to 65,164 connections over AA5.

Refer to the updated Core report as per [Attachment 07.100: Core Demand Forecast Report - AA5] for a full summary and basis of the updated gas demand forecast.

7.4.2 ATCO's response: Ancillary Services Demand (required amendment 2)

ATCO has updated its ancillary services forecast for all categories to include actual quantities up to 2018. We note that the 'Deregistering a Delivery point' category is adjusted to normal levels from 2020 onwards, considering the zero consuming user removal program that resulted in elevated levels of deregistrations over 2017 to 2019. Refer to the updated Core report for a full summary and basis of the updated ancillary services demand forecast.

[78] [Attachment 07.100: Core Demand Forecast Report- AA5]

[79] EMCA Technical Report para 106

7.5 Historical AA4 demand

Historical demand is one of the factors considered in the AA5 demand forecasts. Table 7.6 shows the historical network demand and average customer base for each tariff class over AA4.

Table 7.6: AA4 (actual and forecast) demand and average customer base

TARIFF CLASS	2014 (JUL-DEC) ACTUAL	2015 ACTUAL	2016 ACTUAL	2017 ACTUAL	2018 ACTUAL	2019 FORECAST
A1 TARIFF						
Average Customer Base	73	74	76	76	75	75
Demand (TJ)	6,026	11,398	10,778	10,338	11,225	11,612
A2 TARIFF						
Average Customer Base	107	107	102	99	102	105
Demand (TJ)	972	1,854	1,820	1,814	1,788	1,837
B1 TARIFF						
Average Customer Base	1,400	1,445	1,520	1,600	1,671	1,728
Demand (TJ)	889	1,721	1,930	1,875	2,005	2,062
B2 TARIFF						
Average Customer Base	10,225	10,625	11,115	11,497	11,739	11,957
Demand (TJ)	663	1,292	1,369	1,343	1,354	1,350
B3 TARIFF						
Average Customer Base	671,182	686,911	705,513	718,911	728,627	735,065
Demand (TJ)	5,227	9,797	10,875	9,932	10,078	9,990
TOTAL						
Average Customer Base	**682,986**	**699,160**	**718,325**	**732,182**	**742,213**	**748,930**
Demand (TJ)	**13,777**	**26,062**	**26,772**	**25,303**	**26,449**	**26,851**

7.6 AA5 demand forecast

Our overall AA5 demand forecast is shown in Table 7.7.

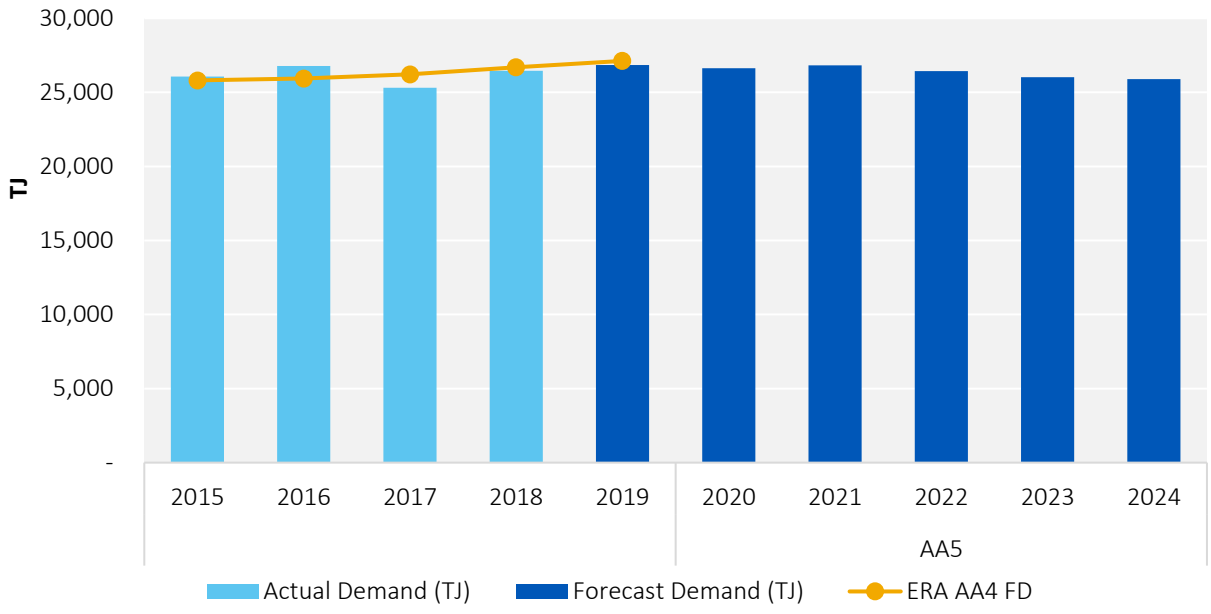
Table 7.7: Overall AA5 average customer base and demand forecasts

TARIFF CLASS	2020	2021	2022	2023	2024	CAGR*
A1 TARIFF						
Average Customer Base	75	75	75	74	74	-0.3%
Demand (TJ)	11,538	11,851	11,509	11,201	11,141	-0.9%
A2 TARIFF						
Average Customer Base	106	106	107	107	108	0.5%
Demand (TJ)	1,819	1,801	1,784	1,767	1,750	-1.0%
B1 TARIFF						
Average Customer Base	1,780	1,834	1,888	1,943	1,999	2.9%
Demand (TJ)	2,112	2,150	2,191	2,225	2,247	1.6%
B2 TARIFF						
Average Customer Base	12,239	12,519	12,796	13,096	13,402	2.3%
Demand (TJ)	1,373	1,387	1,404	1,418	1,425	0.9%
B3 TARIFF						
Average Customer Base	741,392	750,024	760,302	771,444	782,696	1.4%
Demand (TJ)	9,774	9,634	9,534	9,406	9,321	-1.2%
TOTAL						
Average Customer Base	**755,589**	**764,556**	**775,165**	**786,662**	**798,277**	**1.4%**
Demand (TJ)	**26,616**	**26,823**	**26,422**	**26,016**	**25,884**	**-0.7%**

* Compound Annual Growth Rate

Total demand is forecast to decline from 26,449 TJ in 2018 to 25,884 TJ by 2024. Figure 7.1 illustrates the annual forecast volume over AA4 and AA5 compared to the ERA's AA4 Final Decision.

Figure 7.1: Actual and forecast demand for all customers



7.7 Pipeline usage

The historical and forecast average, minimum, and maximum demand per day for AA5 is shown in Figure 7.2.

Figure 7.2: Actual and forecast average demand per day (TJ) (2014 to 2024)

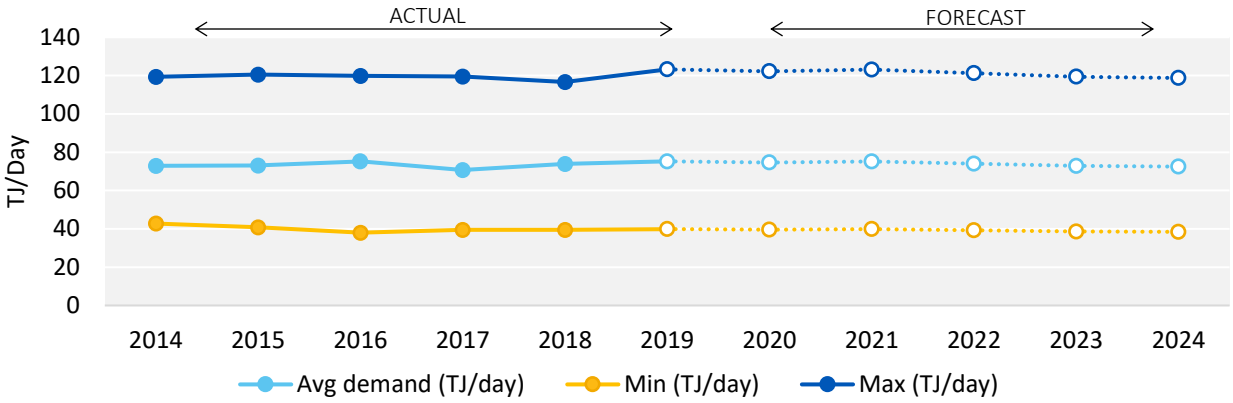


Table 7.8 details the historical minimum, maximum, and average daily demand on the network over AA4.

Table 7.8: AA4 Actual and forecast average demand per day (TJ)

DEMAND	2014 (JUL-DEC) (ACTUAL)	2015 ACTUAL	2016 ACTUAL	2017 ACTUAL	2018 ACTUAL	2019 FORECAST
Average	78	73	75	71	74	75
Minimum	44	41	38	40	39	40
Maximum	118	121	120	119	117	123

7.8 Forecast demand for ancillary services

Ancillary services across all categories relate mainly to B3 connections. As a result, the forecast level of ancillary services is correlated to the forecast growth in B3 customers of 1.4% p.a. as shown in Table 7.9.

Table 7.9: AA5 Forecast demand for ancillary services

ANCILLARY SERVICE	2020	2021	2022	2023	2024	CAGR*
Applying a Meter Lock	9,346	9,465	9,604	9,745	9,886	1.4%
Removing a Meter Lock	8,092	8,195	8,315	8,437	8,560	1.4%
Deregistering a Delivery point	2,216	2,244	2,277	2,310	2,344	1.4%
Disconnecting a Delivery Point	3,652	3,699	3,753	3,808	3,864	1.4%
Reconnecting a Delivery Point	2,933	2,970	3,014	3,058	3,102	1.4%
Special Meter Reading	125,211	126,804	128,664	130,548	132,445	1.4%

* Compound Annual Growth Rate

7.9 Forecast length of mains

The growth in the length of mains relates primarily to the growth in B3 customer connections and the average lot width of 12 metres. As a result, the forecast length of mains is correlated to the forecast growth in B3 customers of 1.4% p.a. as shown in Table 7.10.

Table 7.10: AA5 forecast mains length (km): 2020-24 Plan

	2020	2021	2022	2023	2024	CAGR*
Mains length	14,248	14,398	14,569	14,743	14,920	1.2%

* Compound Annual Growth Rate

8. Key performance indicators

ERA required amendment 3:

ATCO must provide additional information to further explain its choice of asset health indicator for inclusion in the access arrangement information.

ATCO Response: Accept

ATCO has provided further information around the choice of Asset Health Index, providing further clarification and explanation of weightings, and historical Asset Health Index performance as suggested by EMCa.

ERA required amendment 4:

ATCO must amend its expenditure key performance indicator targets in accordance with Table 20 of this draft decision.

ATCO Response: Do not accept and propose a revised position

ATCO rejects the ERA Draft Decision opex forecast and will be revising our expenditure targets in line with the revised opex forecast in this 2020-24 Revised Plan.

CHAPTER HIGHLIGHTS

1. We will continue to adopt the AA4 KPIs throughout AA5 with updated targets to reflect our recent performance.
2. We have incorporated an 'asset health' KPI into AA5 to allow customers to see the changes in asset health over the period. Further information is provided on this KPI in line with the ERA's Draft Decision.
3. Reflecting our customers' preferences for maintaining current levels of service, we have set the targets for the KPIs based on the simple average of our performance over the past five years.

8.1 Introduction

We have selected eight key performance indicators (**KPI**s) that reflect the performance of the network in delivering haulage services sought by our customers and are also important drivers for AA5 capex and opex. These KPIs are categorised into three groups; *customer service*, *network integrity*, and *expenditure*. The customer service KPIs and UAFG rates are reported to the ERA annually as required under our distribution licence.

We have acted on the ERA's AA4 Final Decision and developed an 'asset health' KPI for use as a new indicator for AA5.

8.2 Stakeholder engagement

In preparing this 2020-24 Revised Plan we have continued to engage with stakeholders, including through the submissions to the ERA on our 2020-24 Plan.

There were two stakeholder submissions that referred to the key performance indicators proposed in our 2020-24 Plan (see Table 8.1).

Table 8.1: Consideration of Stakeholder Feedback on Key Performance Indicators

STAKEHOLDER FEEDBACK ON THE 2020-24 PLAN	OUR RESPONSE TO FEEDBACK ON THE 2020-24 PLAN
Synergy in their submission to the ERA supported the scope of the key performance indicators in the 2020-24 Plan: *"However, these measures provide a meaningful benchmark for retailers, customers and the ERA to assess ATCO's performance over time."*	**No change from the 2020-24 Plan:** ATCO has maintained the key performance indicators proposed in the 2020-24 Plan in this 2020-24 Revised Plan.
Alinta Energy in their submission to the ERA queried the level of the proposed target: *"We urge the ERA to consider whether the network reliability targets proposed for AA5 are commensurate with this increase, noting that some performance targets have been set at more easily achievable levels than those attained over AA4."* **Synergy** do not support the proposed targets in the 2020-24 Plan: *"Synergy notes that the KPIs for ATCO's AA4 [sic] appear to have been set at levels that will be easily met, arguably to the extent that the benchmarks appear meaningless and could allow service to decline significantly."*	**No change from the 2020-24 Plan:** ATCO has continued to set the network reliability key performance indicator targets based on the targets proposed in the 2020-24 Plan on the basis that our recent performance is representative of the performance that customers are seeking in AA5. The five-year average moderates the effect of events outside of our control such as weather.

8.3 Summary of the ERA's Draft Decision

8.3.1 Draft Decision: Asset Health KPI (required amendment 3)

In the 2020-24 Plan, ATCO proposed a new 'asset health' performance indicator, the Asset Health Index (**AHI**), to demonstrate the value of proposed asset expenditure to our customers regarding improved asset health. Australian Gas Networks (Victoria and Albury) and AusNet adopted a similar index for their respective gas distribution networks.

The proposed AHI is based on the weighted average of the index scores for unplanned System Average Interruption Duration Index (SAIDI), unplanned System Average Interruption Frequency Index (SAIFI), mains leaks, service leaks, and meter leaks.

The ERA in their Draft Decision took guidance from their technical advisor's (EMCa) report[80], and concluded that:

- The rationale for ATCO deriving an asset health indicator from other existing KPIs is not clear.
- An asset health index should be specified in such a way that it can be read as a leading indicator of performance.

[80] EMCa, *Review of Technical Aspects of the Proposed Access Arrangement (Confidential)*, January 2019, section 3.6, paragraph 91.

- ATCO provides no annual estimate of the asset health index for the AA5 period, nor for the AA4 period. If it were to produce the historical asset health index for at least 2014 onwards, it would help with understanding the historical and forecast 'health' of the GDS as a result of its investment in the GDS.
- ATCO has not provided justification for the weightings applied in the development of the Asset Health KPI.
- There is no evidence that ATCO has taken this KPI into account in developing its AA5 forecast or in (retrospectively) monitoring its historical performance.

The ERA requires that ATCO must provide additional information to further explain its choice of asset health indicator for inclusion in the access arrangement information.

8.3.2 Draft Decision: Expenditure KPIs (required amendment 4)

ATCO's opex indicators and targets are based on our forecast of opex for AA5. The KPI targets have been set based on the expected performance and forecasts for AA5 as set out in the 2020-24 Plan.

In their Draft Decision, the ERA has proposed an amendment to AA5 forecast operating expenditure and demand forecasts (see Section 9.3 for the required amendment). Consistent with the required amendments, the ERA requires ATCO's AA5 opex targets to be recalculated. The ERA's recalculated targets are shown in Table 8.2.

Table 8.2: ERA's Draft Decision expenditure key performance indicator targets for AA5

KPI	2020	2021	2022	2023	2024
ATCO'S PROPOSAL					
Opex per km of main ($ 2019)	4,687	4,736	4,855	4,894	4,889
Opex per customer connection ($ 2019)	89	89	92	92	92
ERA'S DRAFT DECISION					
Opex per km of main ($ 2019)	4,440	4,437	4,460	4,499	4,480
Opex per customer connection ($ 2019)	84	84	85	86	86

8.4 ATCO's response to the Draft Decision

8.4.1 ATCO's response: Asset Health KPI (required amendment 3)

As part of the ERA's AA4 Final Decision, we were required to identify an *asset health KPI* for use in AA5. The purpose of this KPI (the '*Asset Health Index*') is to demonstrate the value of proposed asset expenditure to our customers regarding improved asset health.

8.4.1.1 Rationale for ATCO's asset health index

In developing the AHI, we considered:

- **What information was measured and reported on in AA4:** ATCO could only base its AHI on information that ATCO had collected over the AA4 period, which could then be used to inform the expected performance over AA5.
- **How the index would complement the existing KPIs**: ATCO recognised that its AHI should complement the existing set of KPIs and provide additional information on the asset health of the network.

- **Whether the index was easily understandable:** ATCO sought to develop an AHI that could be understood by existing customers and prospective users and had been applied in other Australian jurisdictions.

ATCO's proposed AHI is based on the Asset Performance Index adopted by Australian Gas Networks (Victoria and Albury) and AusNet for their gas distribution networks as part of their capital expenditure sharing scheme (CESS). The Asset Performance Index was incorporated into the CESS by the AER to manage the risk that a CESS may lead to a reduction in service standards due to a material reduction in the health of the network.[81]

ATCO considers that basing its AHI on this Asset Performance Index is appropriate as both measures are seeking to measure the underlying health of the network. ATCO's AHI and the Asset Performance Index measure:

1. Reliability of supply: Unplanned SAIDI per customer per year, which measures the average duration (in minutes) of unplanned service disruptions on average across all customers.
2. Gas leaks: Measures the number of publicly reported gas leaks in mains, services or meters that require corrective works per year.

The AHI incorporates additional information that is not reported in the existing key performance indicators: service leaks and meter leaks. In addition, by reporting a single index, it allows customers and prospective users to more readily understand if ATCO's asset health is better (> 100) or worse (< 100) than expected.

8.4.1.2 Lagging vs leading performance

ATCO considers that leading indicators can assist in determining the optimum asset management practices and that lagging indicators provide a useful means of verifying the achievement of the asset management objectives.

ATCO recognises that its proposed AHI is a lagging indicator. As a lagging indicator it will provide useful information to our customers and prospective users on movements in the underlying health of our network during AA5. The advantage of the AHI is that it reflects the underlying health of the network across many classes of assets, which is appropriate for a key performance indicator set in the access arrangement information. The lagging AHI indicator is used to verify attainment of the program's targets.

We have incorporated leading indicators of performance into our asset management practices over AA4 that have been reflected in the justification of our AA5 forecast capex. An example is the implementation of the Mains Replacement Prioritisation (MRP) Tool during AA4 to assist in risk and condition assessment of plastic pipes on the network. The MRP Tool considers asset specification (such as age), historical leak data (including from fittings) and exposure criteria to estimate pipe condition, remaining useful life, and risk from each pipeline to the public. The risk outcomes from the MRP Tool reflect the risk to public safety (probability of individual fatality per km per year) from each pipeline segment and have been correlated to the ATCO Risk Management Matrix, in accordance with the ATCO Gas Distribution System (GDS) Safety Case.

Given that this indicator relates to a specific asset type, we propose that it is appropriate for it to be incorporated into the relevant asset lifecycle strategy rather than adopted in the access arrangement information as a key performance indicator.

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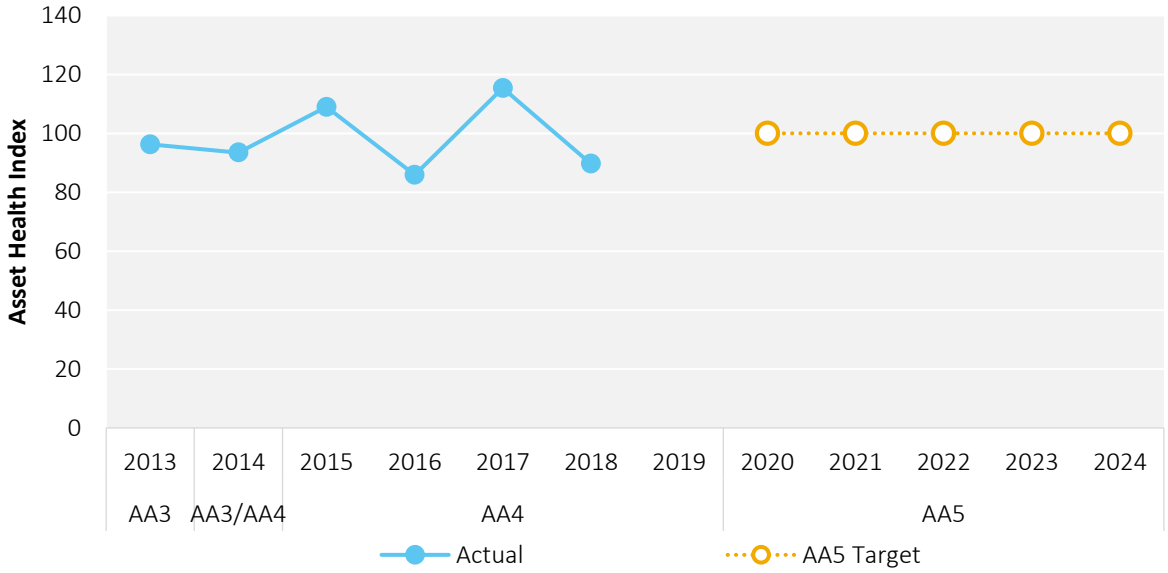
[81] Australian Energy Regulator, DRAFT DECISION Australian Gas Networks Victoria and Albury gas access arrangement 2018 to 2022, Attachment 14 – Other incentive schemes, June 2017, pg. 14-13

8.4.1.3 Annual estimates of the Asset Health Index KPI

ATCO has calculated the AHI KPI over the AA4 period and the target for AA5 to help with understanding the historical and forecast 'health' of the GDS as a result of its investment in the GDS. The performance of the index shows that historically it has been between plus or minus 20% around the index proposed for AA5. Trends in the AHI over time will provide useful information on the underlying asset health of the network.

Figure 8.1: Historical estimates of the AHI



8.4.1.4 Justification for the weightings applied

The AHI is based on the weighted average of the index scores for SAIDI, unplanned SAIFI, mains leaks, service leaks, and meter leaks.

ATCO developed the weightings through a collaborative approach within the business. We have determined weightings suitable to measuring the attainment of the asset management objectives determined for AA5. ATCO notes that the weightings it has adopted are similar to those adopted by Australian Gas Networks (Victoria and Albury) and AusNet for their Asset Performance Index, as shown in the table below.

Table 8.3: AHI weighting comparison

PARAMETER	ATCO PROPOSED WEIGHTING	AGN WEIGHTING[82]	AUSNET WEIGHTING[83]
Unplanned SAIDI	25.0%	25.0%	25.0%
Unplanned SAIFI	25.0%	25.0%	25.0%
Main leaks	30.0%	29.9%	20.4%
Service leaks	15.0%	14.9%	23.0%
Meter leaks	5.0%	5.2%	6.6%

[82] AGN, 2018-22 Access Arrangement, 14 August 2017, pg. 62-63

[83] AusNet Services, 2018-22 Access arrangement- Part B- reference tariffs and reference tariff policy, 11 August 2017, pg. 35-36

8.4.1.5 Additional information on the application of the Asset Health Index

The calculation of the AHI is based on the following three steps:

1. **Step 1:** Calculate the five underlying AHI parameters
   - Unplanned SAIDI is calculated as an annual average of the monthly Customer Minutes Off Service (CMOS) divided by the customer base in that month. This is mathematically represented by the following formula:

$$SAIDI = \frac{\sum_{month=1}^{12} \frac{CMOS_{month}}{CustBase_{month}}}{12}$$

   - Unplanned SAIFI is calculated as an annual average of the monthly customers affected by an outage divided by the customer base in that month. This is mathematically represented by the following formula:

$$SAIFI = \frac{\sum_{month=1}^{12} \frac{CustAffected_{month}}{CustBase_{month}}}{12}$$

   - Mains leaks are the annual publicly reported gas leaks for mains, as presented in annual ERA performance report, adjusted to remove leaks identified as a result of leak surveys.
   - Service leaks are the annual publicly reported gas leaks for services, as presented in annual ERA performance report, adjusted to remove leaks identified as a result of leak surveys.
   - Meter leaks are the annual publicly reported gas leaks for meters, as presented in annual ERA performance report, adjusted to remove leaks identified as a result of leak surveys.

2. **Step 2**: Convert each of the five underlying AHI parameters to a 100-base index

   Each of the five underlying metrics are converted to a 100-base index using the following formulas:

$$Index_n = 200 - \left(\frac{Actual_n}{Target_{2024}}\right) \cdot 100$$

   Where:
   - $Actual_n$ is the annual actual value for each of the AHI Parameters
   - $Target_{2024}$ is the target performance for each of the AHI Parameters in year 2024 as specified in Table 8.4
   - n is each of the AHI Parameters as specified in Table 8.4

3. **Step 3:** Calculate the AHI as the weighted average of the 100-base index for the five underlying metrics

   The AHI is calculated by applying the following formula:

$$AHI = \sum_{n=1}^{5} Index_n \times W_n$$

   Where:
   - $Index_n$ is the is the 100-base index for AHI Parameter n calculated in step 2 above
   - W_n is the weighting for each of the AHI Parameters as specified in Table 8.4
   - n is each of the AHI Parameters as specified in Table 8.4

We have set the target performance for each of the AHI Parameters based on a simple five-year average of our service performance for each AHI Parameter, as we expect that this reflects the expected level of performance through to 2024 (see Table 8.4).

Table 8.4: AHI parameters

n	PARAMETER	DESCRIPTION	WEIGHTING	$TARGET_{2024}$
1	Unplanned SAIDI	Total duration of sustained interruptions in a year	25%	1.7877
2	Unplanned SAIFI	Total number of sustained interruptions in a year	25%	0.0041
3	Main leaks	Leaks pa / km	30%	0.0282
4	Service leaks	Leaks pa / service	15%	0.0102
5	Meter leaks	Leaks pa / meter	5%	0.0003

8.4.2 ATCO's response: Expenditure KPIs (required amendment 4)

Consistent with the required amendments, ATCO's opex indicators and targets have been revised to reflect the forecast of opex for AA5 in this 2020-24 Revised Plan, reflecting the expected performance and forecasts for AA5.

ATCO's recalculated targets are shown in Table 8.5.

Table 8.5: Revised expenditure KPI targets for AA5

KPI	2020	2021	2022	2023	2024
ERA DRAFT DECISION					
Opex per km of main ($ 2019)	4,440	4,437	4,460	4,499	4,480
Opex per customer connection ($ 2019)	84	84	85	86	86
ATCO REVISED PROPOSAL					
Opex per km of main ($ 2019)	4,580	4,667	4,779	4,830	4,813
Opex per customer connection ($ 2019)	86	88	90	91	90

8.5 AA5 Key Performance Indicators

Table 8.6 and Table 8.7 describe the KPIs and AA5 target performance level.

Table 8.6: AA5 KPI targets

KPI	DESCRIPTION	AA5 TARGET
CUSTOMER SERVICE		
Domestic customer connections within five business days	The percentage of new customer connections to established domestic dwellings on the distribution network provided within five business days (the applicable regulated time limit)	>98.7%
Attendance to broken mains and services within one hour	The percentage of attendance to broken mains and services within one hour of the service request being received.	>99.9%
Attendance to loss of supply within three hours	The percentage of attendance to loss of gas supply within three hours of the service request being received. This indicator is included in our Safety Case[84] and is covered by the Guarantee Service Level scheme.	>99.9%
NETWORK INTEGRITY		
Asset Health Index	An index based on unplanned SAIDI, unplanned SAIFI, mains leaks, service leaks, and meter leaks	100
Total public reported gas leaks per kilometre of main	Total number of confirmed gas leaks reported by the public (excluding third-party damage) per kilometre of main per year	<0.65
SAIFI	The number of supply interruptions experienced by the average customer as a result of sustained unplanned interruptions, calculated as (sum of the number of customers interrupted) / (number of customers served)	<0.0041
UAFG Rate	UAFG is the difference between the measurement of the quantity of gas *delivered into* the gas distribution system in each period and the measurement of the quantity of gas *delivered from* the gas distribution system during that period.	See Table 8.7
EXPENDITURE		
Opex per km of main	The total opex per year divided by the total km of main	See Table 8.7
Opex per customer connection	The total opex per year divided by the total number of customer connections	See Table 8.7

[84] ATCO Gas Australia, *Gas Distribution System Safety Case*, December 2017

Table 8.7: AA5 UAFG and opex KPI targets by year

KPI	2020	2021	2022	2023	2024
UAFG Rate	2.45%	2.43%	2.40%	2.39%	2.37%
Opex per km of main ($ 2019)	4,580	4,667	4,779	4,830	4,813
Opex per customer connection ($ 2019)	86	88	90	91	90

9. Forecast operating expenditure

ERA required amendment 6:

ATCO must amend the values for operating expenditure (real) to reflect the values set out in Table 41 of this draft decision.

ATCO Response: Do not accept and propose a revised position

ATCO has updated its 2020-24 forecast and proposed operating expenditure of $345.1 million for AA5.

CHAPTER HIGHLIGHTS

1. Our opex forecast has been developed using both the base-step-trend method and specific forecasting methods.
2. We have revised our forecast opex to $345.1 million for AA5, compared to a forecast $353.0 million by the end of AA4.
3. We have the lowest opex per customer compared to our peers.

9.1 Introduction

ATCO incurs opex to operate and maintain the network for our customers, respond to publicly reported gas leaks and read customer meters.

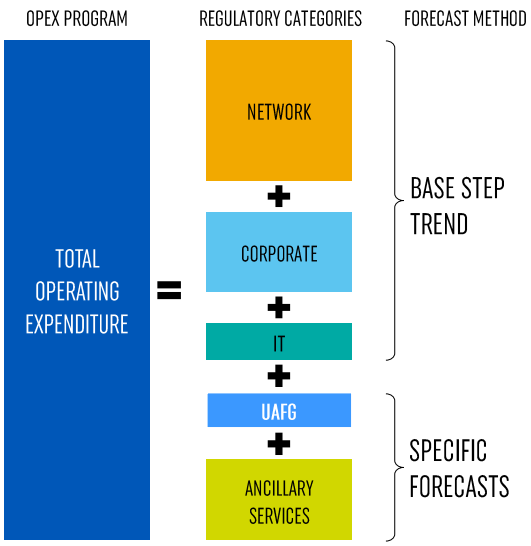
Our opex categories are outlined in Figure 9.1, and consist of expenditure relating to the categories of Network, Corporate, IT, UAFG, and Ancillary Services.

In this 2020-24 Revised Plan we have continued to apply the base-step-trend (**BST**) approach to forecasting opex for the network, corporate, and IT categories. The Draft Decision also applied the BST method. Section 9.6 provides further details of this method.

We have included two 'specific forecasts' in our submission, for opex relating to UAFG and our forecast of proposed retailer services (Ancillary Services) in AA5.

This chapter outlines our opex forecasts, our forecasting approach, and the primary drivers of opex over AA5.

Figure 9.1: Opex categories



9.2 Stakeholder engagement

In preparing this 2020-24 Revised Plan we have continued to engage with stakeholders, including through the submissions to the ERA on our 2020-24 Plan.

There were 4 stakeholder submissions that referred to the forecast opex proposed in our 2020-24 Plan (see Table 9.1).

Table 9.1: Consideration of stakeholder feedback on forecast opex

STAKEHOLDER FEEDBACK ON THE 2020-24 PLAN	OUR RESPONSE TO FEEDBACK ON THE 2020-24 PLAN
BENCHMARKING **AGL** in their submission to the ERA supported the benchmarking of ATCO's operating expenditure: *"AGL supports the ATCO benchmarking that shows its level of operating expenditure was relatively efficient over the current regulatory period."* **Synergy** in their submission to the ERA queried the benchmarking results: *"It should also be highlighted that ATCO suggests its benchmarking exercise indicates its opex per km of mains and opex per customer connection is amongst the best in Australia as at 2017. However, its key performance indicators relating to opex both increase significantly (by around 12%) between 2017 (the most recent actuals) and the estimated 2019 values. This would reduce its performance to closer towards the middle of the group of gas distribution network service providers. Moreover, as the AER has recognised, benchmarking is a fraught activity when it comes to setting expenditure allowances."*	**No change from 2020-24 Plan:** ATCO's opex per km of mains and opex per customer connection fluctuate over the course of AA4 and are higher in 2019 as a result of the inclusion of certain step costs (e.g. the costs for the preparation of this Access Arrangement submission in 2018 and 2019). However, even in these peak years, these KPI's remain below the mean and therefore benchmark favourably. ATCO considers the benchmark data reliable given that it references ATCO against 13 Australian and 2 New Zealand gas distribution businesses and is therefore comfortable that it is an accurate indication of the best information available.
FORECAST METHOD **Alinta Energy** in their submission to the ERA supported the use of the base step trend method: *"Alinta Energy supports ATCO's proposed base-step-trend approach for calculating the opex for AA5, whereby step changes in operational costs anticipated over the access arrangement period are applied to the base opex."* **Synergy** in their submission to the ERA supported the use of the base step trend method: *"ATCO is applying the base-step-trend method to develop its opex forecast. Synergy considers this is a reasonable and generally accepted method for determining a regulated business' efficient level of operating costs."* **Kleenheat** in their submission to the ERA did not support the forecasting method: *"Kleenheat questions the level of conservatism inherent within the operating expenditure forecasts, and the potential for over-estimation."*	**No change from 2020-24 Plan:** ATCO's forecasting methodology and use of the base step trend is an industry accepted approach that is acknowledged as an appropriate method for determining ongoing operating costs, given it references recent actual expenditure as the starting point. The suitability of this approach is acknowledged by the AER and ERA (refer paragraph 216-218 of Draft Decision) and ATCO considers it to be the most reasonable method of determining forecast opex.
BASE **Synergy** in their submission to the ERA did not support the derivation of the base year: *"However, rather than using its most recent revealed costs as the basis for the estimate as is customary in the base-step-trend method, ATCO proposes to use the estimated 2019 operating costs as the base year. …. This proposal appears counter-intuitive and unlikely to yield an accurate assessment of ATCO's efficient opex levels. … Synergy submits the latest year of actual expenditure should be used as the base year opex and indirect cost forecasting models, and then 2018 and 2019 efficiencies, as well as forecast AA5 efficiencies must be identified and removed from ATCO's forecasts."*	**Change from 2020-24 Plan:** ATCO agrees with the proposal by Synergy to adopt the most recent year of actuals as the base year. The 2018 financial year is the most recent year of actual expenditure and therefore ATCO proposes using 2018 as the starting point to derive the efficient base year (refer to Section 9.4.1).

STAKEHOLDER FEEDBACK ON THE 2020-24 PLAN	OUR RESPONSE TO FEEDBACK ON THE 2020-24 PLAN
STEP **AGL** in their submission to the ERA sought for reductions in ATCO's forecast operating expenditure for *operational costs that are no longer applicable* and for *reductions in maintenance costs because of the capital expenditure on network replacement*. **Synergy** in their submission to the ERA sought for reductions in ATCO's forecast operating expenditure in identified specific areas *"…For example, the AA5 upgrades to IT systems, including SAP, and significant investment in SCADA and remote control capability would only be included in ATCO's forecast if they were expected to deliver efficiencies. These specific reductions should be removed so customers benefit from the capex/opex trade-off."*	**No change from 2020-24 Plan:** As part of the base year adjustments, we have excluded opex that is considered to be non-recurring and therefore no longer applicable for network maintenance (refer to Section 9.4.2) The majority of ATCO's expenditure on IT systems in AA5 relates to the renewal of existing applications rather than investing in new systems and so productivity gains are not anticipated. ATCO has chosen to invest in network replacement and growth rather than strategic projects to enhance the productivity and efficiency of its operations, given that ATCO already employs an efficient operating business model.
TREND **Alinta Energy** in their submission to the ERA recognised the link between the opex forecast and customer growth: *"We also note that, as customer connection growth forecasts may have a substantial impact on opex, that these should be carefully reviewed by the ERA"* **Synergy** in their submission to the ERA considered that the ERA should adopt consistent parameters to Western Power's final decision: *"Synergy considers the rates for consistent parameters such as the calculation and application of opex inputs such as network growth parameters and labour growth escalation should be consistent with the ERA's September 2018 final decision on Western Power's access arrangement."*	**Change from 2020-24 Plan:** As proposed in the 2020-24 Plan, ATCO has derived a weighted annual real output growth rate based on a 45:55 weighting of growth in customer numbers to growth in the network length. In the Draft Decision Response, ATCO has only applied the escalation to Network and IT opex and not to the corporate component of opex, refer to Section 9.4.4. ATCO's proposed labour escalation is a function of labour cost escalation, materials cost escalation and the weightings applied to each, refer to Section 9.4.5. The approach proposed is in line with the recent Western Power Final Decision, the most recent decision for DBP, and ATCO's AA4 decision.
CORPORATE COSTS **Synergy** in their submission to the ERA did not support ATCO's forecast of corporate opex: *"Synergy also observes corporate opex, which accounts for around 25% of total opex (based on the bottom-up forecast produced by ATCO), appears high in comparison with other regulated network businesses."*	**No change from 2020-24 Plan:** ATCO believes that corporate costs are at an acceptable level and align with the benefit received. ATCO is part of a large multinational group and is comfortable that the benefits received through economies of scale and a larger pool of experience results in the corporate costs incurred by ATCO being less than the amount that would be incurred for the required corporate infrastructure on a stand-alone basis. The level of corporate costs proposed for AA5 is in line with the level of corporate costs approved for AA4.

STAKEHOLDER FEEDBACK ON THE 2020-24 PLAN	OUR RESPONSE TO FEEDBACK ON THE 2020-24 PLAN
PRODUCTIVITY **AGL** in their submission to the ERA did not support zero productivity savings over AA5: *"Assuming zero productivity over the next five years period would be unacceptable for a competitive firm and is unacceptable for a regulated gas network."* **Synergy** in their submission to the ERA did not support zero productivity savings over AA5: *"ATCO suggests due to the favourable benchmarking performance, there should be no additional productivity growth or efficiency targets applied to AA5 opex. Customers expect ongoing efficiencies and standards to be maintained or improved. Not only has ATCO not included any additional efficiencies, it has not included any further efficiencies between 2017 and 2019 by way of its forecasting method. Synergy does not consider this is realistic or reasonable and highlights that it is inconsistent with seeking the requirements of NGR 91."* **Kleenheat** in their submission to the ERA did not support zero productivity savings over AA5: *"Kleenheat also questions ATCO's decision not to allow for a productivity adjustment in the AA5 operating expenditure forecasts, stating its benchmark performance is already considered efficient in comparison to its peers. Kleenheat question the reasonableness of this approach, and whether this indicates an assumption that further productivity improvements and efficiencies are no longer necessary."*	**No change from 2020-24 Plan:** We do not believe that a productivity adjustment is in the best interests of customers as it would likely yield adverse implications for our ability to provide a safe and reliable natural gas service. Refer to Section 9.4.6 further detail.

9.3 Summary of the ERA's Draft Decision

The ERA did not accept ATCO's AA5 opex forecast of $357.4 million[85] as detailed in our 2020-24 Plan. In making the Draft Decision, the ERA considered information from our 2020-24 Plan, public submissions received and advice from EMCa[86] to determine the level of operating expenditure that meets the requirements of the NGR. The ERA determined a revised operating expenditure forecast of $316.8 million[87].

The ERA's assessment of ATCO's proposed AA5 opex covered the following:

- Base-step-trend forecasting method.
- Selection of the most appropriate base year.
- Adjustments to derive efficient base year operating expenditure.
- Recurrent and non-recurrent step changes proposed to ATCO's base year network, corporate and IT operating expenditure.
- Output and input growth escalation factors.
- UAFG and ancillary service operating expenditure.

Although the ERA accepted the use of the base-step-trend method for forecasting AA5 opex, the ERA disagreed with ATCO's application of it. The Draft Decision proposes that some of the assumptions applied

85 2020-24 Plan, Table 11.3

86 EMCa, *Review of Technical Aspects of the Proposed Access Arrangement (Confidential)*, January 2019

87 Draft Decision, Table 41

by ATCO did not "*yield the best forecast or estimate possible, as required by rule 74 of the NGR*", or reflect the "*operating expenditure that would be incurred by a prudent service provider acting efficiently and in accordance with accepted good industry practice, as is required by NGR rule 91*".

The ERA proposes that the assumptions applied by ATCO that are inconsistent with NGR 74 and 91 are:

- Use of 2019 as the base year.
- Some of the adjustments applied to the actual base year (2019) operating expenditure to derive the efficient base year operating expenditure.
- Some of the step changes.
- Some of the escalation factors applied.

The ERA also reviewed ATCO's UAFG and Ancillary Services opex considering the revised demand forecasts outlined in Chapter 7.

9.3.1 Draft Decision: Base year assumption

The ERA proposes that ATCO's use of 2019 as the starting point for deriving the efficient base year cost for network, corporate and IT operating expenditure did not yield the best forecast or estimate possible in the circumstances, as required by NGR 74(2)(b). The ERA has selected 2017, rather than 2019, as the base year for the revised network, corporate and IT operating expenditure forecast.

9.3.2 Draft Decision: Network, corporate and IT opex adjustments

The ERA's re-calculation of efficient base year opex (using 2017) for ATCO's AA5 network, corporate and IT costs is set out in Table 9.2.

Table 9.2: Revised forecast base year network, corporate and IT opex ($M real as at 31 Dec 2019)[88]

LINE ITEM	AMOUNT
2017 network, corporate and IT opex	**53.7**
ERA Draft Decision adjustments	
Staff Incentives	-0.7
Business development and marketing	-1.9
IT	-0.7
Total adjustments	**-3.3**
EFFICIENT BASE YEAR NETWORK, CORPORATE AND IT OPERATING EXPENDITURE	**50.3**

The adjustments in Table 9.2 are for items included in ATCO's 2017 actual opex that the ERA propose do not represent an efficient expenditure level for those items, as is required by NGR 91. These include adjustments to the following items:

- **Staff incentives:** The portion of staff bonuses above the provisioned amount ($0.657 million) has been subtracted from the base year opex for the revised forecast. The provisioned amount included in the 2017 base year ($0.955 million) more closely represented a normal and efficient level of annual employee bonus expense than the 2017 actual expense for this item. The ERA proposes that ATCO's total 2017 staff bonus payments did not reflect a recurrent level of annual expense for this item.

[88] Draft Decision, summary of Table 29

ATCO's 2017 staff bonus expense was anomalously high relative to the preceding years, particularly 2014 and 2015, when no short-term incentive payments were paid.

- **Business development and marketing costs:** The revised opex forecast includes an adjustment of $1.9 million to ATCO's base year (2017) business development and marketing expenditure. The ERA notes this is because ATCO's 2017 business development and marketing expense was anomalously high compared to historical levels and there is no evidence that this level of expense will recur on an ongoing basis over AA5. Further, the ERA proposes that there is no evidence that the level of expenditure would benefit existing customers.
- **IT costs**: The revised opex forecast includes an adjustment of $0.7 million to the base year (2017) IT expense. This adjusts this item from the actual amount incurred by ATCO in 2017 to the average actual amount incurred by ATCO between 2015 and 2017.

9.3.3 Draft Decision: Step changes

The recurrent and non-recurrent opex step changes were reviewed by the ERA and EMCa and amended as per Table 9.3.

Table 9.3: Revised forecast opex step changes[89] ($M real as at 31 December 2019)

STEP CHANGE	2020-24 PLAN	ERA ADJUSTMENT	DRAFT DECISION
RECURRENT STEP CHANGES			
Additional leak survey and repair	5.0	-2.5	2.5
New interconnections	1.2	-1.2	-
SCADA	2.3	-2.3	-
NON-RECURRENT STEP CHANGES			
Hazardous areas review & remediation	0.8	-0.8	-
Pipeline inline inspections	3.0	-	3.0
Mains reclassification	0.6	-0.6	-
Asset & business management system review	0.7	-0.7	-
AA6 regulatory preparation	2.9	-0.6	2.3
TOTAL	**16.6**	**-8.7**	**7.8**

The reasons supporting the amendments in Table 9.3 are outlined below.

- **Additional leak survey and repair:** Although the ERA accepts this expenditure as a valid step change, they question whether "the amount proposed is efficient"[90]. The ERA notes "the cost estimates in the leak survey and repair project brief are high-level, and it is not clear how the estimates have been derived". This finding is consistent with the EMCa report. The ERA has consequently reduced the leak survey and repair AA5 expenditure by 50% ($2.5 million) and requires "more information to support the proposed amount for leak survey and repair activities to demonstrate clearly that the proposed amount is efficient".

89 Draft Decision, summary of Tables 30, 31, 32, 33

90 Draft Decision, para 239

- **New interconnections** and **SCADA:** The Draft Decision is to *not accept* both the new Interconnections and SCADA capex programs (see Section 10.3.1.6, and Section 10.3.1.5 respectively), suggesting that the expenditure does not satisfy NGR 79. It follows that the ERA also does not accept the associated opex and has therefore removed it ($1.2 million and $2.3 million respectively) from ATCO's AA5 opex forecast[91].
- **Hazardous areas review and remediation:** The ERA proposes that the change for hazardous areas review and remediation covers activities that ATCO is already performing. Although the proposed step change is to address an external audit, the ERA notes that "ATCO did not adequately demonstrate that its compliance obligations under the applicable Standard have materially changed for AA5[92]". The step change of $0.8 million has been removed from the AA5 opex forecast.
- **Mains reclassification**: The ERA proposes that the change for mains reclassification covers activities that ATCO is already performing. Although ATCO claims the step change is to address a change in the applicable Australian Standard, the ERA notes that "ATCO has not demonstrated that its compliance obligations for mains under the applicable Standard have materially changed for AA5[93]". The step change of $0.6 million has been removed from the AA5 opex forecast.
- **Asset and business management review**: The ERA proposes that the change for the Asset and business management review covers activities that ATCO is already performing, and which are "routine operational activities"[94]. The ERA proposes that the expenditure for these activities is already captured in the efficient base year amount and has therefore has not included them ($0.7 million) in the revised forecast.
- **AA6 regulatory preparation**: The ERA accepts this as a valid step change, as the efficient base year (2017) did not include any such expenditure. However, the ERA questions the proposed $2.9 million, noting that the AA4 Final Decision allowed $2.3 million (in $2019) to prepare the AA5 submission. The ERA notes that "ATCO has not provided support for the proposed access arrangement six preparation costs exceeding the access arrangement five preparation costs in real terms[95]" and have therefore revised AA6 preparation expenditure down to the AA5 equivalent of $2.3 million.

9.3.4 Draft Decision: Output growth escalation factor

The output growth escalation factor is used to account for fluctuations in opex due to changes in the underlying cost drivers of the business, particularly the growth in customer numbers, and the growth in the physical size of the network (measured in km of mains). Due to the revised demand forecast[96] resulting in a decrease in customer numbers and no change in network size, the ERA has amended ATCO's proposed output growth escalation factor. These amendments are outlined in Table 9.4

91 Draft Decision, paras 241, 242

92 Draft Decision, para 246

93 Draft Decision, para 249

94 Draft Decision, para 250

95 Draft Decision, para 252

96 Draft Decision, Table 10

Table 9.4: Output growth escalation: Proposed vs Revised

($M REAL AS AT 31 DEC 2019)	%	2020	2021	2022	2023	2024	TOTAL
ATCO PROPOSED OUTPUT GROWTH ESCALATION FOR AA5							
Customer numbers	45%	12,155	12,351	12,617	12,909	13,171	63,203
Network growth (km)	55%	216	208	218	217	249	1,108
Weighted annual real output growth rate	-	1.57%	1.52%	1.55%	1.54%	1.65%	-
ATCO proposed output growth escalation	-	0.86	1.70	2.58	3.47	4.43	13.04
REVISED DRAFT DECISION OUTPUT GROWTH ESCALATION FOR AA5							
Customer numbers growth rate	45%	0.56%	-0.49%	-0.49%	-0.49%	-0.49%	-
Number of kilometres growth rate	55%	0%	0%	0%	0%	0%	-
Weighted annual real output growth rate	-	0.25%	-0.22%	-0.22%	-0.22%	-0.22%	-
ERA revised output growth escalation	-	1.44	1.32	1.21	1.08	0.97	6.02

9.3.5 Draft Decision: Input real growth escalation factor

The input real growth escalation factor is used to account for increases in labour and materials costs above inflation. The ERA accepts the use of this escalation factor when deriving the opex forecast when using the base-step-trend approach, in line with NGR 74(2)(a). The ERA accepted ATCO's proposed materials cost real growth rate of zero but did not accept our proposed labour cost real growth rate.

ATCO's proposed labour cost growth rate added a growth premium of 50 basis points to the wage price index for all industries to account for the historical premium for wages growth in the electricity, gas, water and waste services (**EGWWS**) sector over the all industries average. The ERA did not agree that this growth premium will continue into AA5[97].

In addition, the ERA notes that ATCO did not propose a productivity adjustment in AA5, and therefore argue that "Given that a business with no productivity growth is unlikely to sustain real wage growth at above-average rates in the long term, it is not reasonable to expect wages growth for ATCO to exceed average wages growth without increases in ATCO's productivity."[98]

Given these two points, the ERA did not accept ATCO's proposed labour cost growth rate and have instead proposed the *average of recent and forecast (2017/18 to 2021/22) Western Australian Treasury Wage Price Index growth and Consumer Price Index growth*. The revised real labour escalation rate is 0.54%.

The ERA's revised input growth escalation factor for AA5 is outlined in Table 9.5.

Table 9.5: Output growth escalation: Proposed vs Revised

($M REAL AS AT 31 DEC 2019)	%	2020	2021	2022	2023	2024	TOTAL
ATCO PROPOSED INPUT GROWTH ESCALATION FOR AA5							
Labour cost growth rate	62%	1.64%	1.64%	1.64%	1.62%	1.66%	-
Materials cost growth rate	38%	-	-	-	-	-	-
Weighted annual real input growth rate	-	1.02%	1.02%	1.02%	1.00%	1.03%	-
ATCO proposed input growth escalation	-	0.58	1.17	1.81	2.43	3.04	9.03

97 Draft Decision, para 265

98 Draft Decision, para 266

($M REAL AS AT 31 DEC 2019)	%	2020	2021	2022	2023	2024	TOTAL
REVISED DRAFT DECISION INPUT GROWTH ESCALATION FOR AA5							
Customer numbers growth rate	62%	0.54%	0.54%	0.54%	0.54%	0.54%	-
Number of kilometres growth rate	38%	-	-	-	-	-	-
Weighted annual real output growth rate	-	0.33%	0.33%	0.33%	0.33%	0.33%	-
ERA revised output growth escalation	-	0.51	0.68	0.86	1.05	1.23	4.33

9.3.6 Draft Decision: Ancillary service opex

The forecast volumes for ancillary services included in the Draft Decision demand forecast are shown in Table 7.3. These volumes have been applied to calculate the revised ancillary services opex for AA5 and are outlined in Table 9.6.

Table 9.6: ATCO's proposed vs ERA revised ancillary services opex ($M real as at 31 December 2019)

	2020	2021	2022	2023	2024	AA5 TOTAL
ATCO PROPOSED ANCILLARY SERVICES OPEX FOR AA5						
Applying a meter lock	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	2.258
Removing a meter lock	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	1.048
Deregistering a delivery point	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	1.418
Disconnecting a delivery point	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	1.750
Reconnecting a delivery point	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	1.781
Special meter reading	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	6.383
ATCO PROPOSED ANCILLARY SERVICES OPEX	**2.8**	**2.9**	**2.9**	**3.0**	**3.0**	**14.6**
REVISED ANCILLARY SERVICES OPEX FOR AA5						
Applying a meter lock	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	2.324
Removing a meter lock	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	1.158
Deregistering a delivery point	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	1.778
Disconnecting a delivery point	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	1.953
Reconnecting a delivery point	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	2.153
Special meter reading	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	7.745
ERA REVISED ANCILLARY SERVICES OPEX	**3.5**	**3.4**	**3.4**	**3.4**	**3.4**	**17.1**

9.3.7 Draft Decision: UAFG opex

The ERA accepted ATCO's proposal to apply a UAFG unit price as determined through a competitive tender. The ERA also accepts ATCO's proposed UAFG rates, noting that the rates are "in line with other gas distribution service providers and are therefore considered in line with good industry practice and [meet

the requirements of] NGR 91"[99]. The UAFG rates proposed by ATCO have therefore been applied in calculating the UAFG costs included in the revised operating expenditure forecast.

The revised forecast GDS throughput in the Draft Decision is shown in Table 7.2. These volumes have been applied to calculate the revised ancillary services opex for AA5 and are outlined in Table 9.7.

Table 9.7: ATCO's proposed vs ERA revised UAFG opex ($M real as at 31 December 2019)

	2020	2021	2022	2023	2024	AA5 TOTAL
ATCO PROPOSED UAFG OPEX FOR AA5						
UAFG rate (%)	2.55	2.52	2.50	2.48	2.46	-
Total consumption (TJ) (excludes UAFG)	24,901	25,023	24,496	24,011	23,782	122,214
ATCO proposed UAFG opex	6.3	6.2	6.1	5.9	5.8	30.3
REVISED UAFG OPEX FOR AA5						
UAFG rate (%)	2.55	2.52	2.50	2.48	2.46	-
Total consumption (TJ) (excludes UAFG)	24,776	24,771	24,064	23,399	22,991	120,001
ERA revised UAFG opex	6.3	6.2	6.0	5.7	5.6	29.8

9.3.8 Draft Decision: ERA's revised AA5 opex forecast

Considering the conclusions and amendments above, the ERA considers that $316.8 million of ATCO's forecast operating expenditure for AA5 satisfies NGR 74 and 91.

Table 9.8 summarises the ERA's revised operating expenditure forecast for AA5.

Table 9.8: Revised operating expenditure forecast for AA5 ($M real as at 31 December 2019)[100]

	2020	2021	2022	2023	2024	AA5 TOTAL
Base year network, corporate and IT expense	50.35	50.35	50.35	50.35	50.35	251.74
Step changes						
Additional leak survey	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	2.51
Pipeline inline inspections	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	3.05
AA6 regulatory preparation	-	-	-	1.23	1.06	2.29
Output growth escalation	1.44	1.32	1.21	1.08	0.97	6.02
Input growth escalation	0.51	0.68	0.86	1.05	1.23	4.33
UAFG	6.26	6.19	5.96	5.75	5.60	29.76
Ancillary services	3.46	3.44	3.42	3.40	3.39	17.11
TOTAL	**63.03**	**62.99**	**63.32**	**63.87**	**63.60**	**316.81**

[99] Draft Decision, para 282

[100] Draft Decision, Table 41

9.4 ATCO's response to the Draft Decision

The ERA did not accept ATCO's AA5 opex forecast of $357.4 million[101] as detailed in our 2020-24 Plan and proposed a revised expenditure of $316.8 million[102] for AA5. We have updated our 2020-24 opex forecast, considering the stakeholder feedback and ERA's Draft Decision, and are proposing operating expenditure of $345.1 million for AA5.

ATCO does not accept all the ERA's required amendments from its Draft Decision. ATCO has considered the ERA's Draft Decision and our response is provided in the following sections.

9.4.1 ATCO's Response: Base year assumption

The ERA rejected the use of forecast 2019 expenditure to determine the base year and proposed that ATCO use 2017 operating expenditure of $60.7 million as a base year. ATCO accepts the ERA's position that the use of forecast 2019 costs is not appropriate to determine an efficient base year. ATCO agrees that the use of the 2019 estimate unnecessarily introduces the risk of forecasting errors when actual opex is available. ATCO accepts that using a recent representative year of actual expenditure to determine an efficient base year cost is appropriate[103]. However, ATCO does not accept using 2017 as the base year for revised network costs as additional information is now available.

ATCO proposes using 2018 as the starting point to derive the efficient base year for network, corporate, and IT opex, as the 2018 calendar year is the most recent year of actual expenditure.

ATCO asserts that 2018 is more representative of ongoing costs, given it is the most recent year of actuals. Several changes occurred in 2018 and as a result, costs have fluctuated across various categories. For example, ATCO introduced time-sheeting from 1 January 2018 for office staff and field supervisors resulting in more accurate cost allocation to reference services. Working on the basis that the ERA has proposed (and preliminarily approved) 2017 as a suitable starting point, ATCO details the nature of each cost item that bridges 2017 to 2018 in order to explain why it would be more accurate to adopt 2018 as the base year.

9.4.1.1 2017-18 difference: Operations projects and variable volume works

Compared to 2017, ATCO incurred additional expenditure of $0.7 million relating to operations and maintenance activities. The increase was driven by higher leak surveys costs, increased frequency of pipeline patrols, additional "smell of gas" instances and two major incidents.

- Leak surveys increased by $0.2 million due to resource increases to accommodate additional leak surveys on network replacement activity. This included 80 additional high risk locations due to classification changes and costs associated with training resources for the expanded 2019 High Density Community Use areas. This level of activity and cost is required on an ongoing basis.
- Pipeline patrol costs increased by $0.1 million because ATCO introduced a step change in the frequency of pipeline patrols in the Perth Metro, Bunbury and Busselton locations in response to urban encroachment of greater than 10% on these pipelines, as defined in AST GL0001. This cost is recurrent in nature.

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101 2020-24 Plan, Table 11.3

102 Draft Decision, Para 285

103 Draft Decision Paragraph 225

- The cost of "smell of gas" activities increased by $0.2 million in 2018 due to annual seasonal variations dependent on weather conditions. The number of activities were higher than average in 2018 and lower than average in 2017. Using the average cost from 2015 to 2018 as the basis for this task, ATCO has determined that $0.1 million of the increase is recurring expenditure and $0.1 million is non-recurring.
- In 2018 there were two major incidents [redacted]) as well as minor incidents. Given the extent of these activities and the fact that 2017 was unusually low and did not record any major incidents, costs were higher than 2017 by $0.2 million. Based on historical experience, ATCO forecasts opex for one major incident per year and therefore $0.1 million is treated as non-recurring opex.

Given that $0.2 million ($0.1m from "smell of gas" activities and $0.1 million from incidents) of the $0.7 million year-on-year increase relates to one-off costs, the 2018 base year has been adjusted for this non-recurrent portion (see Section 9.4.2). The remaining $0.5 million expenditure included in 2018 is associated with permanent process changes and increased frequency of activities that will continue into AA5. This level of expenditure in the 2018 base year is representative of recurring costs.

9.4.1.2 2017-18 difference: Pipeline inline inspections

ATCO did not undertake any pipeline inspection activities in 2017 but incurred a cost of [redacted] million in 2018 when completing a single project. The cost included inline inspection operations, post-inspection works, remediation activities and reporting and documentation of findings to be utilised in the Pipeline Integrity Management Plan. The work also included [redacted] million of additional investigative works and specialist costs that are unlikely to be required for future inspection activities. Therefore, only [redacted] million of 2018 pipeline inspection costs incurred represents recurrent expenditure required for AA5.

As documented in ATCO's 2020-24 Plan[104], we have scheduled major pipeline inspections for each year of AA5. The ERA has accepted ATCO's proposal to undertake pipeline inline inspection activity during AA5 and approved a step to complete one activity in each year of AA5 and an additional activity in 2022 when two projects are planned. The ERA approved a cost of [redacted][105] million for each activity as a step change of $3.0 million[106].

Given that the pipeline inspection cost now forms part of the 2018 base year, ATCO has reduced the base year by [redacted] million to remove the non-recurrent portion of costs so the adjusted base year reflects the anticipated ongoing pipeline inspection cost of [redacted] million per annum. The step adjustment only includes a step in 2022 when an additional inspection is scheduled. This is detailed further in Section 9.4.3.2.

9.4.1.3 2017-18 difference: Business development and marketing

2018 includes $3.2 million for business development and marketing costs, which is $0.5 million lower than 2017, primarily due to one-off establishment costs of a marketing campaign being incurred in 2017; "*The Benefits of Natural Gas*". This campaign focussed on increasing the utilisation of gas by promoting natural gas as the energy of choice through the benefits of connection. Initial set-up costs included customer analysis, website creation and publication of documents. This expenditure is not ongoing, and therefore total business development and marketing costs are lower in 2018 than in 2017. ATCO considers that the

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104 2020-24 Plan Section 11.6.2.2 Adjusting for step changes in non-recurrent expenditure

105 Table 33 of the Draft Decision on Proposed Revisions to the Mid-West and South-West Gas Distribution Systems Access Arrangement for 2020 to 2024

106 Paragraph 247 of the Draft Decision on Proposed Revisions to the Mid-West and South-West Gas Distribution Systems Access Arrangement for 2020 to 2024

2018 expenditure is reasonable and the best forecast of the recurring annual cost over AA5 and represents an efficient level of expenditure as required by NGR 91.

9.4.1.4 2017-18 difference: IT Costs

The 2018 financial year included IT costs of $9.0 million[107], which was $0.7 million lower than 2017 as a result of 2017 including additional cost for post-implementation system support provided by ATCO's IT service provider following the implementation of the Springboard program. We consider that the 2018 IT expenditure is reasonable and the best forecast of the recurring annual cost over AA5, as per the ERA's assessment in the Draft Decision[108].

9.4.1.5 2017-18 difference: Corporate costs

2018 corporate costs are $0.3 million higher than 2017 due to additional reporting and compliance obligations that became effective in 2018. There has been an increase in tax accounting costs of approximately one FTE as a result of several legislative changes from July 2017 for Significant Global Entities (SGE). ATCO is required to provide information for the new Country-by-Country reporting to the head entity of its tax consolidated group. In addition, the legislation introduced significantly higher penalties for late lodgement ($550,000 per month per late lodgement) and as a result, ATCO has increased the governance framework around compliance reporting. The increased tax accounting costs ensure that we have the appropriate resources in place to avoid these higher penalties for non-compliance on an ongoing basis, therefore reducing potential costs to customers.

There has also been an increase in technical accounting costs of approximately 0.5 FTE as a result of new international accounting standards applicable to ATCO from 1 January 2018. These new accounting standards require additional analysis to be completed on all revenue contracts and ongoing analysis of the new expected credit losses measurement of impairment. During 2018, ATCO signed several new revenue contracts with new retailers under the retail contestability regime. In addition, further new accounting standards are applicable from 1 January 2019, requiring additional analysis of expenditure contracts to determine if they contain a lease. These costs are ongoing in nature and ensure that we meet all our reporting obligations under the standards. This reduces the risk of potential costs to customers through penalties imposed by regulatory authorities.

9.4.1.6 2017-18 difference: Staff incentives

The 2018 cost is $0.7 million higher than 2017, because 2017 reflected a provisioned amount of $0.955 million, whereas the 2018 base year reflects a provisioned amount of $1.643 million. We consider that the 2018 expenditure is reasonable and the best forecast of the recurring annual cost over AA5, as it reflects a recurrent level of bonus expenditure for the business. This is discussed further in Section 9.4.2.

9.4.1.7 2017-18 difference: AA5 regulatory preparation

ATCO incurred expenditure of $1.8 million in 2018 relating to the preparation of the AA5 submission. The 2018 expenditure included costs for program management, specialist expert advice support for the VoC program, and expert reports to support our review of the rate of return guideline. Given these costs are non-recurrent, they have been removed as an adjustment to the base year. Further details are provided in Section 9.4.2.

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[107] Reconciled to the 2018 Regulatory Accounts as $6.8 million IT costs plus $2.2 million IT expenditure classified as Network and Corporate costs for reporting purposes.

[108] Draft Decision paragraph 237

9.4.1.8 2017-18 difference: Summary of ATCO's response

Given the additional reporting requirements and compliance obligations, we consider that the 2018 expenditure is reasonable and the best forecast of the recurring annual cost over AA5 and represents an efficient level of expenditure as required by NGR 91. Table 9.9 shows the adjusted 2018 expenditure compared to previous years in AA4, in order to examine the trends.

Table 9.9: AA4 opex comparison ($M real as at 31 December 2019)

	2015	2016	2017	2018
Network	26.4	30.1	27.6	31.0
Corporate	18.1	13.5	16.2	19.2
Information Technology	8.8	8.5	9.7	6.8
Total	53.2	52.1	53.5	57.0
Adjustment for non-recurrent expenditure[109]	-	-	-	-2.2
Adjustment for 2020-24 pipeline inline inspections step	-	-	-	-0.5
ADJUSTED TOTAL	**53.2**	**52.1**	**53.5**	**54.3**

Table 9.9 demonstrates that the trend of costs over AA4 fluctuates dependent on the level of operational activity and other business projects. The trend from 2015 to 2016 shows an initial decline of 2% largely due to the results of the restructure undertaken in 2015, refer to Section 5.3.6.1. The year-on-year increase of 2.8% in 2017 and 1.4% in 2018 shows the results of growth in the network and in the number of customers from 2016 to 2018 being 1.5% and 3% respectively. This trend also demonstrates the business recalibrating business expenditure following the 2015 review and establishing a more sustainable cost base. As discussed above, 2018 includes expenditure for additional activities that will be required going forward and therefore represents recurrent operating expenditure for the 2020-24 period.

Following the explanations provided above, ATCO considers that using 2018 as the base year is a reasonable indicator of opex requirements over the AA5 period. ATCO's adjustments to the 2018 actual opex for non-recurring costs are discussed further in the section below.

9.4.2 ATCO's Response: Network, corporate and IT opex adjustments

The ERA proposed adjustments of $3.3 million to the 2017 base year, resulting in efficient base year opex of $50.3 million[110]. ATCO has assessed the ERA's assumptions and adjustments to the 2017 base year costs in relation to staff incentives (-$0.7 million), business development and marketing (-$1.9 million), and IT costs (-$0.7 million). ATCO's response to each of these adjustments is detailed below and has explained our response in the context of using 2018 as the efficient base year. ATCO has also proposed further adjustments that are required due to 2018 being adopted as the base year.

9.4.2.1 Network, corporate and IT opex adjustments: Operations projects and variable volume works

The 2018 base year includes $0.2 million relating to non-recurrent pipeline inspection costs and $0.2m relating to additional incident expenditure. As discussed in Section 9.4.1.1, this level of expenditure relates to one-off costs and so the 2018 base year has been adjusted for this non-recurrent portion of $0.4 million.

[109] Equivalent to the base year adjustment in Table 9.3

[110] Draft Decision, Table 29

9.4.2.2 Network, corporate and IT opex adjustments: Business development (BD) and marketing

ATCO does not accept the ERA's proposal to reduce the efficient base year BD and marketing opex to $1.9 million, through an adjustment of -$1.9 million[111]. ATCO requests $3.2 million for activities related to BD and Marketing in AA5, this is an addition of $1.3 million to the Draft Decision, but a $0.6 million reduction from the 2020-24 Plan.

ATCO's 2017 and 2018 opex included business development and marketing costs of $3.8 million and $3.2 million respectively. In determining an efficient level of expenditure, we accept the ERA's assertion that 2017 was an anomalously high year compared to historical levels of $1.4 million in 2014, and $2.4 million in 2015[112].

ATCO's response is structured around the main points of the ERA's Draft Decision.

- **Comparison to historical expenditure:** The ERA notes that *"ATCO's 2017 business development and marketing expense was anomalously high compared to historical levels and there is no evidence that this level of expense will recur on an ongoing basis over AA5"*[113].

  Although we have reduced our proposed AA5 BD and marketing expenditure in consideration of the ERA's Draft Decision, we propose that there is a sufficient shift in our operating environment that warrants additional expenditure over historical levels. We are facing increasing market forces that are affecting our levels of gas consumption and new connections (see Chapter 7), these include:

  - Emergence of electric induction cooktops in place of natural gas appliances.
  - Reduction in reverse cycle air conditioning equipment costs – supplanting gas heating.
  - Smaller lot sizes due to rezoning or new estates has led to smaller home sizes.
  - Land developers are releasing land lots further from the abutting gas network due to cheaper land procurement and sale price, but are not able to provide natural gas connections due to headworks capital costs.
  - Perception that natural gas is 'less green' in WA than procuring electricity from the grid (using coal and natural gas turbines and line loss experienced).

  Additional to these challenges, effective customer engagement and social responsibility are now considered normal practice for businesses. Consequently, ATCO has sought to continue to educate customers on the safety and benefits of natural gas resulting in greater energy choice for customers, increased connections and increased gas usage.

  The scale of the challenges noted above is significantly different to the AA4 period. The potential implications for our customers from the types of market factors listed above are considerable and the speed with which the transformation is occurring is also increasing. This underscores the need for increased education in the industry. Educating new and existing customers, and the community, that natural gas offers an affordable, reliable and safe source of energy for their homes and their businesses is an ongoing challenge driven by misconceptions in the industry. In addition, we need to address misinformation in the Western Australian gas market due to confusion over whether the challenges in the east coast gas market also apply in Western Australia.

111 Draft Decision, Table 29 and Para 234

112 Per the response provided to EMCa's question number 39.

113 Draft Decision, Para 234

If we fail to educate and engage the market and customers with activities that meet their needs and are necessary for our network to adapt quickly and appropriately, the utilisation reduces. In turn, our customers will face higher prices. Consequently, this could result in more customers switching to alternative energy sources and place further upward pressure on both energy prices and costs to operate the gas network.

On the positive side, certain elements of those market changes offer opportunities to make investments that deliver substantial benefits to our customers. We therefore have strong programs, platforms and incentive plans to carefully and swiftly respond to such developments.

- **Benefits to customers:** The ERA notes that "*the proposed business development and marketing expenditure cannot be justified based on the benefit it would provide to consumers*"[114].

  We do not accept this assertion and propose that our BD and marketing activities are focussed on offering our customers choice, both in terms of an alternate energy source and energy solutions that have a lower carbon footprint. Additionally, our BD and marketing activities result in cost saving benefits to both new and existing customers. Consistent with good industry practice, BD and Corporate Affairs personnel are responsible for the BD and marketing functions, including executing activities that increase connections, throughput and operation of the network:

  - As new customers are connected to the network, existing customers benefit with the spread of tariffs across more customers.
  - As existing customers are introduced to technology to increase throughput, this also leads to lower tariffs.
  - Network operational activities require stakeholder and customer engagement to provide information about works that may affect them or their natural gas supply.

  Table 9.10 outlines the activities that our BD and marketing expenditure would support throughout AA5 and the associated direct benefits for customers. ATCO considers the below examples and projects are consistent with good industry practice and provide a reasonable justification for the prudent levels of expenditure required in AA5.

Table 9.10: ATCO's BD and marketing activity examples

BD & MARKETING ACTIVITY	DESCRIPTION	BENEFIT TO CONSUMERS	CASE STUDIES
Capital Contributions	As natural gas is considered a non-essential service, ATCO has developed this policy to assist customers to connect by contributing to the installation costs of infrastructure. The BD team completes analysis on behalf of the customer to meet the criteria for NGR 79(2)(b).	Reduction in operating costs. Estates can provide choice in energy for residential customers, and commercial customers are able to save by switching from Electric, Diesel or LPG to Natural Gas. Lower carbon emissions if using Natural Gas rather than electricity from the grid.	The customer had purchased land in a non-reticulated commercial subdivision to construct a new brewing facility to cope with increased demand. They had originally planned to use LPG for its operation. The BD team demonstrated to the customer to convert appliances to natural gas, reducing their energy cost. Using the capital contribution policy, the BD team was able to extend the network 850m to convert a new B1 customer to Natural Gas and increase gas throughput.

[114] Draft Decision, Para 235

BD & MARKETING ACTIVITY	DESCRIPTION	BENEFIT TO CONSUMERS	CASE STUDIES
New Connection Process & Capital Expenditure	The BD team undertakes analysis and develops business cases for land development or customer projects that are not abutting to the current network. This demonstrates not only the opportunity for the potential new connection, but also other estates that may develop in the future. If this is not done diligently it can lead to a domino effect of lost connection opportunities.	Customers save on energy costs for heat intensive businesses and gas remains relevant and easy to connect to for them. Customers can save on internal and ATCO costs with BD team working closely with consultants on correctly sizing meter set and headworks to deliver on customer's needs, such as timings, costs and benefits.	ATCO has partnered with the Property Council to deliver value to Property Owners in the WA market over 2019 and 2020 period. This allows ATCO to reach and communicate the benefits to customers for using natural gas in Commercial, Industrial and Residential requirements who may not be aware of our activities mentioned in this document. Successes to date include a land redevelopment in Belmont, a suburban retail shopping centre, and an asphalt batching plant.
Case study development	The Marketing team produce case studies that demonstrate benefits of gas, or the specific application of gas in order to aid in the acquisition of new connections or in direct support of another operational objective.	Case studies are used to demonstrate a specific operational objective in order to support that objective. For example, where a case study demonstrates the applicable cost savings of natural gas to a business, the piece can be used to support a BD meeting where the objective is the conversion of a similar business from electricity to natural gas, based on the demonstrable savings in the case study. This ultimately leads to new connections and increased throughput.	The Scarborough Pools case study included a video that demonstrated how natural gas could work as a backup fuel in conjunction with renewable energy (geothermal). The case study also demonstrated ATCO's commitment to building relationships with recreation centres and local government, opening new doors for the BD team to connect other C&I customers with similar needs to the gas network. ATCO aim to produce 4 case studies in 2019.
Search Engine Optimisation (SEO)	Marketing team audit online assets and produce optimised content for search engines to ensure a long term presence for natural gas related searches in Google. The act of making content easier to find through search engines.	Given smartphone penetration and the extent that Google and other search engines are used by consumers ensuring relevant content that highlights the benefits of gas as a fuel, gas safety and other general gas information is easily accessible via search engines is extremely important as it means this content will be more likely seen and acted upon.	Optimisation of yourgas.com.au gas safety website, keyword research and the production of optimised written articles to ensure that when a search term such as 'gas leak' is searched in Google, a relevant article appears at the top of the search results, that addresses how to behave in the event of a gas leak. ATCO aim to optimise all digital assets and produce monthly articles for SEO purposes as well as incorporate SEO into monthly reporting in 2019.
Content Marketing	Marketing team to produce content that demonstrates the benefits of gas to the market. Content can be in a large number of formats such as: written articles, educational videos or audio	Content is used for educational purposes. For example, educational videos or articles that describe the cost savings of gas compared to electricity are useful in acquiring new	'Gas Trumps Electricity in Running Costs' written article: Published in The West. The article explores the benefits of natural gas for a residential customer, comparing the favourable cost of gas appliances with electric

BD & MARKETING ACTIVITY	DESCRIPTION	BENEFIT TO CONSUMERS	CASE STUDIES
	discussions. This content can be housed online on websites, in social media channels or produced for publication.	connections and reducing churn away from the gas network.	appliances in the context of the modern home. ATCO aim to produce 4 pieces of content for external publication in 2019.
Gas Sales Tools	Marketing team to produce a series of sales tools, both online and offline, in order to support various operational objectives.	Customers benefit through the demonstration of the primary benefits of gas in specific and applicable situations. The development of these tools will lead to the success of a greater number of operational objectives, like fuel switch or new connections leading to higher throughput and increased connections.	Natural Gas Vs LPG sales collateral: Printed piece that demonstrates the cost savings of operating using natural gas as a fuel choice by comparing natural gas to LPG for a business customer. Energy mix savings calculator online tool: Interactive online tool that compares the cost of various appliances running different fuel types, showing energy savings of natural gas.
Infill Program	Marketing team to build a website and associated communications to facilitate unconnected homes joining the gas network.	Throughout the existing network, connecting pockets of unconnected homes represent a sizable opportunity for new connection growth. Customers benefit through the cost savings of gas, reduced environmental impact and improved reliability in joining the network, while also, through reduced cost of gas appliances available via ATCO leveraging relationships with appliance suppliers and contractor labour.	Development of communications that lead unconnected homes to join ATCO's Infill program. Development of a landing page and online funnel to capture these customer details in order for ATCO to organise the new connection. ATCO aim to be in market with the Infill program and connecting new customers in 2019.
Communications and engagement towards residential home buyers	Communications and engagement undertaken in order to address trends in the market that see consumers moving away from gas appliances when they build a new home, replace appliances or renovate. This is due to a lack of education. This trend will impact throughput as well as new connections.	Customers benefit through the demonstration of the primary benefits of gas – cost savings, reduced environmental impact and improved reliability of gas appliances. Educating this audience will see an increase in the sales of gas appliances over electric or LPG fuelled appliances, increased throughput, increase in new connections and a	Series of online educational activity, including video's and social media posts that demonstrate the benefits of gas, targeted to specific audiences in the consideration phase of the buying cycle for a home, people building new homes or those in the process of renovating a home. Energy mix savings calculator online tool: Interactive online tool that compares the cost of various appliances running different fuel types, showing energy savings of natural gas.

BD & MARKETING ACTIVITY	DESCRIPTION	BENEFIT TO CONSUMERS	CASE STUDIES
		reduction in churn away from gas appliances.	ATCO aim to be in market with communications and engagement activity in late 2019 and activity will be measured through market research.
Industry Event Support	Marketing team to create and develop printed, and digital communication pieces, as well as physical assets to be used at industry events.	Ensuring that ATCO maintains a professional level appearance at industry events where the BD team can communicate directly with C&I customers and influencers. These interactions lead to operational objectives being achieved including: New connections, Fuel switch, Gas powered technology education and High & Mid-rise solutions. Achieving these objectives lead directly to increased throughput and lower costs for customers.	Equinox trade show: Team developed a video, printed communications and a physical booth that directly supported the BD team in demonstrating to builders and architects how ATCO can assist developers to incorporate gas risers in high rise buildings.
Gas Safety Campaigns	Marketing team develop twice yearly gas safety campaigns to educate the market about gas safety.	Customers benefit through greater education about the correct use of gas appliances, servicing information, carbon monoxide safety and suggested behaviour in the event of a gas leak. Gas safety campaigns lead to a greater understanding of gas safety in the population which reduces public risk.	30 second radio spots that demonstrate the servicing requirements of gas appliances. A half page print piece that explains the dangers of carbon monoxide and how to recognise the symptoms of carbon monoxide poisoning. Development of a website where gas safety information can be housed including written articles that target specific keywords to ensure that they appear in the Google search results. ATCO produces two gas safety campaigns per year, message retention and impact are measured through pre and post campaign reporting.
Gas Market Research	Marketing team to undertake market research to better understand consumer attitudes and behaviour towards natural gas and other fuel types across residential and C&I audiences.	Developing an understanding of the reasons consumers choose to use gas or not use gas as well as attitudes towards gas and other fuels allow ATCO to identify and address trends that might negatively affect the network and existing customers as well as opportunities to expand the network, increase	Through market research the marketing team identified that 40% of non-gas users were unaware of the cost benefits of using gas appliances. This represents an opportunity for ATCO to educate these consumers leading to an increase in connections and throughput. ATCO aims to produce 2 pieces of market research per year.

BD & MARKETING ACTIVITY	DESCRIPTION	BENEFIT TO CONSUMERS	CASE STUDIES
		throughput or better serve existing customers.	
Community and Stakeholder Engagement	Building relationships with our customers and the wider community is important to ATCO. We have a responsibility to ensure that stakeholders and the community are informed and understand what our business can provide for them. As community expectations change, heightened requirement has been identified to implement best practice community engagement to manage customer expectations and disruptions to roads, homes and other public amenities.	Communication and Engagement around our maintenance and construction schedule is essential to ensuring best customer service and minimise customer disruption and discomfort. This is evident in the high uptake of proactive community Engagement Programs implemented by Utility organisations for example: Australian Gas Network: Have your Say Western Power: Consultation	Community and stakeholder engagement work is undertaken on every capital project, and each is assessed on its needs and customer impact and planned accordingly. Examples of such engagement combines the use of ATCO's standard communication tools (media, social media, direct mail etc) to ensure local residents and businesses are consulted ahead of time with respect to planned disruptions to the network. Community and stakeholder engagement at this level will continue to be required throughout the AA5 period and is currently being planned for upcoming metallic mains replacements in key locations, for example, adjacent and connected to the Metronet project in Bayswater, next to the Innaloo shopping centre redevelopment in Stirling, and at Perth Airport.
Social Responsibility to Traditional Owners	As ATCO continues to operate on the Traditional Lands of Aboriginal peoples of Australia, ATCO has a social and moral obligation towards these Traditional Custodians, not only with regards to significant cultural heritage sites, but also on a much broader level.	The current landscape in which ATCO operates, means that being socially responsible is a business requirement and customer expectation. Over 600 organisations in Australia have already publicly committed to Reconciliation, other utilities already committed to Reconciliation Action Plans include: Water Corporation Western Power Energy Australia	As part of ATCO's commitment to working in partnership with Aboriginal and Torres Strait Islander peoples, ATCO has committed to implementation of a Reconciliation Action Plan. As part of this obligation, ATCO has put in place programs that look at supplier diversity, employment diversity, building of relationships with traditional owners and staff education programs about Aboriginal culture and the importance of Reconciliation in Australia.
Social Responsibility to Communities where we operate	Similar to the above example, it is no longer acceptable practice for organisations to operate in communities without regarding their moral and social responsibilities towards these organisations. The 12th LBG Annual Review of Community Investment,	Consumers benefit, in that a portion of income raised from where we work, flow back into grass root projects that directly benefit our customers and their community. This type of community investment is in line with similar practices of other utility business. One example is Australian	ATCO has a range of grass roots community programs that directly benefit our customers including: Equipment Loaner Program: This Program allows grass roots community organisation to use ATCO equipment including Marquees and Outdoor Cinema to host Fundraising Activities. There are no costs to the Community Organisations. This program allows

BD & MARKETING ACTIVITY	DESCRIPTION	BENEFIT TO CONSUMERS	CASE STUDIES
	representing trends of Corporate community Investment across Australia and New Zealand found that contributing members are investing 0.14% of total revenue into initiatives that benefit the communities where they operate.	Gas Networks that commit $500,000 towards Community Initiatives.	ATCO to support a number of organisations to leverage ATCO's support to attract additional community funding. ATCO Communities Fund: This Program is a sponsorship activity that supports local organisations to implement community led programs that will best support their local community priorities. Regional staff are heavily involved in decision making around key local community priorities that are funded through this program.
Media management	ATCO actively monitors and engages with the local media, using the channel to inform stakeholders on the benefits of natural gas, while advocating for the gas industry in Western Australia.	Using traditional media supplements the use of social media channels (see below), ensuring that all members of the community can access information on natural gas, and keep informed of changes to the network and future plans.	ATCO regularly uses the traditional media to support communication and engagement with our customers and the community. For example, in 2018 as part of our infill program, we reached out to the communities of Falcon and Dawesville in order to ascertain their interest in the possibility of network extension in their areas. With the help of local community papers, we were able to greatly extend our reach in the local area while leveraging the trust residents held in their local papers. The result was that we were able to communicate with a far greater number of local residents than we would have otherwise.
Social media channels	ATCO uses popular social media channels, linked back to its website, to educate and inform consumers, building an engaged, pro-gas community in Western Australia.	Consumers can easily and quickly access information on gas safety, capital works projects in their locale and information on any disruptions to the gas network in real-time. This service meets consumer expectations for timely, accurate and accessible information.	During an interruption to service in the gas network in North Fremantle last year, ATCO was able to keep impacted consumers, approximately 700 homes, up-to-date with the latest information at all times through the use of our social media channels Twitter and Facebook. Consumers were able to ask questions in real time and receive responses from ATCO's External Communications Advisor.
Internal Communications	The Internal Communications function provides tools and channels to drive employee engagement. Engaged employees deliver a number of benefits which have a direct impact on our interactions with consumers. The Internal	Studies show that an engaged workforce is more likely to be a safer workforce, who provide better customer service and are more productive. For our customers, this means they interact with a highly effective, safe and efficient organisation.	Internal Communications provides the channels, including an intranet, newsletters and emails, to disseminate safety information, tools, policies and procedures to ATCO employees so they can remain safe when completing ATCO work and keep the community safe at the same time. Internal communications also provide significant planning and

BD & MARKETING ACTIVITY	DESCRIPTION	BENEFIT TO CONSUMERS	CASE STUDIES
	Communications function also provides communications support to implement projects which create a more efficient and productive company.		implementation support to work process changes and the implementation of new technologies, ensuring employees are aware of the change, prepared for the change, and have the information they need to adapt to the change.

These activities clearly demonstrate how our marketing plan will support operational objectives to increase new connections to the network and throughput, while effectively meeting the needs of our customers. In summary, we propose a revised BD and marketing AA5 opex forecast of $3.2 million per annum, which was developed after taking into account the activities, actions and outcomes outlined in Table 9.10. The annual AA5 opex forecast of $3.2 million will be directed as shown in Table 9.11.

Table 9.11: Annual AA5 BD and marketing opex forecast ($M real as at 31 December 2019)

	$OPEX	ACTIVITIES
New connections including infill program & homebuyer engagement	[redacted]	• Scoping, analysis and support to facilitate developers, builders and gas customers to connect to the network. • Preparation of customer driven business cases • Online customer connection portals • Online customer education tools • External content for education including case studies, content and engagement
Capital contributions	[redacted]	• Customer energy modelling for completion of NGR79(2)(b) analysis on behalf of the customer. • Providing information and preparation of internal documentation to facilitate process. • External content for education including case studies, content and engagement
Community and stakeholder engagement	[redacted]	• Engagement with community for operational activities • Use of communications platforms for keeping customers and stakeholders informed of network and related items • Diversity programs relating to suppliers, employment, building of relationships with traditional owners and staff education • Equipment Loaner Program • ATCO Communities Fund
Gas safety campaigns	[redacted]	• Informative gas safety information campaigns across various channels including online and print for the community.
Internal and external communications	[redacted]	• Internal intranet, newsletters and emails • Media, social media, and direct mail to gas customers • Use of communications platforms for keeping customers and stakeholders informed of network and related items
Gas market research, industry support and sales tools	[redacted]	• Market research studies • Online energy mix savings calculator
TOTAL	3.2	

Table 9.12 provides a summary of our forecast, which has been developed by considering:

- Amendments made to the 2020-24 BD & Marketing Plan in consideration of the ERA's Draft Decision.
- Review and consideration of the increased challenges posed by the market that were not forecasted for during our AA4 submission. These challenges will continue to have a significant effect during AA5.
- Comparison of AA4 vs AA5 BD and marketing activities.
- Business development driven A1 and A2 customer growth.
- Review and consideration of the AA5 BD and marketing channels.

Our revised forecast includes the following amendments to our original forecast from the 2020-24 Plan:

- **Marketing:**
  - Reducing expenditure on above-the-line and below-the-line marketing expenditure, e.g. social media, digital forms, awareness and cut-through programs, marketing collateral and digital portals.
  - Removing one-off costs that occurred in 2017 in setting up economic and emissions models for our 'benefits of gas' website and marketing campaigns (e.g. Better Add Gas) that now require lower costs to maintain and upkeep.
  - Realignment of BD related operational costs that were allocated to Marketing as part of the 2020-24 Plan, however, are BD related. These costs will be evident when comparing AA4 BD activities to AA5 BD activities.
- **Business development:**
  - Remove activities associated with biogas blending with natural gas as a fuel source.
  - Remove expenditure relating to gas powered on-site generation for fast charging EV charging stations.

Table 9.12: ATCO's revised AA5 BD and marketing opex forecast ($M real as at 31 December 2019)

	$OPEX
2020-24 Plan (embedded in 2017 Base Year)	3.8
Less: Draft Decision disallowance	-1.9
Draft Decision	1.9
Add: Proposed increase to 2018 level	1.3
Draft Decision Response	**3.2**

9.4.2.3 Network, corporate and IT opex adjustments: IT Costs

As discussed in Section 9.4.1.4, ATCO accepts the ERA's assessment that our 2017 IT cost of $9.7 million was anomalously high. We accept the ERA's adjustment to the 2017 base year IT costs of $0.7 million and accept that $9.0 million is more representative of a recurrent level of annual expenditure. The 2018 base year includes IT costs of $9.0 million and therefore no adjustment is required.

9.4.2.4 Network, corporate and IT opex adjustments: Staff incentives

In its Draft Decision, the ERA has made an adjustment of $0.7 million to the 2017 base year relating to staff incentives[115]. The 2017 base year includes a provision for bonus amount of $0.955 million[116]. By reducing the base year by $0.7 million, the ERA's calculated annual allowance for bonus expenditure equals $0.255 million. Paragraph 222 of the Draft Decision states that ATCO's provisioned amount reflects a more efficient amount and that an allowance of $0.955 million is acceptable. The calculation and the text are inconsistent, and we have assumed that the amount quoted by the ERA in paragraph 222 (being $0.955 million) is the intended Draft Decision allowance for staff incentives. We therefore believe that the ERA has incorrectly included a base year adjustment of $0.7 million.

However, ATCO does not accept the ERA's allowance for staff incentives as $0.955 million and reiterates the position communicated in the 2020-24 Plan that the ongoing cost of staff incentives should be based on the actual cost, not the 2017 provisioned amount. The provisioned amount is an estimate, and there is no logical basis for selecting this amount because it does not represent the actual costs incurred or a reasonable or best forecast of the recurring cost over AA5.

Further, EMCa's view that ATCO should pay bonuses from the 'outperformance' cost reductions[117] implies that the business would only pay staff incentives if there was outperformance. We do not subscribe to this view because we incentivise staff to achieve forecast expenditure levels before any outperformance is achieved and forecast expenditure to cover this. If outperformance is achieved, additional bonuses may be paid out of outperformance, but this is separate to the base level staff incentive expenditure.

ATCO provides incentive payments to its employees in order to attract, retain and motivate employees and align personal performance with business results. ATCO did not make annual incentive payments in 2015 and 2016 due to employment market conditions at the time and the uncertainty created by the AA4 process and delayed outcome of the AA4 Final Decision. It would therefore be incorrect to use the costs in these years as points of reference because the costs are not comparable. After the outcome of AA4 decision was determined in July 2016, ATCO resumed annual short term incentive plan (STIP) payments in 2017.

ATCO's staff incentives are calculated based on three inputs: Base Salary, STIP percentages and STIP Payment Rates and ATCO has tested each of these input factors against external references and industry data. The details of our assessment are below and demonstrate that ATCO's basis for determining STIP is reasonable and within industry data ranges.

- [redacted]

115 Draft Decision Table 29

116 Draft Decision paragraph 232

117 EMCa report paragraph 480

118 ATCO Salary Report March 2018

119 Average weekly ordinary time cash earnings in the public and private sector for Western Australia at May 2018 as reported in the Australian Bureau of Statistics 6302.0 Average Weekly Earnings, Table 16 November 2018,

[redacted]

9.4.2.5 Network, corporate and IT opex adjustments: AA5 regulatory preparation

ATCO incurred expenditure of $1.8 million in 2018 relating to preparation of the AA5 submission. There was no program expenditure in 2017. This item is removed as an adjustment to the 2018 base year because it is non-recurrent expenditure. A separate step has been recorded in 2022, 2023 and 2024 for regulatory preparation costs relating to AA6, refer to Section 9.4.3.2.

9.4.2.6 Network, corporate and IT opex adjustments: Summary of ATCO's response

ATCO has compared the ERA's calculation of the efficient base year to ATCO's determination. Table 9.13 includes adjustments for items that do not represent efficient expenditure, consistent with NGR 91. ATCO has determined that $54.8 million reflects an efficient opex level that would be incurred by a prudent service provider and is what is required annually to complete ongoing activities for AA5.

120 Average weekly ordinary time cash earnings in the public and private sector for Electricity, Gas, Water and Waste Services at May 2018 as reported in the Australian Bureau of Statistics 6302.0 Average Weekly Earnings, Table 17 November 2018,

121 [redacted]

122 [redacted]

123 ATCO Australia Remuneration Ranges 2017/2018 (internal document). Due to market conditions, no increases were applied in 2018 and therefore the data in the 2017 table applied to 2018.

124 [redacted]

125 Previously this was reported as $1.6 million, which was incorrect

Table 9.13: Revised efficient base year network, corporate and IT opex ($M real as at 31 Dec 2019)

LINE ITEM	ERA DRAFT DECISION	ATCO DRAFT DECISION RESPONSE
	2017 BASE YEAR	2018 BASE YEAR
Reported network, corporate and IT opex	**53.7**	**57.0**
Adjustments		
Staff Incentives	-0.7	-
Business development and marketing	-1.9	-
IT	-0.7	-
Access arrangement five regulatory preparation	-	-1.8
Operations projects and variable volume works	-	-0.4
Total adjustments	**-3.3**	**-2.2**
Efficient base year network, corporate and IT opex	**50.3**	**54.8**

9.4.3 ATCO's Response: Step changes

ATCO does not accept the step changes proposed by the ERA. The reasons for ATCO's position and the proposed expenditure and justification for each recurrent and non-recurrent step in opex is detailed below.

9.4.3.1 ATCO's Response: Step changes in recurrent opex

- **Additional leak survey and repair:** The ERA proposed a leak survey step of $2.5 million, a 50% reduction from the $5.0 million expenditure proposed by ATCO in the 2020-24 Plan.[126] ATCO accepts the ERA's determination to reduce the leak survey and repair step change, but not the proposed 50% reduction. ATCO has refined the scope of leak survey activity and the estimate of the costs and determined that $3.0 million is required to complete the forecast level of leak survey activity (compared to the $2.5 million in the ERA's Draft Decision).

  As a result of several standard changes and newly identified risks, ATCO is required to perform leak survey activities additional to those conducted in 2018. A description of these activities is provided below, and we have prepared and updated project brief [Attachment 09.103: Project Brief: Additional Leak Survey and Repair] that provides a detailed cost breakdown. The project brief demonstrates that the proposed amount is prudent and efficient, as required by NGR 91. The additional activities required to be completed in AA5 are:

  - Gas Meter positions at properties in City Centre Areas (CCA):
    - Mains in [redacted] CCAs were surveyed annually, and the Formal Safety Assessment (FSA) determined that the risk of leaks from meter positions in High Density Community Use[127] (HDCU) was 'High' thus resulting in the need for an additional [redacted] meter positions requiring annual surveys in CCAs.
  - Gas Mains and Meter Positions around additional (HDCU) locations:
    - A revision to AS/NZS 4645 resulted in a clear definition of what is considered as a HDCU. ATCO's FSA determined that the gas mains in the vicinity of an additional [redacted] newly defined HDCUs

126 Draft Decision, Para 239

127 High density community use locations include areas where buildings of four or more storeys are prevalent, major shopping centres, schools, hospitals, aged care facilities, and major sporting and cultural facilities. Public infrastructure (e.g. roads and railways, trafficable tunnels) in direct proximity of the high density community use area is also deemed to be part of the high density community use area.

will require annual leak survey resulting in an estimated additional [redacted] km of mains requiring leak survey. The [redacted] meter positions at these HDCU locations will also require to be leak surveyed as described for CCAs.

- Major services:
  - The FSA determined that the previous definition of major services did not sufficiently capture all assets of concern. [redacted] km of pipe that was traditionally classified as a "service" was identified to be no different than a gas main (greater than 2.0m^3 volume) and thus has been included in the definition of a major service as defined in ATCO's Safety Case. This means that these services will now need to be leak surveyed once every 5 years (refer to section 9.4.3.2: *Mains reclassification* for further detail on these changes).
- Gas Meter Positions in older residential areas with PVC services[128]:
  - Concern regarding leaks at meter positions from mechanical fittings that historically are known to leak has resulted in the commencement of a trial to better understand the risk. The trial identified a leak rate of as high as 5% in some older PVC networks, which aligns with our assessment of this risk as being Intermediate (Not ALARP). This new activity proposes to survey an additional [redacted] meter positions over 5 years in suburbs with older PVC networks resulting in an annual increase of [redacted] meter position leak surveys. These suburbs have been identified with the assistance of our mains replacement prioritisation tool, which provides a risk driven (greater than or equal to Intermediate risk) targeted leak survey program for meter positions in older PVC networks.

The supporting leak rate determination and the associated opex or capex is provided in the updated project brief [Attachment 09.103: Project Brief: Additional Leak Survey and Repair]. The project brief provides further detail on the outcomes of the trial as mentioned above and the changes to the prescribed Australian Standards. The project brief also provides detail about the comparison between the gas distribution network in WA and other jurisdictions (SA, NSW, VIC) and their requirements for leak survey, as well as the differences in the actual design of the gas distribution network[129].

- **New interconnections:** ATCO does not accept the ERA's determination to exclude the total opex step of $1.2 million[130] expenditure relating to new interconnections capex, refer to capex Section 10.4.1.6 for further details on our position. Based on completing the capex projects in 2020, 2021 and 2022 and commencing the opex for each site the year following capex completion, we propose an opex step change of $0.9 million.

  The annual opex for each site is estimated at $0.1 million and is based on scheduled, corrective and reactive maintenance for each site. We have proposed that the operation and maintenance of these sites are outsourced to the relevant transmission operator. Given that these facilities are operationally linked to transmission systems, including control systems and applicable work procedures, it is most efficient that the maintenance is scheduled into their current maintenance programs. Further information is detailed in Section 10.4.1.6 as well as the associated business cases [Attachments 12.32: Business Case: PGP Interconnection – Forrestfield and 12.56: Business Case: PGP Interconnection – Rockingham *provided with the original submission*].

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128 Older residential locations with an increased leak tracking risk from mechanical connections at the building, are those buildings where the typical building flooring construction was stumped construction, compared the monolithic concrete slabs

129 E.g. ATCO are unique (apart from new installations in SA) whereby the meter is installed in a meterbox attached to the premise for residential dwellings.

130 Draft Decision, Para 241

- **SCADA (Project name changed to 'Automated network pressure control'):** ATCO does not accept the ERA's determination to exclude the total opex step of $2.3 million[131] related to the installation of supervisory control and data acquisition (**SCADA**) and proposes a step of $0.8 million for AA5.

  This cost is based on ongoing expenditure such as new personnel, licencing, information and operational technology integration, and operations and maintenance of installed field equipment. We have taken into consideration the comments from EMCa and the ERA in deciding on the most appropriate capex and opex that brings value and long-term benefits to customers. These benefits include future opex cost reductions, avoided future capex or opex, and improved asset management integrity.

  As a result, we have reforecast opex in line with the revised capex project. The $0.8 million opex proposed is related to the *Automated Network Pressure Control* project only as detailed in the associated business case [Attachment 10.109: Business Case - Automated network pressure control *provided with the original submission*] and Section . Table 9.14 provides a further detailed forecast estimate of opex over AA5. The cost benefit analysis assumed these costs to continue or increase beyond 2024 based on additional equipment installed in the field but offset by other benefits such as scheduled maintenance reduction or avoided capex.

Table 9.14: Detailed *Automated Network Pressure Control* opex ($M real as at 31 Dec 2019)

DESCRIPTION	AA5 OPEX ($M)
Additional personnel and ongoing training for control room	[redacted]
Third-party OT service provider licencing, support and fees	[redacted]
Third-party IT service provider licencing, support and additional fees	[redacted]
Communication costs	[redacted]
TOTAL	**0.8**

- **Security of Supply – Pipeline Patrol:** In response to the ERA's decision to exclude security of supply capex, ATCO has determined that in order to sufficiently mitigate the risk, additional pipeline patrol opex activities are required.

  Both the ERA and EMCa provided feedback in relation to ATCOs Security of Supply method and concluded that supply risks assessed by ATCO as 'High' should be considered Intermediate, and that the proposed capex risk reduction options were unlikely to pass an ALARP Test. ATCO's original supply risk assessment considered the magnitude of risk reduction provided by daily pipeline patrol and concluded that the risk reduction was not adequate to reduce risk to an acceptable level.

  In response to the ERA's Draft Decision, we have undertaken a revision of the security of supply risk assessment to include an additional risk reduction factor to account for the probability that a pipeline puncture (and subsequent isolation) does not result in loss of positive pressure to impacted networks.

  This revision to our method results in daily pipeline patrol adequately reducing the risk from High to Intermediate. Daily pipeline patrol was therefore assessed as being the lowest cost solution to reduce risk to an acceptable level for the high supply risks identified in the Bunbury and Two Rocks region (see Section 10.4.1.4, Attachment 09.101 and Attachment 09.102). As a result, a new step change of $0.5 million is required to undertake this activity in the 2020-24 period.

[131] Draft Decision, Para 242

Table 9.15 details the step changes proposed by ATCO in relation to recurrent opex.

Table 9.15: Adjustments for recurrent step changes ($M real as at 31 Dec 2019)

RECURRENT STEP CHANGE	2020	2021	2022	2023	2024	AA5 TOTAL
Additional leak survey	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
New interconnections	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Supervisory control and enhanced data acquisition	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Security of Supply - Pipeline Patrol	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
TOTAL	**0.7**	**0.9**	**1.1**	**1.2**	**1.2**	**5.2**

9.4.3.2 ATCO's Response: Step changes in non-recurrent opex

Hazardous areas review and remediation: ATCO does not accept the ERA's exclusion of the total opex step of $0.8 million[132] on the basis that the amount is already incurred in the base year. We propose an opex step change of $0.8 million, consistent with our 2020-24 Plan.

In 2018, we incurred nominal costs to commence remediation of [redacted] high risk sites. This action was taken to mitigate the highest risk sites as identified in the *Gas Distribution System Safety Case* audit[133] in 2017. The audit stated: *Inspections are required for all rated electrical equipment.*

As outlined in our 2020-24 Plan, we have modified the standard design for all new installations, however, the remediation work includes ensuring non-compliant legacy assets are rectified. From 2019 and during AA5, we will complete inspection activities on the [redacted] high risk sites, establish an equipment register to comply with the requirements of the standard[134] and complete remediation on our remaining [redacted] sites.

We have completed desktop design reviews for several standard installations, this review has enabled us to estimate the volume of activities required to meet our safety compliance obligations under the Standard. We are required to incur $0.77 million from 2020 to 2023 and therefore have included an opex step change consistent with our 2020-24 Plan (see Table 9.16).

This expenditure meets NGR 91 as it is prudent and efficient expenditure to bring established assets up to a level of compliance with current legislation. The expenditure then ceases and does not become ongoing operating expenditure. The following represents the detailed breakdown of the non-recurring expenditure for 2020 to 2024, with this timing based on asset risk of failure. Further detail can be found in the project brief [Attachment 11.3: Project Brief: Hazardous Areas Review and Remediation provided with original submission *provided with the original submission*].

Table 9.16: Detailed cost description for hazardous areas remediation ($M real as at 31 Dec 2019)

COST DESCRIPTION	ACTIVITY TYPE	CATEGORY	2020	2021	2022	2023	2024	TOTAL
Engineering, Field & Training	Labour is made up of Engineering, trade and training hours, however no new personnel are required. Subcontractors will be	Labour	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

[132] Draft Decision, Para 246

[133] Environmental Risk Solutions, *ATCO Gas Australia Gas Distribution System Safety Case audit*, revision 1, 9 January 2017

[134] AS/NZS 2381.1:2005 Electrical equipment for explosive gas atmospheres- Selection, installation and maintenance – General requirements

COST DESCRIPTION	ACTIVITY TYPE	CATEGORY	2020	2021	2022	2023	2024	TOTAL
	utilised for this project in addition to internal personnel.							
Materials and Incidentals	Incidentals to ensure compliance when changing or upgrading individual locations (e.g. Ex rated cabling, barriers, etc.)	Material	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Hazardous Areas Expertise	Based on consultancy quote. This work will include training, inspection and engineering guidance.	Sub-contractor	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
		TOTAL	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	**0.8**

- **Pipeline Inline Inspections**: As documented in ATCO's 2020-24 Plan[135], ATCO has scheduled major pipeline inspections for each year of AA5 totalling $3.0 million. The ERA has accepted ATCO's proposal to undertake pipeline inline inspection activity during AA5 and approved a step to complete one activity in each year of AA5 and an additional activity in 2022 when two projects are planned. The ERA approved a cost of [redacted][136] million for each activity and the step change of $3.0 million[137]. Given that the pipeline inspection cost of [redacted] million now forms part of the 2018 adjusted base year (as discussed in Section 9.4.1), the step adjustment only includes a step for [redacted] million in 2022 when an additional activity is scheduled.

- **Mains reclassification**: ATCO does not accept the ERA's exclusion of the total step cost of $0.6 million[138] on the basis that the step change for mains reclassification covers activities that ATCO is already performing. ATCO seeks to reinforce its position that applicable Standards have materially changed and as a result, additional costs are required to be incurred to meet compliance requirements. We propose an opex step change of $1.7 million, an increase to our original 2020-24 Plan.

  In the 2018 edition, AS/NZS 4645[139] has changed the definition for a "Service" and clarified that a Service pipe could supply gas to more than one consumer gas meter, a practice that was being applied within other jurisdictions. As a result of this change, we revised our definition of a Service (which clarified what is a Main[140], compared to what is a Service) within our 2018 accepted edition of the GDS Safety Case. The new definition defines that a Service pipe has an internal volume of *less than or equal* to 0.2m^3 at atmospheric pressure. Therefore, pipes feeding multiple consumer gas meters within a private property with an internal volume of *greater than* 0.2m^3 are now classified as being a Main (previously assessed as being a Service). This reclassification has resulted in an additional compliance obligation that did not initially apply to these assets prior to the legislation change.

135 2020-24 Plan Section 11.6.2.2 Adjusting for step changes in non-recurrent expenditure

136 Table 33 of the Draft Decision on Proposed Revisions to the Mid-West and South-West Gas Distribution Systems Access Arrangement for 2020 to 2024

137 Paragraph 247 of the Draft Decision on Proposed Revisions to the Mid-West and South-West Gas Distribution Systems Access Arrangement for 2020 to 2024

138 Draft Decision, Para 249

139 AS/NZS 4645.1:2008 Gas distribution networks- Network management

140 Mains AS/NZS 4645 definition is identical between the 2008 and 2018 editions

To manage the compliance obligations and, more specifically, the risk associated with leaks of a pipe with a *greater than* 0.2m^3 internal volume, these mains are required to be leak surveyed. We are currently unable to complete this activity, as we do not have sufficient location data on these assets. In order to establish the location data required to perform required leak survey activities (and consequently comply with safety standards), ATCO needs to measure and record the location data of these underground pipes and therefore requires additional step costs in AA5.

The detailed expenditure for our proposed step change is shown in Table 9.17. Desktop analysis that began in 2018 (completed in early 2019) has provided a clear scope of works (as opposed to the initial activity level in the 2020-24 Plan) for mains to be reclassified in particular locations based on analysis of customers and demand at that location. ATCO proposed opex is $1.7 million over AA5 and due to an increase in activities and alignment with leak survey, ATCO will be completing activities in every year of AA5. Through this analysis, [redacted] sites require one day on-site analysis and [redacted] sites require 2 day on site analysis due to size, complexity and available information.

Table 9.17: Detailed cost description for mains reclassification ($M real as at 31 Dec 2019)

DRAWING OFFICE	2020	2021	2022	2023	2024	TOTAL
Drawing Office	[redacted]					
Planning & Supervision	[redacted]					
Proving of Mains & Services	[redacted]					
TOTAL	[redacted]					**1.8**

- **Asset and business management review**: ATCO does not accept the ERA's determination that the step change of $0.7 million for the asset and business management review covers activities already captured in the efficient base year amount for 2017 and should not be included in the revised operating expenditure forecast[141].

  The cost of this activity relates to a major upgrade of ATCO's ERP system, which, based on the product lifecycle, requires an application renewal in AA6. In preparation for an upgrade of this complexity and magnitude, we will complete the planning and scoping phase of the project in 2022. These tasks and activities are abnormal activities and outside of 'business as usual' tasks and are therefore have not been contemplated in 2017.

  These activities have also not been undertaken in 2018, ATCO's new proposed base year. Further investigation of the scope of work to be undertaken in 2022 has determined that the deliverables of this phase include documentation of business requirements, integration requirements, data migration considerations, and regulatory compliance requirements. These outputs will be used in the ERP Solution Design phase and are an integral first step in the development of the technology solution and are directly attributable to the creation of the intangible asset.

  On this basis, ATCO has adjusted the capex cost of the ERP application renewal project to include this phase of work and has removed this cost from the operating expenditure step changes.

141 Draft Decision, Para 250

- **AA6 regulatory preparation**: ATCO proposed a step change of $2.9 million relating to AA6 preparation costs in its 2020-24 Plan. The ERA reduced the forecast step cost to $2.3 million, the level of expenditure included in the AA4 Final Decision for AA5 preparation cost[142]. ATCO does not accept the ERA's position that the step change for AA6 preparation costs should be equivalent to the amount allowed for the preparation of AA5 in the AA4 Final Decision. Several legislative changes have taken place since the AA4 allowance was determined and these will require ATCO to incur additional expenditure in AA6, these include:
  - Under section 30P of the NGL, the ERA is required to review the rate of return instrument and make a new instrument on 18 December 2022. We expect to actively participate in this process as we have done in the two prior reviews (2013 and 2018). We have planned to commence the AA6 preparation early in 2022 to incorporate the rate of return work within the program. This will result in the program being executed over an extended period and therefore, incur costs associated with mobilising the project team for an additional 10 months compared to the AA5 preparation. Based on the average monthly program management expenditure for the AA5 program, the additional cost of program management for AA6 is estimated at $0.3 million.
  - The NGR includes a new requirement for ATCO to make a submission to the ERA on its reference services in September 2022, the ERA will then publish its decision on the reference services by March 2023 (6 months before the full AA6 submission is due). This type of work was not included in the AA5 preparation allowance and therefore, justifies additional resources required for AA6 preparation. The expenditure associated with this piece of work includes expert economic and legal advice of $0.3 million. This relates to the categorisation of services, consulting with customers and stakeholders and the preparation of the necessary response documentation. The expenditure has been determined based on the cost of previous comparable deliverables.

  Due to the above legislative changes and the resulting extension of the AA6 program timeline, ATCO has forecast that it will require $0.6 million more to prepare AA6 compared to the regulatory preparation for AA5. Therefore, in order to complete the AA6 regulatory preparation, ATCO has forecast to spend $2.9 million and therefore maintains that a step change of $2.9 million is required, as per the 2020-24 Plan.

Based on the above justification, ATCO proposes the following step changes in non-recurrent opex for the AA5 period.

Table 9.18: Adjustments for non-recurrent step changes ($M real as at 31 Dec 2019)

RECURRENT STEP CHANGE	2020	2021	2022	2023	2024	AA5 TOTAL
Hazardous areas review & remediation	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	0.8
Pipeline inline inspections	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	0.5
Mains reclassification	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	1.8
Asset & business management system review	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	-
AA6 regulatory preparation	-	-	0.6	1.4	0.9	2.9
TOTAL	**0.5**	**0.6**	**1.6**	**1.9**	**1.3**	**6.0**

[142] Draft Decision, Para 252

9.4.4 ATCO's Response: Output growth escalation factor

ATCO does not accept the ERA's Draft Decision on output growth escalation factors for AA5. The ERA has forecast a declining customer base over the course of AA5 and ATCO does not accept this view. ATCO has forecast an increase in customer numbers from 2020 to 2024, the justification of ATCO's position and details of ATCO's revised demand forecast are detailed in Section 7.4.

Given the growth in customer numbers, ATCO has forecast an associated increase in the total length of the network, refer to Section 7.9. Further detail of ATCO's proposed growth capex is detailed in Section 10.4.2.

As proposed in the 2020-24 Plan, ATCO has derived a weighted annual real output growth rate based on a 45:55 weighting of growth in customer numbers to growth in the network length. Based on ATCO's updated demand forecast and growth capex forecasts, ATCO's proposed escalation factors are shown in Table 9.19.

Table 9.19: Real output growth escalation factors

FORECAST GROWTH FACTORS	WEIGHTING	2020	2021	2022	2023	2024
Customer numbers growth rate	45%	0.89%	1.19%	1.39%	1.48%	1.48%
Number of kilometres growth rate	55%	0.91%	1.05%	1.19%	1.19%	1.20%
Weighted annual output growth rate		0.90%	1.11%	1.28%	1.32%	1.32%

The above weighted annual output growth rate has been applied to ATCO's base year network and IT costs in order to determine the value of output growth escalation to be included in AA5 opex. We have determined that it is only prudent to apply the weighted annual real output growth rate to the network and IT components of opex, leaving corporate costs out of the equation. Corporate costs are largely support services that, within a reasonable range, remain unaffected by an increase in ATCO's number of customers or growth in length of the network. Both network costs and IT costs are highly aligned with the number of customers and the size of the network and change in direct correlation to these drivers. Network costs include all operations and maintenance personnel, contracts, and resources to maintain the network. IT costs include support service costs for field staff and all network planning, monitoring and management technology costs, which increase in direct proportion to the network size.

Based on ATCO's updated demand forecast and ATCO's proposal to apply output growth escalation (as per Table 9.19) to 2018 base year network and IT costs (excluding corporate costs), ATCO's real output growth escalation assumptions and the opex forecast for output growth escalation for AA5 is $10.8 million as detailed in Table 9.20.

Table 9.20: Real output growth escalation opex forecast ($M real as at 31 Dec 2019)

OUTPUT GROWTH ESCALATION FOR AA5	2020	2021	2022	2023	2024	TOTAL
Output growth - Network expenditure	1.0	1.3	1.8	2.2	2.6	8.9
Output growth - IT expenditure	0.2	0.3	0.4	0.5	0.6	1.9
TOTAL	**1.2**	**1.6**	**2.1**	**2.7**	**3.2**	**10.8**

9.4.5 ATCO's Response: Input real growth escalation factor

ATCO does not accept that the Draft Decision's labour cost escalation forecast of 0.54% is consistent with NGR 74(b)(2).

Input real growth escalation is driven by price increases in labour and materials above inflation. Input real growth escalation is a function of labour cost escalation, materials cost escalation and the weightings applied to each. The Draft Decision accepts that input real growth escalation contributes to a reasonable basis for deriving the operating expenditure forecast when using the base-step-trend approach, in line with NGR 74(2)(a).[143]

The Draft Decision has accepted the following aspects of ATCO's input real growth escalation and ATCO continues to adopt these assumptions in this 2020-24 Revised Plan:

- **Weightings**: ATCO continues to propose an opex resource mix of 62% labour and 38% materials based on benchmark weights developed by the Pacific Economic Group[144] [145]
- **Materials cost escalation:** ATCO continues to propose no real cost escalation for materials costs. ATCO considers that increases in the cost of materials are not expected to exceed Consumer Price Index (CPI) growth over the AA5 period.[146]

The Draft Decision did not accept ATCO's proposed labour cost escalation forecast, instead, adopting a real labour escalation rate of 0.54%.[147] The method adopted in the ATCO Draft Decision to determine the labour cost escalation factor differed from the recent Western Power Final Decision, the most recent decision for DBP and ATCO's AA4 decision. The method adopted by the ERA in these decisions calculated real labour escalation by:

1. Calculating the annual average of Western Australian Wage Price index (**WPI**) over AA5 based on economic forecasts prepared by the WA Department of Treasury.
2. Adding a premium for the EGWWS sector WPI over Australian WPI based on the premium that has existed over AA4.
3. Deducting the forecast inflation adopted throughout the decision and that has been derived from the implied inflation between nominal and real commonwealth government securities.

The Draft Decision has not explained why a different method has been adopted in this case. We have assessed the Draft Decision based on the above method.

9.4.5.1 Western Australian WPI

The Draft Decision adopted the average of recent and forecast Western Australian Treasury WPI to determine the movement in the all industries average WPI for Western Australia. In this 2020-24 Revised Plan, we have used the most recent data, incorporating the 2019-20 State Budget released on 9 May 2019, as we consider that this is reasonable and represents the best forecast in accordance with NGR 74. The wage price index forecasts are shown in the following table.

Table 9.21: Department of Treasury Economic Forecasts for the Wage Price Index[148]

	2018/19	2019/20	2020/21	2021/22	2022/23	AVERAGE
Wage Price Index growth	1.75%	2.25%	2.75%	3.00%	3.25%	**2.60%**

143 Draft Decision, para 260

144 Pacific Economics Group, TFP Research for Victoria's Power Distribution Industry, December 2004

145 Draft Decision, Para 261

146 Draft Decision, Para 262

147 Draft Decision, para 268

148 Department of Treasury, Economic Forecasts, Available from: http://www.treasury.wa.gov.au/Treasury/Economic_Data/Economic_Forecasts/

The 2019-20 State Budget anticipates gradual improvement in labour market conditions over the forecast horizon, leading wage growth to pick-up from 1.75% in 2018/19 to 3.25% in 2022/23 supported by employment growth due to the construction of new and replacement iron ore projects, new lithium projects and major road and METRONET rail infrastructure projects. ATCO notes that the State Budget forecast is consistent with the sentiment expressed in the May 2019 Monetary Policy Decision from the Reserve Bank of Australia:

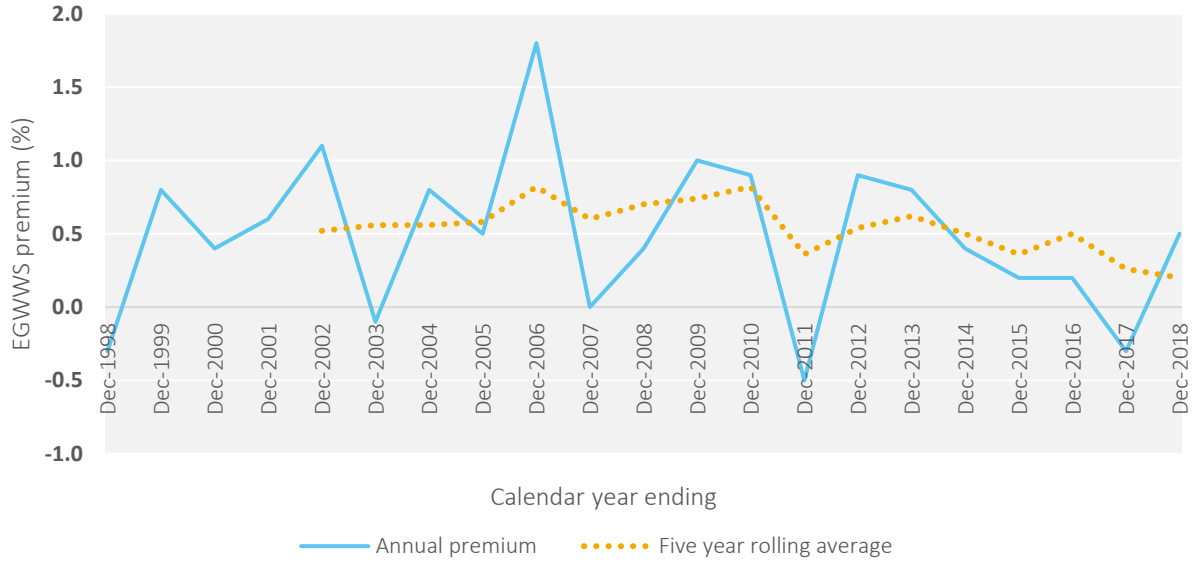
> *The strong employment growth over the past year or so has led to some pick-up in wages growth, which is a welcome development. Some further lift in wages growth is expected, although this is likely to be a gradual process.*

ATCO notes that the WA Treasury WPI forecast only extends to 2022/23, capturing the first three and a half years of the AA5 period[149]. Based on the forecast WPI profile to mid-2023, which is underpinned by expectations of improving economic conditions and associated strengthening labour market, it could reasonably be argued that WPI wages growth is likely to further increase in the latter one and a half years of the AA5 period. Hence, this suggests that any WPI forecast for 2020-24 that is based on the first three financial years of the period and the materially lower growth 2018/19 and 2019/20 financial years), will be more likely to under-estimate rather than over-estimate wages growth.

9.4.5.2 EGWWS premium over the Western Australian WPI

ATCO's 2020-24 Plan incorporated a labour cost escalation forecast that included a premium for wages growth in the EGWWS sector over the all industries average.[150] Our approach to estimating labour cost escalation was consistent with the method adopted in the ERA's previous gas and electricity access arrangement decisions. We incorporated a 0.5% growth premium reflecting the long term historical average WPI growth premium for the EGWWS sector. Figure 9.2 demonstrates the annual historical premium between the relevant ABS series[151], since December 1998.

Figure 9.2: EGWWS premium over the all industries average



[149] The WA Treasury forecasts are expressed on a financial year basis, compared to the calendar year basis of the ATCO forecasts.

[150] ATCO Gas Australia, Access Arrangement Information, Attachment 12.9 Wage price index forecast, 31 August 2018, p. 23 and p. 35

[151] ABS series A2603491L (percentage change in hourly rates of pay in the EGWWS sector for Australia) and ABS series A2603611V (percentage change in the WPI for Australia)

Figure 9.2 demonstrates that the relative premium of the EGWWS sector is not zero. The EGWSS premium exists because there are other sectors that compete strongly for labour with the EGWWS sector, e.g. construction and mining. The chart shows that at no stage historically has there ever been a sustained period of no wage premium, only single years where this has been the case. This further invalidates the Draft Decision assumption that there will be no EGWWS WPI premium over the full 2020-24 period.

ATCO considers that a premium will continue because the EGWWS sector tends to be driven by this sectoral labour demand factor, as well as structural characteristics of labour in the EGWWS sector, including high unionisation, relatively high skills and industry bargaining. We note that the annual premium is now on an upward trend, and the five year average appears to be on a downward trend that is starting to level off. The trend is consistent with the conclusion reached by Synergies:

> *The recent softness in wages growth in the EGWWS labour sector largely reflects weakness in the general economy and in industries competing for similar skilled labour, particularly in mining and construction. In the medium term, however, economic conditions in Western Australia are expected to improve. As the economy recovers, we expect that the current slack in the labour market will be taken up, with upward pressure on wages as utilities in the EGWWS sector compete to attract skilled workers.* [152]

ATCO also notes that historically none of the downward or upward phases of the cycle lasts for five years. Given these factors, ATCO considers that this historical data, including the most recent AA4 period, demonstrates that there is reasonable basis to conclude that a premium over the all industries average will persist over the AA5 period. ATCO notes that the current rolling five year average for the EGWWS premium is 0.2%, whereas the long-run average is 0.5%.

ATCO considers that the forecast recovery in WA economic activity, facilitated by increased government infrastructure spending, will have a tendency to lift all wages (as demonstrated in the WA State Budget WPI forecast above), with EGWWS workers likely to earn a premium due to relatively high skills, strong unionisation and the stronger competition for substitutable labour.

ATCO considers that the best forecast of labour cost escalation over AA5 will include a premium for the EGWWS. ATCO has estimated the premium on the following basis:

- ATCO considers that like-for-like comparison in this circumstance would be to compare the EGWWS and the WPI on the same scale, being for all of Australia.
- ATCO has assessed the premium over the AA4 period to determine the best estimate for the AA5 period.
- ATCO has adopted the December quarter values to be consistent with the calendar year reported adopted by ATCO and the end of year modelling assumption adopted throughout the revenue model.

Table 9.22 shows that the premium has persisted over the AA4 period, with the most recent annual premium being 0.5% and the average over the AA4 period being 0.15%.

[152] Synergies Economic Consulting, Attachment 12.9: Wage Price Index Forecast, ATCO 2020-24 Plan, pp 35-36

Table 9.22: EGWWS premium over AA4 (2015-2018)

YEAR ENDING DECEMBER	2015	2016	2017	2018	AVERAGE
Percentage change in hourly rates of pay in the EGWWS sector for Australia (ABS series A2603491L)	2.3%	2.2%	1.8%	2.8%	**2.28%**
Percentage change in the WPI for Australia (ABS series A2603611V)	2.1%	2.0%	2.1%	2.3%	**2.13%**
PREMIUM	**0.2%**	**0.2%**	**-0.3%**	**0.5%**	**0.15%**

ATCO notes that that ATCO's proposed EGWWS premium of 0.15% is more conservative than the 0.2% EGWWS premium applied in Western Power's 2018 Final Decision. ATCO considers that the recent improvements in the mining industry and Western Australian economy are expected to continue to put upward pressure on the EGWWS premium over the WPI over the AA5 period.

9.4.5.3 Forecast inflation

The Draft Decision incorrectly adopted a Western Australian forecast of CPI to determine the final real labour cost escalation.[153] ATCO does not accept the use of Western Australia CPI growth forecasts to determine the real labour cost escalation. Using the Western Australia CPI creates an inconsistency with the inflation assumptions adopted elsewhere in the Draft Decision and the 2020-24 Revised Plan, including the rate of return, the calculation of total revenue, the annual tariff variation mechanism and the regulatory asset base roll forward. The ERA has previously considered this in its AA4 Final Decision:

> *The Authority also notes that the Weighted Average CPI-Eight Capital Cities rather than the Western Australian CPI has been applied to ATCO's current access arrangement, and has been approved for the fourth access arrangement period. However, the labour cost escalation section of ATCO's response to the Draft Decision and the supporting Acil report refer to the Western Australian CPI. The Authority considers that any proposed real labour cost escalation rate for ATCO should reflect additional growth over the applied CPI.* [154]

In addition, ATCO notes that the 2018 Rate of Return Guideline adopts the breakeven method to forecast inflation for the Weighted Average CPI-Eight Capital Cities:

> *1573. In the draft guidelines, the ERA preferred the Treasury bond inflation approach because this approach utilises both nominal and real risk-free rates which are directly observed from the market. As a consequence, these estimates will reflect the market's view of the expected inflation rate.*
>
> *1574. The rationale for using market based approaches is that market prices reflect the aggregation of diverse market participant expectations. The forecasts of many different market participants are considered to contain more information and be more relevant than any one particular forecast model or method.*
>
> *1575. The ERA considered that the Treasury bond implied inflation approach is the most robust measure of inflation expectations for a regulatory period. This method is consistent with and most appropriately aligns with the ERA's regulatory period.*[155].

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153 Draft Decision, Para 268

154 Economic Regulation Authority, Final Decision on Proposed Revisions to the Access Arrangement for the Mid-West and South-West Gas Distribution Systems, 10 September 2015, Para 342

155 Economic Regulation Authority, Final Gas Rate of Return Guidelines Explanatory Statement – Meeting the requirements of the National Gas Rules, December 2018, pg. 251

ATCO considers that the best forecast of real labour cost escalation in the circumstances is to adopt the Weighted Average CPI-Eight Capital Cities forecast derived from Commonwealth Government Securities (as per the Rate of Return Guideline).

In accordance with ERA's 2018 Rate of Return Guideline, in applying the breakeven methodology for this 2020-24 Revised Plan, ATCO has nominated a 20-day averaging period and selected nominal and real Commonwealth Bonds whose terms expire either side of specified maturity dates.

9.4.5.4 Revised labour cost escalator

In this 2020-24 Revised Plan, ATCO has adopted the following method to estimate the best forecast for the real labour cost escalator in accordance with NGR 74 by:

1. Calculating the annual average of Western Australian WPI over the AA5 period based on Economic Forecasts prepared by the WA Department of Treasury.
2. Adding a premium for the EGWWS WPI over Australian WPI based on the premium that has existed over the AA4 period.
3. Deducting the forecast inflation derived from the implied inflation between nominal and real Commonwealth Government Securities in accordance with ERA's Rate of Return Guideline.

ATCO's 2020-24 Revised Plan forecast of labour cost escalation is detailed in the following table:

Table 9.23: Derivation of real labour escalation factor (% pa)

LABOUR ESCALATION FACTOR COMPONENT	
Annual Average of Western Australian WPI over AA5	2.60%
Plus Premium of EGWWS WPI over Australian WPI	0.15%
Equals Nominal Labour Escalation Forecast per annum	2.75%
Less Forecast Inflation/CPI per annum	1.28%
Equals Labour Escalation Factor	**1.47%**

ATCO considers the proposed forecast labour escalation of 1.47% to be fully consistent with the real labour escalation forecasting approach that ERA has adopted in all its recent energy decisions, including for Western Power, Dampier to Bunbury Pipeline and ATCO (for the current regulatory period).

Specifically, the proposed 1.47% growth forecast is based on WA Department of Treasury WPI All Industries forecasts, an EGWWS premium that is somewhat lower than that approved by ERA for Western Power in its 2018 Final Decision and using the breakeven method to forecast inflation in accordance with ERA's 2018 Rate of Return Guideline and other constituent components of the Draft Decision.

ATCO further considers that its proposed real labour cost forecast is consistent with the improving outlook for the WA economy and labour market, including due to significantly increased government infrastructure spending, which is likely to create increasing wage pressures for the EGWWS sector over the AA5 period.

9.4.6 ATCO's Response: Productivity adjustment

ATCO has not applied a productivity adjustment to this 2020-24 Revised Plan on the basis that:

- **Our benchmark performance is already considered efficient:** ATCO's benchmark productivity is already considered efficient compared to our peers (see Figure 1.1. in our 2020-24 Plan). ATCO made significant operating changes during AA4 and as a result, outperformed the expected 2014-19 opex allowance. These savings and efficiencies have been embedded in the business and as a result, flow on

to customers in AA5. As demonstrated in the partial productivity performance data, ATCO's opex is already lean. As a result, any further reduction in costs through a productivity adjustment would not be in the long term interest of consumers as it would likely adversely affect our ability to provide a safe and reliable natural gas service. Furthermore, application of an arbitrary productivity adjustment would not necessarily achieve a sustainable cost of delivering pipeline services. Including such an adjustment would result in ATCO not being able to recover at least its efficient costs (section 24 of the NGL).

- **We are absorbing costs:** As documented in our 2020-24 Plan, ATCO will absorb $2.6 million in identified network step changes over AA5 that fall outside the base year. Table 9.24 provides a summary of the individual components that make up this expenditure. This efficiency is equivalent to an implied annual efficiency improvement of 0.5% on network related operating expenditure.

Table 9.24: Additional step changes identified but not allowed for in the AA5 opex forecast ($M real as at 31 December 2019)

STEP CHANGES NOT ALLOWED FOR IN AA5 FORECAST OPEX	AA5 TOTAL
Asset sampling & testing	0.13
Third-party damage prevention and pipeline safety	1.84
Additional vegetation clearing for Bunbury & Busselton	0.08
Condition assessment and data gathering in CBD	0.02
Overpressure shut-off devices maintenance	0.57
TOTAL	**2.63**

- **No strategic technology projects forecast:** It is unlikely that we will improve our opex productivity over AA5 due to technological developments. In this 2020-24 Revised Plan, the majority of our proposed capex for AA5 is for network sustaining projects, network growth projects, and structures and equipment. We have chosen to invest in network replacement and growth rather than strategic projects to enhance the productivity and efficiency of our operations given that we already employ an efficient operating business model. Furthermore, the majority of our IT capex relates to the renewal of existing applications rather than investing in new systems that will lead to productivity improvements and so productivity gains are not anticipated.
- **Reduced new connections and average demand over AA5:** ATCO is forecasting that the number of new connections over AA5 will be less than the number of new connections over the previous five-year period (2015 – 2019). In addition, the average demand per connection is declining. With declining new connections numbers and average gas demand it is unlikely that we will improve our opex productivity over AA5 due to increasing economies of scale.

9.4.7 ATCO's Response: Ancillary services opex

The ERA proposed ancillary service expenditure of $17.1 million in the Draft Decision[156]. ATCO continues to apply the unit rates proposed in the 2020-24 plan and accepted by the ERA in the Draft Decision[157] and, in accordance with Required Amendment 36, has proposed to introduce a nil charge for the certain services cancelled more than three business days prior to the scheduled date of service (refer to Section 17.13.1). The forecast volumes for ancillary services included in our updated demand forecast are shown

156 Draft Decision, Table 38

157 Draft decision paragraph 276

in Table 7.9. These volumes have been applied to calculate the revised ancillary services opex for AA5 and are outlined in Table 9.25.

Table 9.25: ATCO's proposed ancillary services opex ($M real as at 31 December 2019)

ANCILLARY SERVICES	2020	2021	2022	2023	2024	AA5 TOTAL
Applying a meter lock	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	2.3
Removing a meter lock	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	1.1
Deregistering a delivery point	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	1.4
Disconnecting a delivery point	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	1.7
Reconnecting a delivery point	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	2.0
Special meter reading	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	7.8
TOTAL PROPOSED ANCILLARY SERVICES OPEX	**3.2**	**3.2**	**3.3**	**3.3**	**3.4**	**16.4**

9.4.8 ATCO's Response: UAFG opex

The ERA accepted our proposed UAFG rates in the initial submission and added that the forecast was "in line with other gas distribution service providers and are therefore considered in line with good industry practice and [meet the requirements of] NGR rule 91"[158].

ATCO has revised the UAFG unit price after finalising an agreement for the five year period from 1 January 2020 to 31 December 2024 through a competitive tender process. ATCO has submitted a contract summary term sheet with this Draft Decision response [Attachment 09.104: Outcome of UAFG Tender Process]. The UAFG tender was a highly competitive process delivering a price reduction for UAFG that will benefit all customers. The saving as a result of price changes is $9.6 million over the AA5 period.

ATCO has revised the forecast UAFG volumes to be higher than the original forecast presented in the submission. In line with the revised demand forecast (see Section 7.4.1), we have reforecast UAFG volumes to represent the best forecast possible in the circumstances as per NGR 74(2)(b). The new UAFG forecast considers the 2018 actual UAFG volumes; considering a new heating value management plan for the South Metro network that was implemented in July 2018 and that this change will take at least "14 months before UAFG levels are corrected"[159] (i.e. beyond September 2019). The re-forecast UAFG volumes have been applied in calculating the UAFG costs included in our revised opex forecast.

Our revised UAFG opex for AA5 is outlined in Table 9.26.

Table 9.26: ATCO's proposed vs ERA revised UAFG opex ($M real as at 31 December 2019)

	2020	2021	2022	2023	2024	AA5 TOTAL
ATCO PROPOSED UAFG OPEX FOR AA5						
UAFG rate (%)	2.45	2.43	2.40	2.39	2.37	-
Total consumption (TJ) (excludes UAFG)	26,616	26,823	26,422	26,016	25,884	131,760
ATCO proposed UAFG opex	3.8	4.4	4.4	4.5	4.6	21.8

158 Draft Decision, para 282

159 Attachment 11.2 UAFG forecast and pricing strategy provided with ATCO's submission of the 2020-24 Plan on 31 August 2018

The overall result of new pricing and a new volume forecast has resulted in an overall opex benefit to customers of $8.5 million over AA5, shown in Table 9.27.

Table 9.27: ATCO's UAFG savings from the 2020-24 Plan ($M real as at 31 December 2019)

	2020	2021	2022	2023	2024	AA5 TOTAL
ATCO PROPOSED UAFG OPEX FOR AA5						
2020-24 Plan	6.3	6.2	6.1	5.9	5.8	30.3
Draft Decision Response	3.8	4.4	4.4	4.5	4.6	21.8
Savings	**2.5**	**1.8**	**1.7**	**1.4**	**1.2**	**8.5**
- Additional volumes	*-0.2*	*-0.2*	*-0.2*	*-0.3*	*-0.3*	*-1.1*
- Price savings	*2.7*	*2.0*	*1.8*	*1.7*	*1.4*	*9.6*

9.5 ATCO's Response: Revised AA5 opex forecast summary

Considering the reasoning provided above, ATCO forecasts operating expenditure of $345.1 million for the AA5 period. This is outlined in Table 9.28.

Table 9.28: Forecast AA5 opex ($M real as at 31 Dec 2019)

	2020	2021	2022	2023	2024	TOTAL
Base Year	54.8	54.8	54.8	54.8	54.8	**274.0**
Recurrent Step Changes	0.7	0.9	1.1	1.2	1.2	**5.2**
Non-recurrent Step Changes	0.5	0.6	1.6	1.9	1.3	**6.0**
Output Growth	1.2	1.6	2.1	2.7	3.2	**10.8**
Input Cost	1.1	1.6	2.2	2.8	3.3	**10.9**
UAFG	3.8	4.4	4.4	4.5	4.6	**21.8**
Ancillary Services	3.2	3.2	3.3	3.3	3.4	**16.4**
TOTAL	**65.3**	**67.2**	**69.6**	**71.2**	**71.8**	**345.1**

The revised AA5 opex forecast is compared to our proposed bottom-up forecast for the 2020-24 period, shown in Table 9.29, and demonstrates that the proposed expenditure is aligned, therefore validating the use of the BST approach.

Table 9.29: Forecast AA5 opex vs. bottom-up opex ($M real as at 31 Dec 2019)

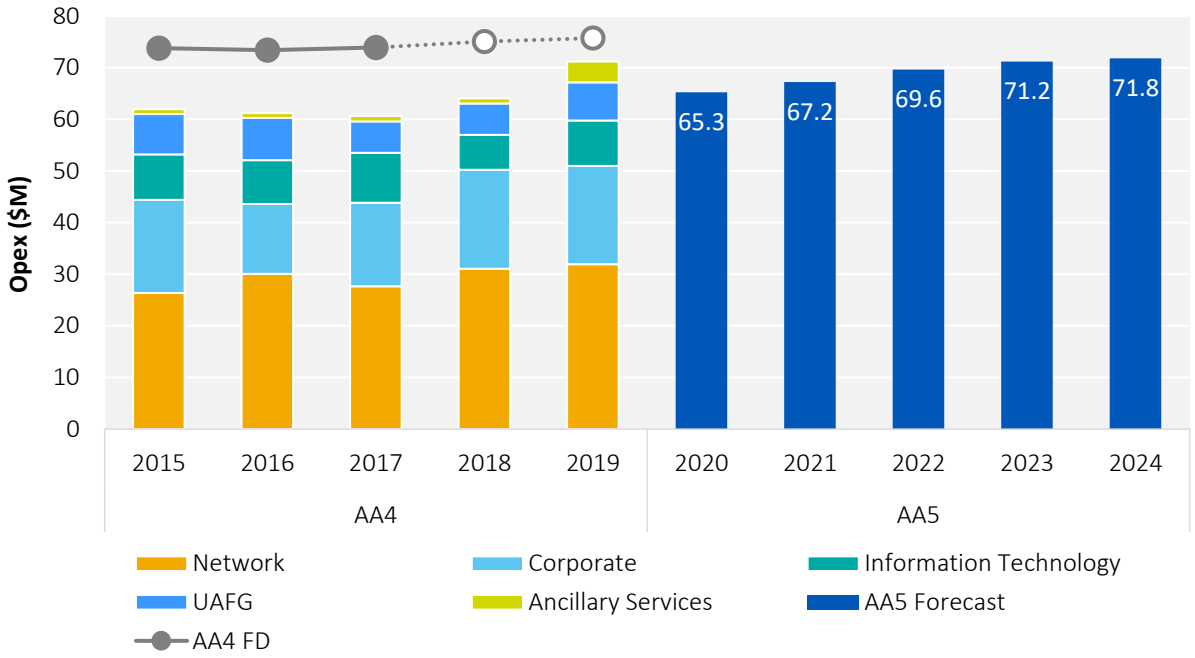
	2020	2021	2022	2023	2024	TOTAL
BST Opex	65.3	67.2	69.6	71.2	71.8	345.1
Bottom-up Opex	66.1	67.2	70.0	70.6	71.2	345.0
VARIANCE	**0.9**	**0.0**	**0.3**	**-0.6**	**-0.6**	**-0.1**

Figure 9.3 shows the comparison between AA4 and AA5 forecast opex. The AA5 forecast opex is $29.1 million (or 7.8%) lower than the ERA's AA4 Final Decision[160] (*'AA4 FD' in* Figure 9.3). The forecast opex

[160] AA4 was five and a half years.

incorporates additional step activities based on utilising the BST method while incorporating the efficiencies in the base year.

Figure 9.3: Opex per category – AA4 vs AA5 ($M real as at 31 December 2019)



Our AA5 opex forecast breakdown by category is shown in in Table 9.30:

Table 9.30: AA5 opex summary by category ($M real as at 31 December 2019)

OPEX CATEGORY	2020	2021	2022	2023	2024	TOTAL
Network	33.5	34.4	35.8	36.2	36.7	176.6
Corporate	17.7	17.9	18.6	19.6	19.4	93.2
IT	7.1	7.3	7.4	7.6	7.7	37.1
UAFG	3.8	4.4	4.4	4.5	4.6	21.8
Ancillary Services	3.2	3.2	3.3	3.3	3.4	16.4
TOTAL	**65.3**	**67.2**	**69.6**	**71.2**	**71.8**	**345.1**

9.6 Forecast method

As outlined in our 2020-24 Plan, our AA5 opex forecasting used two methods:

1. The base-step-trend method (BST).
2. Specific forecasts using volume-based activities multiplied by a unit rate to calculate total annual expenditure.

We have developed these forecasts on a reasonable basis, based on the best available information. We agree with the view that efficiency and prudence are complementary in that prudent expenditure reflects

the best course of action given the alternatives, whereas efficient expenditure delivers the lowest cost to customers over the long-term[161].

9.6.1 Base-step-trend method

In line with our 2020-24 Plan, ATCO maintains that forecasting opex using the BST (or 'revealed cost') method has advantages over typical bottom-up forecasting approaches in that it takes the efficient costs incurred in the base year and uses the assumption that opex is mostly recurrent.[162] BST forecasting starts by establishing our base opex, then adjusting for:

- any expenditure not reflective of the recurrent cost base;
- categories of opex affected by discrete step changes; and
- changes in output and cost input trends over the period.

The BST method of forecasting opex has been commonly accepted as the method to forecast efficient opex. A summary of how we forecast using the BST method is provided in Figure 9.4 and Figure 9.5.

Figure 9.4: BST calculation

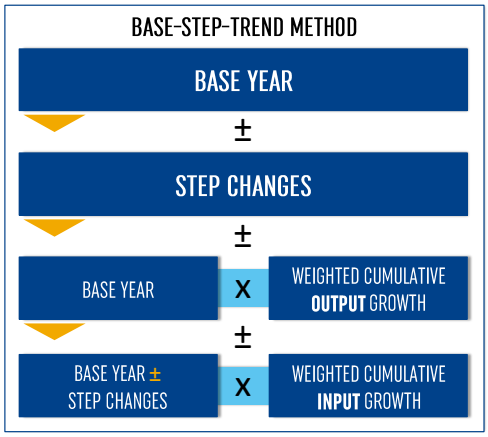
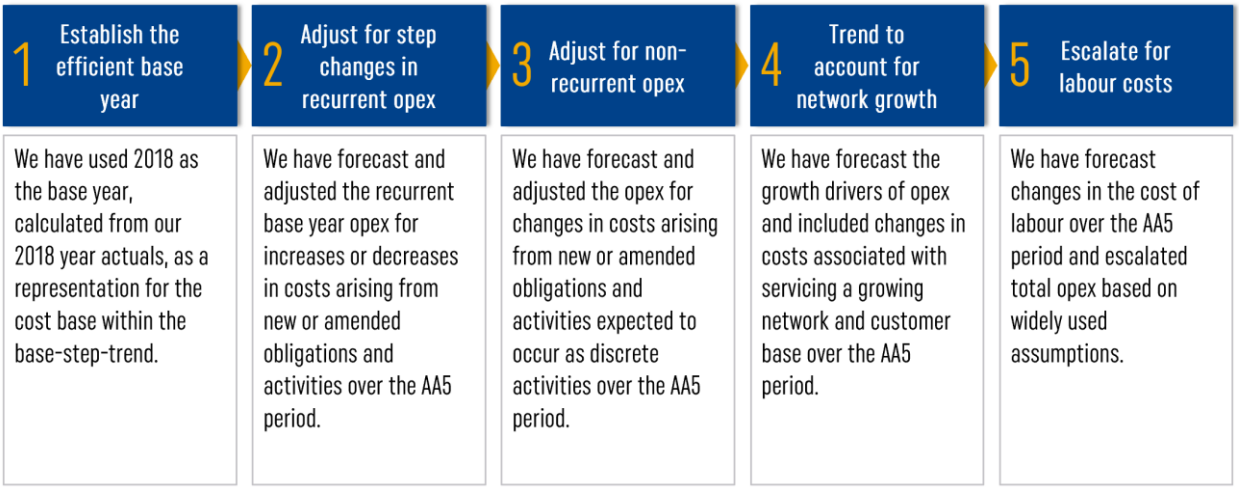


Figure 9.5: BST Method



9.6.2 Specific forecasts

Consistent with our 2020-24 Plan, we have applied specific forecasts to UAFG and Ancillary Services. We chose to complete specific forecasts for these opex categories as the forecast expenditure profile does not specifically relate to the BST method.

For example, we forecast that the *percentage of UAFG* to *customer gas usage* should reduce over AA5, which is disproportionate to the method of growth as per the BST method.

[161] AER (2013) "Expenditure Forecast Assessment Guideline – Distribution – November 2013", pg. 6. Available at https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/expenditure-forecast-assessment-guideline-2013

[162] AER (2013) "Expenditure Forecast Assessment Guideline – Distribution – November 2013", pg. 9. Available at https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/expenditure-forecast-assessment-guideline-2013

10. Forecast capital expenditure

ERA required amendment 8:

ATCO must amend the projected capital base (nominal) to reflect the values set out in Table 65 of this draft decision.

ATCO Response: Do not accept and propose a revised position

ATCO believes $437.0 million of AA5 capex expenditure in the revised proposal meets the NGR and has provided additional information to support this.

CHAPTER HIGHLIGHTS

1. We are proposing to invest $437.0 million of capital over AA5. This is $4.2 million (1%) less than the capex incurred during the five years from 2015 to 2019.
2. Support for our major capex programs was overwhelmingly positive in the Engage Phase of the VoC, with an average support rate of 95% from our residential and SME customers.
3. Our capex forecasts use a 'bottom-up' forecasting approach for each capex driver category (sustaining the network, growing the network, IT, and structures and equipment).

10.1 Introduction

Capital expenditure (capex) is incurred to connect new customers to the network and to support the ongoing safe and reliable natural gas supply to our customers. This chapter outlines our forecast capex over AA5, and the method used to forecast capex.

10.2 Stakeholder engagement

In preparing this 2020-24 Revised Plan we have continued to engage with stakeholders, including through the submissions to the ERA on our 2020-24 Plan.

There were 4 stakeholder submissions that referred to the forecast capital expenditure proposed in our 2020-24 Plan (see Table 10.1).

Table 10.1: Consideration of Stakeholder Feedback on forecast capital expenditure

STAKEHOLDER FEEDBACK ON THE 2020-24 PLAN	OUR RESPONSE TO FEEDBACK ON THE 2020-24 PLAN
NETWORK SUSTAINING AGL in their submission to the ERA sought for the ERA to review network sustaining capital expenditure: *"AGL … encourages the ERA to analyse whether the large investment in asset replacement and improvement is warranted given that:* • *the ATCO network operates with a low level of UAFG; and* • *is forecasting reductions in gas demand."* **Alinta Energy** in their submission to the ERA supported the Automated Meter Reading project: *"We support the proposed Automated Meter Reading project, which will enable meters to be read wirelessly from the street where physical access to the meter is restricted. We would encourage ATCO to work together with retailers to ensure the best outcomes for customers."* **Synergy** in their submission to the ERA sought for the ERA to review network sustaining capital expenditure: *"Synergy recommends the ERA scrutinises the following key areas in its review of forecast capex:* … • *The 24% (adjusted) increase in sustaining capex, despite exceptional reliability and security of supply performance, materially outperforming the benchmarks set for AA4."* **Kleenheat** in their submission to the ERA do not support the network sustaining capex: *"Kleenheat questions whether the increased level of network sustaining capital expenditure is reasonable given the trend over the AA4 period of continued improvement and outperformance in reliability of the network."*	**No change to the 2020-24 Plan.** ATCO's VoC Review phase found that customers unanimously supported the mains replacement program, preferring reliability over proposed cost increases. We want to meet our customers' needs for proactive maintenance over cost reduction. The mains replacement program is to maintain ATCO's level of service and integrity of the gas network. The level of mains replacement is less than 1% of the PVC population. Customers also supported automated meter reading (AMR) infrastructure in AA5, believing benefits will be delivered over the long-term. We will work with the retailers in AA5 to continue to deliver efficient solutions supporting the needs of our customers.
NETWORK GROWTH **AGL** in their submission to the ERA supported the network growth capital expenditure: *"AGL has no concerns with ATCO's forecast expenditure to support network growth…"* **Synergy** in their submission to the ERA sought for the ERA to review network growth capital expenditure: *"Synergy recommends the ERA scrutinises the following key areas in its review of forecast capex:* • *The 5% (adjusted) increase in growth capex, despite the modest growth in customer numbers and declining demand expected over the AA5 period."* **Kleenheat** in their submission to the ERA do not support the level of network growth capex: *"Kleenheat questions the level of network growth capex. For AA5, ATCO is forecasting to connect 83,300 new customers at a capitalised cost of $172.6 million (resulting in an average of $2,072 per customer). For AA4, ATCO forecast connecting over 100,000 new customers at a capitalised cost of $187.4 million (an average of $1,874 per customer). This works out as an average cost increase of 10.6 per cent per customer between AA4 and AA5."*	**No change to the 2020-24 Plan.** ATCO has always had a high new connection rate within new development and subdivisions. Furthermore, in our recent VoC Review engagements, residential and SME customers both preferred network expansion and energy options over cost reduction. The customers unanimously preferred wanting gas as an energy choice, valuing connections for new developments/subdivisions over cost reductions and supported continued growth in WA.

STAKEHOLDER FEEDBACK ON THE 2020-24 PLAN	OUR RESPONSE TO FEEDBACK ON THE 2020-24 PLAN
IT **Synergy** in their submission to the ERA sought for the ERA to review IT capital expenditure: *"Synergy recommends the ERA scrutinises the following key areas in its review of forecast capex:* • *The significant amount of discretionary capex. For example, IT capex is forecast to increase by almost 50% from $25 million (adjusted to 5 years) to $36 million which appears to be largely driven by a desire to upgrade third-party software systems."*	**No change to the 2020-24 Plan.** ATCO must continue to meet the evolving needs of its customers through digital transformation projects and innovation. Our IT capital expenditure will allow us to operate our network safely, our customers to interact with us through a variety of channels, and for our employees to be engaged ensuring our systems and processes are current and easy to use.

10.3 Summary of the ERA's Draft Decision

ATCO forecast capex of $509.3 million in the 2020-24 Plan. The ERA did not accept ATCO's AA5 capex forecast and is proposing a revised forecast of $239.7 million, a reduction of $269.6 million (52.9%) against our submission[163]. In making the Draft Decision, the ERA assessed ATCO's proposed capital expenditure forecast for AA5 in accordance with the NGR using a three-step framework[164], considering whether:

- the expenditure satisfies the prudent service provider test set out in NGR 79(1)(a);
- the expenditure is justifiable on the grounds set out in NGR 79(2); and
- the forecasts or estimates comply with NGR 74(2).

The ERA reviewed ATCO's forecast capital expenditure under the following cost drivers:

- Sustaining expenditure
- Growth expenditure
- Structures and equipment expenditure
- IT expenditure.

The ERA's Draft Decision regarding AA5 forecast capex is summarised in the following sections.

10.3.1 Draft Decision: Sustaining capex (-$96.5M Amendment)

ATCO proposed sustaining capital expenditure of $276.1 million in the 2020-24 Plan.[165] The ERA has proposed a reduction of $96.5 million[163] (35.0%) to ATCO's expenditure and has accepted $179.6 million. The ERA notes that "ATCO's sustaining capital expenditure is driven by its safety case and the need to reduce risk to as low as reasonably practicable."[166] In EMCa's report to the ERA, it was noted that ATCO's safety case was prepared to comply with AS4645.1:2008 (among other things) and that ATCO's risk management documents referred variously to three main sources on managing network risk. EMCa propose that the *applicable Australian standard is AS4645.1:2018,* and therefore:

- ATCO's measures of risk likelihood were more risk averse.
- ATCO's guidance on the application of the "as low as reasonably practicable" test was inadequate.[167]

163 Draft Decision, Table 62

164 Draft Decision, Para 387

165 Draft Decision, Table 55

166 Draft Decision, Para 391

167 Draft Decision, Para 396

10.3.1.1 Draft Decision: PVC mains replacement (-$16.3M Amendment)

In our 2020-24 Plan, we proposed to spend $127.4 million to replace 305km of PVC mains and service connections with polyethylene mains over AA5. The mains have been classified according to risk, with 171km of PVC mains allocated an 'upper intermediate' risk, 106km of other PVC mains identified by the Mains Replacement tool as having a predicted leak rate higher than the average leak rate of the intermediate zone, and an additional 28km (10%) of PVC mains required to achieve program efficiencies.[168]

The ERA accepted that the 277km of PVC mains identified for replacement at a cost of $116 million meets the criteria for conforming capital expenditure but did not accept the 28km ($16.3 million) of PVC mains for program efficiencies.[169] The ERA notes that "ATCO has not adequately justified the case to undertake the extra 28km of replacement."[170]

10.3.1.2 Draft Decision: Meter replacement program (-$1.3M Amendment)

In our 2020-24 Plan, we proposed to spend $26.6 million replacing [redacted] domestic meters over the AA5 period and $0.6 million replacing [redacted] rotary-type commercial meters.

The ERA accepted that the replacement of domestic meters met the criteria for conforming capital expenditure but did not accept the replacement of [redacted] rotary meters ($1.3 million)[171]. The ERA notes that the risk is regarded by ATCO as low and there is no cost associated with not replacing the meters. The ERA considers that the alternative 'no action' approach is better than ATCO's recommended replacement option.

10.3.1.3 Draft Decision: End-of-life replacement program (-$3.4M Amendment)

ATCO proposed to spend $33.6 million for the end-of-life replacement program over AA5. The ERA accepted $31.1 million as conforming expenditure but did not accept $3.4 million[172] relating to regulator set and metering facilities due to the reasons outlined below.

- **Risers and services replacement (No Amendment)**: ATCO proposed to spend $17.7 million over AA5 replacing [redacted] risers and services per year. The ERA accepts this as conforming capex.
- **Regulators and meter facilities (-$2.5M Amendment)**: ATCO proposed to spend $6.1 million during AA5 on end-of-life replacements for [redacted] different regulators and meter facility types. The ERA accepts $3.6 million as conforming capex. The remaining $2.5 million was proposed to bring forward the replacement of pressure regulating stations from AA6 to AA5. The ERA did not accept this $2.5 million of expenditure, noting they were "not satisfied that the $2.5 million for the brought-forward replacement of the pressure regulating stations has been adequately justified."[173]

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168 2020-24 Plan, Table 12.4

169 Draft Decision, Table 56. Note, this disallowance is made up of two components: $11.7m relates to the disallowed portion of the project (per paragraph 405 of the Draft Decision) and $4.6 million relates to the different labour escalation assumptions adopted by the ERA in their Draft Decision.

170 Draft Decision, Para 405

171 Draft Decision, Table 56. Note, this disallowance is made up of two components: $0.6m relates to the disallowed portion of the project (per paragraph 416 of the Draft Decision) and $0.7 million relates to the different labour escalation assumptions adopted by the ERA in their Draft Decision.

172 Draft Decision, Table 56. Note, this disallowance is made up of two components: $2.5m relates to the disallowed portion of the project (per paragraph 424 of the Draft Decision) and $0.9 million relates to the different labour escalation assumptions adopted by the ERA in their Draft Decision.

173 Draft Decision, Para 424

- **Mechanical compression fittings (No Amendment)**: ATCO proposed to spend $4.5 million over AA5 to replace mechanical compression fittings prone to leaking when they are identified. The ERA accepted the $4.5 million as conforming capital expenditure to be included in the projected capital base.
- **Telemetry (No Amendment)**: ATCO proposed to spend $3.6 million on a staged replacement of [redacted] telemetry units. The ERA accepted the $3.6 million as conforming capital expenditure to be included in the projected capital base.
- **Other programs (No Amendment)**: ATCO proposed as part of its end of life replacement program $1.7 million in expenditure for three smaller replacement programs ($0.8M exposed steel pipe on bridge crossings, $0.6M cathodic protection assets, $0.3M high-pressure warning signs). The ERA accepted the $1.7 million as conforming capital expenditure to be included in the projected capital base.

10.3.1.4 Draft Decision: Security of supply program (-$49M Amendment)

ATCO proposed three security of supply projects in AA5 totalling $49.0 million. ATCO identified the driver of this expenditure as the risk to security of gas supply from third-party damage. Security of supply projects focus on maintaining the natural gas supply to customers following an adverse event.

The ERA has rejected the total $49.0 million expenditure relating to the security of supply program on the basis that they are not satisfied with ATCO's risk ratings and not satisfied that the proposed expenditure meets the criteria of NGR 79.

To assess the validity of these projects, the ERA (and EMCa) considered ATCO's risk assessment for the loss of gas supply *frequency* and the customer weeks lost *consequence*. The Draft Decision makes the following points regarding ATCO's risk assessment approach:

- **Loss of gas supply frequency**: ATCO identified and applied four risk reduction factors to the baseline failure (puncture) rate, and this assumed that a loss of containment via a puncture would result in a total supply outage (meaning positive pressure would not be maintained downstream). EMCa notes this was a conservative approach, and if a network must be shut down, positive network pressure could be maintained via other methods. EMCa was "not aware of an instance where network isolation following a puncture was required anywhere in Australia."[174]
- **Consequence of a supply interruption:** Following an event requiring network isolation, ATCO's modelling estimates that more than 100,000 customer weeks would be lost when 30,000 customers are involved. EMCa disagrees with this estimation and considered the number of customer weeks lost was *unlikely to be greater than 100,000 unless supply is lost to more than 50,000 to 60,000 customers*. EMCa also noted that "ATCO appeared to be very conservative with its estimates of the resources that could and would be brought to bear in an emergency [considering] that vehicles, equipment and qualified personnel were unlikely to be a constraint for the customer isolation and reconnection work and the limiting factor was likely to be specialist gas equipment."[175]

These points were considered by the ERA in their determination of ATCO's proposed security of supply projects for AA5:

- **'Caversham' security of supply project (-$15M Amendment)**: ATCO proposed to spend $15 million in AA5 to install bypasses on two pressure relief stations and link the Parmelia Gas Pipeline to a third pressure relief station. ATCO's analysis determined that the frequency of such a loss of supply was 'remote' and the number of customer weeks lost was a 'catastrophic' consequence with:

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174 Draft Decision, Para 445

175 Draft Decision, Para 447

- 237,049 customer weeks lost when 50,121 customers were affected under one loss of supply scenario.
- 137,462 customer weeks lost when 37,197 customers were affected under another loss of supply scenario.

EMCa disagreed with these conclusions, and noted that it "considered increasing the surveillance would reduce the frequency rating down to 'hypothetical' (less than 1:10,000), and the customer weeks lost is likely to be less than 100,000 in either of ATCO's scenarios leading to a consequence level of 'major'; and that the scenarios would have an overall risk level of 'intermediate', under which an ALARP test would be required."[176]

In the Draft Decision, the ERA proposes that ATCO has been overly conservative with its assessment of the risks for the Caversham project and suggests that ATCO should undertake an ALARP test in order to see if the proposed level of expenditure is required. The ERA does not accept the proposed expenditure of $15.0 million for the Caversham security of supply project is justified and has removed it from the AA5 capex forecast.

- **'Two Rocks' security of supply project (-$26.5M Amendment)**: ATCO proposed to spend $26.5 million in AA5 to install a new gate station on the DBNGP and 23km of pipeline looping. ATCO's analysis determined that the frequency of such a loss of supply was 'remote' and the number of customer weeks lost was a 'catastrophic' consequence with:
  - 298,362 customer weeks lost when 56,737 customers were affected under one loss of supply scenario.
  - 166,224 customer weeks lost when 41,306 customers were affected under another loss of supply scenario.

  EMCa disagreed with these conclusions, and noted that "…as with the Caversham project, […] the Two Rock project [loss of gas supply] frequency is 'hypothetical', the consequence is 'major' and the overall risk rating [is] 'intermediate' and should also be subject to an ALARP test."[177] EMCa further noted that it considers that the ALARP test is unlikely to be satisfied for this project.

  The ERA proposes that ATCO has been overly conservative with its assessment of the risks for the Two Rocks project and suggests that "…ATCO should undertake an ALARP test in order to see if the proposed level of expenditure is required, especially in the AA5 operating environment with the ERA not approving greenfield or brownfield new customer connections…"[178]. The ERA does not accept the proposed expenditure of $26.5 million for the Two Rocks security of supply project is justified and has removed it from the AA5 capex forecast.
- **'Bunbury' security of supply project (-$7.6M Amendment)**: ATCO proposed to spend $7.6 million in AA5 to reduce the risk of third-party damage to a Bunbury pipeline segment. ATCO's analysis determined that the frequency of such a loss of supply was 'remote' and the number of customer weeks lost was a 'catastrophic' consequence with 137,083 customer weeks lost when 37,140 customers were affected under a loss of supply scenario.

  EMCa disagreed with these conclusions, noting that "the frequency is 'hypothetical', the consequence is 'major' and the overall risk rating to be 'intermediate' and should also be subject to an ALARP test."[179] EMCa further noted that it considers that the ALARP test is unlikely to be satisfied for this project.

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176 Draft Decision, Para 455

177 Draft Decision, Para 464

178 Draft Decision, Para 465

179 Draft Decision, Para 471

The ERA proposes that ATCO has been overly conservative with its assessment of the risks for the Bunbury project and suggests that "…ATCO should undertake an ALARP test in order to see if the proposed level of expenditure is required."[180] The ERA does not accept the proposed expenditure of $7.6 million for the Bunbury security of supply project is justified and has removed it from the AA5 capex forecast.

10.3.1.5 Draft Decision: SCADA projects (-$12.6M Amendment)

ATCO proposed to spend $12.6 million on Supervisory Control and Enhanced Data Acquisition projects. This is made up of SCADA systems and infrastructure, enhanced data acquisition and automated meter reading. The ERA rejected the $12.6 million expenditure noting that the detail in the business case was insufficient to support project expenditure. Therefore, based on current information, the ERA does not consider that the expenditure meets the criteria for NGR 79.

- **SCADA systems and infrastructure ([redacted]M Amendment[181])**: This project involves introducing remote network isolation, which ATCO proposes increases the effectiveness of emergency isolation to increase public safety and reduce loss of supply events and therefore meets NGR 79(2)(c)(i).

  In its determination on the validity of the AA5 SCADA capex, the ERA considered the following points:

  - Regarding the emergency risk management driver for SCADA, EMCa note that ATCO is proposing to improve the response time for an event with a 'remote' frequency of occurrence (1:1,000 years to 1:100,000 years) or 'hypothetical' frequency (1:1,000,000 million years or lower), depending on the location of the pipeline. EMCa do not believe that "ATCO's assessment of 'high' risk from a pipeline loss of containment event is adequately substantiated."[182] EMCa propose the overall risk to be Intermediate *at most* and therefore subject to the ALARP test.
  - EMCa also disagree with ATCO's Net Present Value (NPV) analysis for this project, noting that "the assumed benefits in the NPV analysis appear greater than described in the business case, [there is] no basis for the capital expenditure values provided, and the present value breakeven period for the project is 35 years, well in excess of the 10 year economic asset life of SCADA and other infrastructure."[183]

  The ERA is therefore not satisfied that the assessed risk by ATCO of 'high', and that NPV analysis provides sufficient justification for the proposed expenditure. The ERA is not satisfied that the proposed SCADA and systems infrastructure expenditure of [redacted] million, which includes [redacted] million of IT expenditure for a network digitisation and intelligence program, meets the criteria of NGR 79 to be treated as conforming capital expenditure.

- **Enhanced data acquisition ([redacted]M Amendment)**: ATCO proposed that this project ensures network pressures and the integrity of assets are maintained and therefore meets NGR 79(2)(c)(ii). ATCO stated that the project is also necessary to comply with a regulatory obligation or requirement and as a result meets NGR 79 (2)(c)(iii).

  In its determination on the validity of this expenditure, the ERA considered the following points:

[180] Draft Decision, Para 473

[181] Includes $1.3 million relating to IT capex, network digitisation and intelligence program – see Section 10.3.4

[182] Draft Decision, Para 481

[183] Draft Decision, Para 482

- This capex is linked to the SCADA infrastructure (above). ATCO has assessed the current and residual risk for the options presented to be Intermediate. EMCa disagreed with assessment, proposing a rating of 'low' as more reasonable, in which case all options presented by ATCO would have a low or negligible rating. The ERA considers that ATCO has been overly conservative with its risk profile and assessed the risk at an 'intermediate' level.
- As the ERA has not accepted the SCADA capex, the enhanced data acquisition project, which relies on the SCADA systems and infrastructure project being undertaken to work, is not viable.

The ERA has not accepted the [redacted]M enhanced data acquisition expenditure is conforming capital expenditure under NGR 79.

- **Automated meter reading ([redacted]M Amendment):** ATCO proposed that this project will enable remote meter locking for identified customers to meet retailers' isolation expectations and safety for personnel attending a site. ATCO considered that this project meets NGR 79(2)(c)(i) to improve the safety of services. In addition, as the project enables ATCO to meet the majority of its compliance obligations against the AEMO market procedures, ATCO proposed it therefore meets NGR 79(2)(c)(iii).

  ATCO has assessed the risk for the project as negligible and has estimated a positive NPV for the project of $0.1 million, and the ERA notes that ATCO appears to include the tangible benefit of reduced operating expenditure beginning in 2025.

  EMCa noted that it "was not clear what new information would be gained from the trial that cannot be gleaned from other trials and studies undertaken from around the world."[184]

  The ERA is not satisfied that the detail provided in the business case is sufficient to support the project expenditure and proposes that the [redacted] million expenditure on automated meter reading is removed from the AA5 forecast capex.

10.3.1.6 Draft Decision: Parmelia Gas Pipeline interconnection projects (-$13.5M Amendment)

ATCO proposes to spend $13.5 million to interconnect with the Parmelia Gas Pipeline (PGP) at two locations, being Forrestfield ([redacted] million) and Rockingham ([redacted] million), to reduce what ATCO assesses to be an Intermediate risk of the loss of supply from the Dampier to Bunbury Natural Gas Pipeline (DBNGP).

ATCO's 'intermediate' risk rating for the Forrestfield interconnection is based on a frequency of 'hypothetical' and a consequence of 'catastrophic' due to the predicted loss of supply to 220,000 customers, resulting in 4 million customer weeks lost.

Although EMCa considered ATCO's overall risk rating of 'intermediate' as reasonable, EMCa propose that ATCO did not properly apply the ALARP test to demonstrate that the proposed expenditure satisfies, for either project, the capital expenditure criteria.

The ERA is not satisfied that the expenditure is prudent and efficient based on the information provided. Further, the ERA is not satisfied that the ALARP test has been applied properly to justify the expenditure and has removed the $13.5 million of proposed expenditure for PGP interconnections from the AA5 capex forecast.

10.3.1.7 Draft Decision: Other network sustaining capex projects and programs (-$0.4M Amendment)

Other network sustaining capex projects relate to inline inspection and network improvement projects. ATCO proposed to spend $9.2 million on inline inspection work and $3.5 million on network improvement projects, totalling $12.7 million in AA5. ATCO identified seven pipelines to undergo internal inspection to detect steel defects, six of which will require modifications to enable the internal inspection. The

[184] Draft Decision, Para 494

modification is necessary to enable the pipeline inspection gauge to be safely introduced and removed from the pipeline without obstruction.

The ERA has accepted the scope of the inline inspection project and considered the expenditure of $9.2 million as conforming under NGR 79[185], but has disallowed a portion of $0.4 million[186] due to different labour assumptions.

The ERA has not provided a Draft Decision on the $3.5 million proposed for network improvement projects.

10.3.1.8 Summary of ERA amendments to network sustaining capex

The ERA accepts $179.6 million of ATCO's proposed $276.1 million of network sustaining capex in AA5. The breakdown by program is provided in Table 10.2.

Table 10.2: ERA's amended AA5 network sustaining capex ($M real, as at 31 December 2019)

CAPEX	2020	2021	2022	2023	2024	TOTAL
ATCO proposed conforming capex	56.9	53.3	55.8	57.6	52.5	**276.1**
PVC mains replacement	-2.6	-3.0	-3.3	-3.5	-3.9	**-16.3**
Meter replacement program	-0.2	-0.2	-0.3	-0.3	-0.4	**-1.3**
End of life replacement program	-0.1	-0.2	-2.7	-0.2	-0.2	**-3.4**
Security of supply projects	-15.0	-3.8	-3.8	-15.1	-11.3	**-49.0**
SCADA projects	-2.5	-2.5	-2.5	-2.5	-2.6	**-12.6**
PGP interconnection projects	-1.3	-7.4	-4.8	-	-	**-13.5**
Other network sustaining projects	-0.1	-0.1	-0.1	-0.1	-	**-0.4**
ERA amended conforming capex	**35.1**	**36.2**	**38.4**	**35.8**	**34.1**	**179.6**

10.3.2 Draft Decision: Growth capex (-$162.2M Amendment)

ATCO forecast growth capex for AA5 of $174.3 million, driven by the number of new customers expected to connect to the network in AA5 (65,000 domestic/B3, 2,000 commercial/B2). ATCO stated its growth capex satisfies NGR 79(2)(b), in that the present value of the expected incremental revenue to be generated as a result of the expenditure exceeds the present value of the expenditure.

The ERA disallowed $162.2 million[187] of the proposed growth capex and made several observations and requested amendments, which are outlined in the following sections.

10.3.2.1 Greenfield and brownfield capex

ATCO proposed greenfield and brownfield connection capex of $154.3 million for AA5. To justify the proposed expenditure, ATCO provided Net Present Value (NPV) models for both greenfield and brownfield connections of B2 and B3 customers, using an NPV period of 50 years.

185 Draft Decision, Para 505

186 Draft Decision, Table 56

187 Derived from Draft Decision, Table 59

The ERA did not approve $154.3 million[188] as conforming capex based on information provided by ATCO and assumptions made by the ERA.[189] After reviewing ATCO's growth capex, the ERA questioned why ATCO chose an analysis period of 50 years in assessing the NPV's of the greenfield and brownfield growth expenditure, noting that a 50-year NPV period is a "very long period of time to forecast with any certainty."[190] The ERA has requested that ATCO provides further explanation as to why the 50-year period of time has been chosen.

Further, the ERA has requested four amendments[191] relating to tariffs, discount rate, labour cost escalation and gas consumption volumes. These are discussed in the following sections.

- **Tariffs to be used in the NPV of growth capex**

  The **tariff used in the model** should be an extrapolated cost reflective calculation of the prevailing tariff in 2019. The ERA does not agree with ATCO's use of the *proposed AA5 tariffs*, noting that this method is inconsistent with NGR 79(4)a. The ERA propose that ATCO use an extrapolated *prevailing tariff* to calculate the NPV of growth capex. The ERA's proposed extrapolated tariffs are outlined in Table 10.3.

Table 10.3: Comparison of 2019 prevailing tariff and the ERA extrapolated cost-recovery prevailing tariff

TARIFF	2019 PREVAILING TARIFF	2019 COST-RECOVERY TARIFF
B2 TARIFFS		
Fixed Charge	226.74	297.43
Usage <= 100 GJ	5.77	7.57
Usage > 100 GJ	3.44	4.51
B3 TARIFFS		
Fixed Charge	116.84	116.92
First 1.825 GJ	0.00	0.00
Usage >1.825 <= 9.855 GJ	4.89	9.96
Usage > 9.855 GJ	2.11	4.30

188 Draft Decision, Table 59

189 Draft Decision, Para 554

190 Draft Decision, Para 516

191 Draft Decision, Para 518

- **Discount rate to be used in the NPV of growth capex**

  The **discount rate** - Weighted Average Cost of Capital (WACC) parameters - should be that used in the tariff variation for 2019. As the ERA has amended the tariffs used in the NPV models to a 2019 *cost-reflective tariff*, the ERA has also amended the WACC parameters, including the discount rate, to be the values used in the 2019 tariff variation process.

- **Labour cost escalation**

  The **labour cost escalation** should be applied to the labour portion of opex and capex over the 50-year analysis period. The ERA notes that while both of ATCO's NPV models include escalation of opex and capex for inflation, neither includes any escalation for the increase in the cost of labour above inflation (real cost of labour) in the future years of the analysis period.

  The ERA considers that a labour escalator of 1.25% is a reasonable forecast to evaluate the greenfield and brownfield growth connection NPV models. The ERA has applied this labour escalator to ATCO's proposed labour portion of both opex and capex in each of the models.

- **B2 and B3 gas consumption volumes**

  ATCO has assumed that gas consumption volumes for both B2 and B3 customer classes will remain steady over the 50-year period with only minimal reductions in both. The ERA disagrees with this assumption and proposes that the **B2 and B3 gas consumption volumes** should instead consider the "downward trend in gas usage by customers."[192]

  For B2 customers, the ERA has included a reduction to the volumes per customer per year of 0.5%, compared to the weighted average reduction rate of 1.4% for volume per connection between 2010 and 2017. The proposed 0.5% reduction starts in year 2027.

  For B3 customers, the ERA has included a reduction to the volumes per customer per year of 0.5%, compared to the average reduction of 5.5% per year for new customer 'mature' consumption between 2010 and 2017. The proposed 0.5% reduction starts in 2025 for customers who connect in 2020 to 2022, 2026 for customers connecting in 2023, and 2027 for customers connecting in 2024.

The ERA notes that in "applying the amendments set out above to the greenfield and brownfield NPV models results in the greenfield model having a negative NPV of $14.2 million"[193], and "the brownfield model [having a] negative NPV of $1.7 million over the 50 year period."[193]

In its Draft Decision, the ERA makes the following observations regarding ATCO's greenfield and brownfield expenditure:

- ATCO assumed a considerably **lower consumption per B3 connection** than it applied to its AA4 growth NPV model.
- ATCO used **higher connection costs** in its AA5 NPV model compared to its AA4 NPV model. Higher connection costs increase the incremental cost and reduce the NPV.
- ATCO applied **higher incremental operating cost assumptions** in its AA5 NPV model compared to its AA4 model. This reflects a change to the method used to calculate the incremental operating expenditure. ATCO provided its robust workings for the AA5 method.

192 Draft Decision, Para 518

193 Draft Decision, Para 544

- The ERA undertook separate analysis using a **discounted weighted average tariff (DWAT)** approach to confirm the NPV results discussed above. The DWAT analysis assesses whether the expenditure conforms to NGR 79(2), that *new customers must at least not cause existing customers to pay more unless there is also a regulatory or safety of services benefit*. The analysis DWAT confirmed that "the existing customers would pay more than if [the new greenfield and brownfield] customers were not connected."[194]

The ERA determined that it is not able to approve ATCO's proposed levels of forecast growth capex for AA5, as it does not demonstrate that the requirements of the NGR and the NGO have been met.

10.3.2.2 Other growth capex

ATCO proposed $20.1 million for other growth capex relating to network reinforcement, growth-related meter projects and growth development expenditure, being capex of $27.7 million offset by $7.6 million for customer contributions. The ERA has disallowed $7.7 million[195] (net of capital contributions) on the basis that this expenditure does not satisfy the NGR criteria to be conforming capex.

The ERA also reviewed additional growth capex projects for inclusion in the AA5 forecast, specifically relating to network reinforcement, growth-related meter projects, and growth development expenditure.

- **Network reinforcement (-$1.7M Amendment)**

  ATCO proposed $1.7 million for six network reinforcement projects in the AA5 period, including capacity upgrades to regulating facilities and mains extensions that maintain gas supply. The expenditure was included by ATCO in the greenfield and brownfield NPV calculation models. As set out above, the greenfield and brownfield models as amended by the ERA result in a negative NPV and therefore the growth related expenditure has not been deemed conforming capital expenditure by the ERA.

- **Growth-related meter projects (-$0.35M Amendment)**

  ATCO has proposed two growth-related meter projects being $10.7 million for customer initiated commercial (CIC) metersets and $0.7 million for AL18 meters in AA5. The CIC meterset connection project covers meter installations larger than AL18 ([redacted] CIC metersets in AA5), and the AL18 meters are meter connections that are customer-initiated standard installations that form part of the variable volume activities ([redacted] new AL18 meters pa).

  The ERA is satisfied that the $10.7 million for CIC metersets expenditure complies with NGR 79 and can be considered conforming capital expenditure.

  With the ERA removing greenfield and brownfield growth expenditure and ATCO noting that light commercial connections are decreasing, the ERA questioned the consistent connection rate of [redacted] meters a year for AA5 and AA6. The ERA has therefore determined that AL18 meter connections should decrease over the AA5 period and accepts only half of the $0.7 million of the AL18 meter connection program expenditure in AA5.

- **Growth development expenditure (-$10.4M Amendment)**

  ATCO has proposed $10.4 million in growth development expenditure in AA5, offset by capital contributions of $7.6 million. Growth development expenditure is for the cost to connect subdivisions far away from the existing gas network.

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194 Draft Decision, Para 552

195 Derived from Draft Decision, Table 59

The ERA found that there was a negative NPV of undertaking this investment. The ERA notes that "this would mean that developers would have to fund the entire $10.4 million cost as well as contributing to the connection of each customer to have the project become NPV positive. Alternatively, ATCO could fund the investment as non-conforming expenditure."[196] As a result, the ERA did not accept ATCO's proposed growth development expenditure forecast for AA5.

ATCO proposed two other growth-related projects in AA5, meter upgrades to respond to customer initiated requests ($1.3M) and customer-initiated sub-meter to master-meter conversions ($2.8M).

The ERA accepts that the $1.3 million is conforming capital expenditure but does not accept the $2.8 million for sub-meter to master-meter conversions. The ERA found that insufficient information is available on the sub-meter to master-meter conversion project to satisfy the criteria for inclusion as conforming capital expenditure.

10.3.2.3 Summary of ERA amendments to network growth capex

Table 10.4 provides a summary of the ERA's amendments to ATCO's AA5 proposed growth capex forecast.

Table 10.4: ERA's amended AA5 network growth capex ($M real, as at 31 December 2019)

CAPEX – NETWORK GROWTH	2020	2021	2022	2023	2024	TOTAL
ATCO proposed conforming capex	33.8	34.1	34.9	35.0	36.5	174.3
Greenfield and Brownfield connections	-28.5	-29.8	-30.9	-32.0	-33.3	-154.3
AL18 commercial meters	-0.1	-0.1	-0.1	-0.1	-0.1	-0.3
Network reinforcement	-1.0	-0.1	-0.5	-	-0.1	-1.7
Growth development	-3.1	-3.2	-2.7	-2.1	-2.1	-13.2
(Capital contributions)	1.5	1.5	1.5	1.5	1.5	7.5
ERA amended conforming capex	**2.6**	**2.4**	**2.3**	**2.3**	**2.4**	**12.1**

10.3.3 Draft Decision: Structures and equipment capex

ATCO has forecast structures and equipment capital expenditure for AA5 of $22.8 million, split between the following categories:

- $16.4 million for fleet.
- $6.4 million for facilities, plant and equipment.

The ERA is satisfied that $21.2 million of the proposed structures and equipment capex meets the requirements of NGR 79 and can be considered conforming capital expenditure, but $1.6 million of growth related fleet capex has been disallowed[197].

As the ERA's Draft Decision determined above that most of ATCO's proposed growth related expenditure is not conforming capital expenditure, $1.6 million of fleet expenditure relating to increased demand from growth of the network is also not conforming capital expenditure.

196 Draft Decision, Para 571

197 Draft Decision, Table 60

Table 10.5: ERA's amended AA5 structures and equipment capex ($M real, as at 31 December 2019)

CAPEX – STRUCTURES & EQUIPMENT	2020	2021	2022	2023	2024	TOTAL
ATCO proposed conforming capex	5.3	6.0	3.2	4.1	4.3	22.7
Fleet – Growth related	-0.6	-0.3	-0.2	-0.4	-0.1	-1.6
ERA amended conforming capex	**4.7**	**5.7**	**3.0**	**3.7**	**4.2**	**21.2**

10.3.4 Draft Decision: Information Technology capex

ATCO proposed AA5 expenditure of $36.1 million for IT in the 2020-24 Plan.[198] The ERA has reduced the balance of proposed IT expenditure, after excluding network digitisation and intelligence project, by 20% on the basis that this value would better represent a prudent and efficient level of expenditure.[199] The ERA has therefore determined that $26.8 million of IT expenditure will be treated as conforming capex. The ERA's Draft Decision proposed the following amendments to ATCO's AA5 forecast IT capex:

1. **Removal of network digitisation and intelligence capex**: As discussed in the Network Sustaining capex section earlier, the ERA has not accepted the SCADA systems and infrastructure expenditure proposed by ATCO in AA5. As a result, the IT expenditure for network digitisation and intelligence, which is linked with the network sustaining SCADA expenditure, is not justified under NGR 79 and is required to be removed from ATCO's proposed AA5 IT expenditure.
2. **An across-the-board reduction of 20% for the remaining AA5 IT capex:** The ERA concluded that, across-the-board reduction of 20% will apply to the remaining proposed AA5 IT capex after excluding the network digitisation and intelligence project[200]. The ERA considers this reduction reflects a better forecast of IT expenditure once ATCO further progresses its business cases and reviews the IT portfolio expenditure programs (EMCa proposed that a rigorous portfolio level review of the corporate risk of trying to deliver so many projects in a five-year period, will lead to less expenditure being required in the AA5 period[201]).
3. **Further supporting information required for AA5 IT capex**: The ERA has determined that $26.8 million of IT expenditure will be treated as conforming capital expenditure for the purpose of the Draft Decision, but it still requires additional supporting information from ATCO to satisfy NGR 79 for the purpose of the final decision.

   The Draft Decision also noted issues with **the quality of ATCO's five submitted business cases**. These issues included EMCa's and ERA's observations that:

   - "…the business cases provided have not been through ATCO's designated capital expenditure governance process"[202]
   - "…business cases provided by ATCO appear to have all been prepared specifically for the AA5 process and have not been subject to the rigour and review that the ERA would expect a board to require before providing approval to progress."[203]

198 Draft Decision, Para 586

199 Draft Decision, Para 593

200 Draft Decision, Para 597

201 Draft Decision, Para 594

202 Draft Decision, Para 587

203 Draft Decision, Para 592

- "…whilst ATCO's IT strategy provides the context for the upgrade work, it is of the opinion that the quality of the business case information would fall well short of that which would be required to justify the expenditure in most cases."[204]
- "EMCa found in one or more instances in the business cases that:
  - "Only one option other than the preferred approach is presented and it is a 'no action' option."[205]
  - "…benefits are largely vague, unsubstantiated qualitative statements."[205]
  - "Cost estimates are preliminary and engagement with vendors is only in the preliminary stages." [205]

The ERA submitted the following amendments to ATCO's AA5 IT capex forecast.

Table 10.6: ERA's amended conforming IT capex (AA5) ($M real as at 31 Dec 2019)

AA5 IT CAPEX	2020	2021	2022	2023	2024	TOTAL
ATCO proposed conforming capex	7.4	8.8	6.4	5.5	8.0	36.1
Network digitisation and intelligence	-0.2	-0.2	-0.4	-0.4	-0.2	-1.3
Energised and responsive customer engagement	-0.3	-0.2	-0.1	-0.1	0.0	-0.7
Asset management and service delivery excellence	-0.1	-0.1	-0.1	-0.1	-0.1	-0.5
Enterprise and employee enablement	-0.3	-0.3	-0.3	-0.2	0.0	-1.1
Application renewal	-0.9	-1.3	-0.9	-0.8	-1.8	-5.7
ERA amended conforming capital expenditure	**5.7**	**6.8**	**4.7**	**4.0**	**6.1**	**26.8**

10.3.5 Draft Decision: Equity raising cost

ATCO has calculated that no equity will need to be raised and therefore no equity raising costs will be required over AA5. The ERA supports the continuation of the equity raising cost method adopted in AA4. The ERA has confirmed that equity required is less than zero and equity raising costs are zero.

10.3.6 Draft Decision: ERA's revised AA5 capex forecast

Following the assessment of ATCO's proposed conforming AA5 capital expenditure, the ERA has determined that:

- $239.8 million (47.1% of ATCO's proposed expenditure) complies with the criteria set out in NGR 79 and can be included in the projected capital base for AA5:
  - $179.7 million for network sustaining capex
  - $12.1 million for network growth capex
  - $26.8 million for IT capex
  - $21.2 million for structures and equipment capex
- $269.5 million (52.9% of ATCO's proposed expenditure) does not comply with the criteria set out in NGR 79 and should not be included in the projected capital base for AA5.

Table 10.7 shows the ERA's amended conforming capital expenditure for AA5 by project driver.

[204] Draft Decision, Para 588

[205] Draft Decision, Para 589

Table 10.7: ERA's amended conforming capex by AA5 project driver ($M real as at 31 December 2019)[206]

AA5 IT CAPEX	2020	2021	2022	2023	2024	TOTAL
ATCO proposed conforming capex (a)	**103.3**	**102.2**	**100.4**	**102.2**	**101.2**	**509.3**
Sustaining amendments	-21.8	-17.1	-17.4	-21.8	-18.4	-96.5
Growth amendments	-31.2	-31.7	-32.6	-32.7	-34.1	-162.3
Structures and equipment amendments	-0.6	-0.3	-0.2	-0.4	-0.1	-1.6
Information technology amendments	-1.7	-2.1	-1.8	-1.6	-2.1	-9.2
Total proposed reductions (b)	**-55.2**	**-51.2**	**-52.0**	**-56.4**	**-54.7**	**-269.6**
Equity raising costs (c)	0.0	0.0	0.0	0.0	0.0	0.0
ERA amended conforming capex (a+b+c)	**48.1**	**51.0**	**48.3**	**45.8**	**46.6**	**239.7**

10.4 ATCO's response to the Draft Decision

ATCO does not accept the ERA's Draft Decision to reduce AA5 capex by $269.6 million.

We are proposing a revised AA5 forecast capex of $437.0 million, $72.3 million lower than our original 2020-24 Plan. See Table 10.35 for a summary of our revised AA5 capex forecast.

10.4.1 ATCO's response: Sustaining capex

ATCO proposed AA5 expenditure of $276.1 million for sustaining capex in the 2020-24 Plan. The ERA accepted $179.6 million of our proposed network sustaining capex for AA5 and disallowed $96.5 million.

ATCO does not accept the ERA's Draft Decision and we are proposing a revised AA5 forecast sustaining capex of $231.6 million, $44.5 million lower than our original 2020-24 Plan.

ATCO takes a proactive approach to safety across all our operations, including public safety. Safety is critical to ATCO and will continue to be during AA5 and beyond.

10.4.1.1 ATCO's response: PVC mains replacement

In our 2020-24 Plan, we proposed to spend $127.4 million to replace 305km of PVC mains and service connections with PE mains over AA5. The ERA rejected the portion of ATCO's mains replacement program that relates to 28km ($16.3 million[207]) of program efficiencies on the basis that it does not meet conforming capex criteria. We propose to maintain our original scope for PVC mains replacement for a revised forecast of $129.8 million.[208]

ATCO does not accept the ERA's disallowance of 28km ($16.3 million) of PVC replacement. The 28km represents the 10% of PVC mains replacement proposed as 'bundled works' for program efficiency (with the other 277km representing the sections of mains that meet the replacement criteria).

The reasons for the 28km of additional mains are twofold: additional meterage due to 'tie-ins' (~11km), and the replacement of in-between 'lower risk' PVC sections (~17km) to minimise the number of transitional fittings required.

206 Draft Decision, Table 62

207 Draft Decision, Table 56

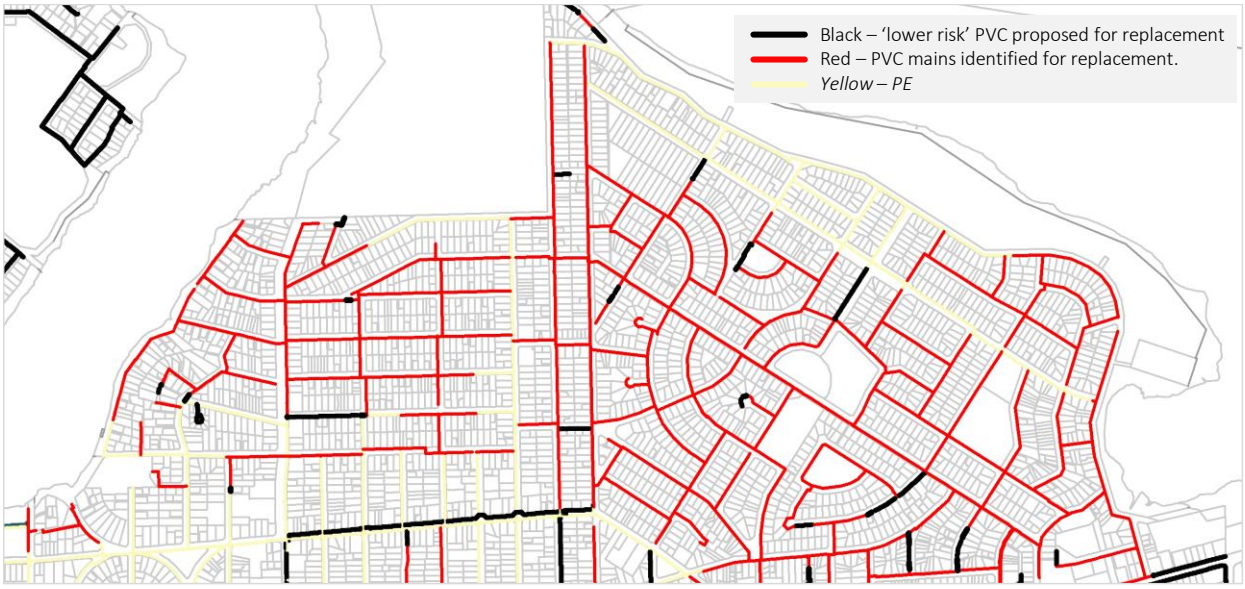
208 Adjusted from the 2020-24 Plan due to inflation and labour cost escalation

- **Additional tie-ins:** In addition to the 277km of replacement, 11km of additional meterage is required where new mains must be extended to allow safe tie-in points. Locations for tie-ins into the existing mains are selected away from road intersections. It is considered prudent to extend the mains replacement a short distance to reach an efficient tie-in location while addressing potential future leak points under the sealed surfaces.

  This is based on the lessons learned from the mains replacement program in AA4, where the unforeseeable meterage accounted for 4-5% of total delivered replacement length. ATCO's forecast for AA5 takes into account the additional tie-in meterage required, and therefore the replacement length increases by 11km from 277km to 288km.

- **'Lower-risk' sections for efficiency:** In addition, the cumulative 277km of PVC identified for replacement is not all connected. The mains are separated by sections of 'lower risk' PVC that range in length from 20 metres to 500 metres, and these sections form the additional 17km proposed for replacement. See Figure 10.1 for an example of these sections.

Figure 10.1: Sample of PVC replacement showing 'lower risk' sections for efficiency



ATCO investigated two options for this work:

1. The first option is to only replace the identified 288km (277km plus an additional 11km related to tie-ins) and deliberately not replace the connecting sections in between. This would require the works to cut a trench and connect back into the 'lower risk' sections. In most cases, not replacing these sections will result in an additional number of tie-ins and reinstatement.

   ATCO has estimated the cost for replacing 288km of PVC mains at $124.6 million at unit rate of [redacted]. The 1.7% increase in unit rate is a result of additional tie-ins and connections required to connect new mains into the "lower risk" PVC. In the long term, this option will involve additional work and expenditure (estimated at $9.0 million), bringing the total cost to $133.7 million (see Table 10.8). From an asset integrity perspective, this option will also add more transitional fittings onto the gas network, creating potential future leak points.

2. The second option is to replace the 288km above (Option 1), *plus* replace the 17km of connecting 'lower risk' PVC mains between the leakiest pipes at the same time to minimise the number transitional fittings required. This option is estimated at $129.8 million at a unit rate of [redacted] ($3.9 million less than Option 1). This is the optimal solution to deliver the risk reduction with the most cost efficient construction method. An additional benefit of replacing this 17km in AA5, is that we can defer the time

at which the replacement of those sections would otherwise be needed later in the replacement program therefore minimising the disruption to the community.

Table 10.8 shows the cost estimates for these two options and the NPV calculation taking account of the time value of money. The recommended option of replacing 305km results in a $2.5 million *less negative* NPV compared to the first option.

Table 10.8: Options analysis to replace 305km ($M real as at 31 Dec 2019)

	AA5 EXPENDITURE	FUTURE EXPENDITURE	OVERALL EXPENDITURE	NPV
Option 1: Replace 288km (277km + Tie-ins)	124.6	9.0	133.7	-120.4
Option 2: Replace 305km (Recommended Option)	129.8	-	129.8	-117.9

Based on the options analysis, it is appropriate to include an additional 28km because it is the more cost-effective solution and also minimises the disruption to the community by conducting works in these locations once, instead of returning in the future.

The overall proposal to replace 305km is less than 1% of the PVC network. This project meets NGR 79 because:

- 79(1)(a): as explained above, the proposal is the most cost efficient and prudent solution for the overall PVC replacement program
- 79(2)(c)(ii): the capex is necessary to maintain the integrity of services. The replacement plan of PVC with PE mains will reduce the risk of asset failure, thereby reactive maintenance costs, improving the integrity of the overall network.

10.4.1.2 ATCO's response: Meter replacement program

ATCO proposed to spend $26.6 million replacing domestic meters including $0.6 million to replace [redacted] commercial meters over AA5 under the EOL replacement program. The ERA disallowed $1.3 million[209] relating to the replacement of commercial meters.

ATCO does not accept the ERA's disallowance of $1.3 million for the replacement of billing commercial meters. We have revised our Project Brief in relation to this program, please refer to attachment [Attachment 10.115: Project Brief - EOL Replacement - Billing Commercial Meters].

Commercial Meter Change is an on-going program to replace gas meters sized greater than AL12 with its primary driver to meet regulatory requirements for replacement at end-of-service life. This systematic meter replacement program reflects a proactive and structured management for commercial meter changes. This project is in line with ATCO's business strategy for Network Management.

As part of our Gas Distribution Licence to design, construct, operate and maintain the gas network, we must comply with the requirements of the *Gas Standards Act 1972* and supporting regulations. The routine meter change program is in accordance with the *GSSSR 2000*.

GSSSR 2000 (Part 3 – Metering: Section 16) requires a network operator to ensure that all installed commercial meters are replaced at prescribed intervals not exceeding:

- 5 years, in the case of turbine meters; and

[209] Draft Decision, Table 56. Note, this disallowance is made up of two components: $0.6m relates to the disallowed portion of the project (per paragraph 416 of the Draft Decision) and $0.7 million relates to the different labour escalation assumptions adopted by the ERA in their Draft Decision.

- 10 years, in the case of rotary meters.

ATCO currently complies with this regulation by replacing the commercial meters with refurbished meters when available. However, when the refurbishment of the meter is no longer feasible, cost efficient or a refurbished meter is in limited availability, the commercial meter will be replaced with a new meter.

Where refurbished meters are used, they are re-calibrated and undergo re-certification. Commercial meters are disposed of when they are deemed no longer practical to refurbish by reference to the meter manufacturer's disposal criteria. This is at the discretion of the manufacturer.

Historically, we have replaced approximately [redacted] commercial meters per annum (predominantly rotary meters) with new meters due to limited refurbished meter availability. The average age of meters is 27 years and the age profile of our existing meters suggest that the same proportion as in previous years will be too old to refurbish, and the limitations on being able to obtain refurbished meters will continue.

Applying this approach, over AA5 we will be replacing [redacted] commercial meters, with 10 per year being replaced with new meters (capex) and the remainder being replaced with refurbished meters (opex). This will result in the replacement of [redacted] commercial meters with new meters for $0.6 million under the EOL replacement – billing meter program.

This is an age-based replacement in accordance with compliance requirements and expected end-of-life. The volume of the commercial meters identified in AA5 is on par with the [redacted] replaced in AA4. The program aligns with ATCO's current commercial meter replacement strategy, whereby the majority of commercial meters are replaced with refurbished meters (opex) and less than 2% of the units are replaced with a new meter (capex). This strategy is cost efficient and prudent.

Table 10.9: Commercial meter replacement volumes in AA5

REPLACEMENT TYPE	2020	2021	2022	2023	2024	TOTAL
Replaced with refurbished meter (opex)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Replaced with new meter (capex)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
TOTAL	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The overall commercial meter replacement program satisfies NGR 79(1)(a); ATCO has in place meter refurbishment processes for commercial meters. The use of refurbished commercial meters saves costs by deferring the need for a new replacement meter and it is applicable for the majority of the commercial meter program. However, as explained above, where there is limited availability of refurbished meters, we will use new meters for replacement.

The capex component meets NGR 79(1)(a) because we have a long-standing supply of meters from a key international supplier. These meters were benchmarked against pricing obtained by ATCO in Canada through a tender process and found to be competitive. Following this, we have entered into a multi-year supply agreement with this supplier for a range of meters.

This is a compliance driven project, and also conforms with NGR 79(2)(c)(iii); the capital expenditure is necessary to comply with *GSSSR 2000* (Part 3 – Metering: Section 16), which requires a network operator to ensure that all installed commercial meters are replaced at intervals not exceeding 5 or 10 years.

10.4.1.3 ATCO's response: End-of-life replacement program

In our 2020-24 Plan, we proposed to spend $33.6 million for the end-of-life replacement program over AA5. The ERA accepted $30.2 million as conforming expenditure but did not accept $3.4 million relating to the replacement of regulator sets and metering facilities.

We retain the AA5 capex scope as per our submitted 2020-24 Plan and propose a revised forecast of $29.6 million over AA5. Our response to the ERA's Draft Decision is outlined in the following sections.

- **Risers and services replacement (No Amendment)**: ATCO maintains the scope for a revised forecast of $13.1 million for AA5 replacing [redacted] risers and services per year. The ERA accepts this as conforming capex.
- **Regulators and meter facilities (-$2.5M Amendment)**: The ERA accepted $3.6 million of our proposed expenditure for end of life replacement of regulators and meter facilities and disallowed $2.5 million. ATCO does not accept ERA's amendment, and we maintain the scope for a revised forecast of $2.5 million for AA5 to refurbish or replace components of pressure regulating stations for the End of Life Replacement – PRS project.

  We are proposing a revised AA5 forecast sustaining capex for end of life replacement of regulators and meter facilities of $6.1 million ($3.6 million plus $2.5 million).

  ATCO operates and maintains 16 Pressure Regulating Stations (PRS) within its regulated networks. PRSs are critical assets and are typically inside a fenced compound with above ground pipelines. These assets incur high cost to remediate or replace. Over the life of these assets, changes in industry practices, engineering and safety standards, and maintenance regimes have resulted in higher levels of required remediation activity. The forecast expenditure is to replace components within the PRS when it meets its end of life, or a full replacement of the asset when it meets the replacement criteria stated in the Asset Lifecycle Strategy.

  PRSs are subjected to a condition-based renewal strategy. In AA4, ATCO replaced one PRS due to poor condition. We also conducted condition-based replacement of components within the facility; typically replacing seized isolation valves, corroded leaking pipework and flanges and blocked filters and regulators that were out of tolerance.

  Recent maintenance records show no PRS will require a full replacement in AA5, however, it is reasonable to forecast that we will need to replace components within the facility. The projects are identified through routine inspection.

  One site (PRS005) has been identified for close monitoring with corrosion on the outlet leg of the PRS. Historically, we have had issues with blocked filters and occasionally where the regulator is out of tolerance pressure settings. If the replacement of components is required, a business case will be provided to justify the expenditure.

  ATCO is seeking a provisional budget to replace components of the PRS in AA5. The forecast uses actual AA4 expenditure 'scaled up' to meet the requirement of replacing components of a PRS in the Metro network, because it is likely that it will be a Metro PRS that will require refurbishment or replacement. PRSs in the Metro area are larger assets because the critical infrastructure supports more customers.

  The refurbishment of various degraded components in the PRS complies with the new capex criteria in NGR 79 because:

  - it is prudent to monitor and replace components as they are identified, to achieve the lowest sustainable cost of providing services (NGR 79(1)(a)); and
  - it is justified under NGR 79(2)(c)(i) as it is required to maintain and improve the safety of services, and NGR 79(2)(c)(ii), to maintain the integrity of services.
- **Mechanical compression fittings (No Amendment)**: ATCO maintains the scope for a revised forecast of $4.6 million over AA5 to replace mechanical compression fittings. The ERA accepted this as conforming capex in its Draft Decision.

- **Telemetry (No Amendment)**: ATCO maintains the scope for a revised forecast of $3.7 million on a staged replacement of [redacted] telemetry units. The ERA accepted this as conforming capex in its Draft Decision.
- **Other programs (No Amendment)**: ATCO maintains the scope for a revised forecast of $1.7 million in expenditure for three smaller replacement programs ($0.8 million exposed steel pipe on bridge crossings, $0.6 million cathodic protection assets, $0.4 million high-pressure warning signs). The ERA accepted this as conforming capex in its Draft Decision.

10.4.1.4 ATCO's response: Security of supply program

The ERA rejected the total $49.0 million expenditure proposed by ATCO for the security of supply program in AA5. ATCO has accepted *aspects* of EMCa's commentary with regards to Security of Supply Risk Assessment methodology and outcomes. Specifically, we have accepted EMCa's commentary regarding the following, and updated our method accordingly:

- Frequency analysis: An additional Risk Reduction Factor has been included to account for the probability that a pipeline puncture will not result in loss of positive pressure within the network.
- Consequence analysis: 3 days (as opposed to 7 days used in our original assessment) has been included as the time taken for a punctured high pressure pipeline to be repaired.

As a result of the accepted feedback and subsequent revision to the supply risk assessment methodology, we have revised our Security of Supply AA5 capex from $49 million to $0.86 million to reduce High risk to an acceptable level. The three Security of Supply Business Cases have been revised accordingly, with two new options (pipeline slabbing and increased pipeline patrol) assessed in each instance.

The resulting lowest cost solutions to reduce High supply risks to an acceptable level proposed as part of revised business cases, and included in ATCOs final submission include:

- Caversham: Installation of bypasses on PRS010 and PRS011 to reduce High supply risk to Negligible, incurring capex of [redacted] million.
- Bunbury: Daily patrolling of High risk pipeline segments to reduce risk to Intermediate ALARP, with an ongoing opex of [redacted] per annum.
- Two Rocks: Daily patrolling of High risk pipeline segments (for six months of the year) to reduce risk to Intermediate ALARP, with an ongoing opex of [redacted] per annum.

ATCO does not accept other EMCa commentary in relation to our risk tolerance criteria, security of supply frequency, and consequence assessments. Our response is detailed in the following sections.

- **Risk Tolerance Criteria**

  As part of EMCa's review of ATCOs Risk Management Framework, EMCa stated that they were not provided with any compelling reasons as to why ATCO's alternative risk management measures should be supported.

  EMCa also stated that "ATCO's descriptions for 'Remote' and Hypothetical' are an order of magnitude more conservative (risk averse) than the AS4645.1:2018 definitions" and "As we have not seen compelling reasons from ATCO to support its alternative measures, definitions and criteria, we refer to the AS4645.1:2018 measures, definitions and criteria in our AA5 capex assessment".

  In developing a suitable risk framework, we undertook an analysis of applicable Australian Standards, Land Use Planning criteria, proposed draft revisions to Australian Standards, and industry best practice guidelines. While AS4645.1:2018 establishes a minimum baseline for a gas distribution network risk tolerance criteria, other standards and guidelines must be considered to establish an overall risk

framework. These standards and guidelines include AS2885.1:2012 and AS2885.6:2018 (for ATCO gas transmission pipelines) and state-based criteria.

A detailed overview of considerations and references in developing ATCO's risk management approach is provided in *TCO RP 0379 AA5 Risk Management Approach Response*[210]. This document illustrates how our approach is in line with both the referenced British Standard Publication, and other applicable Australian Standards and Land Use Planning Criteria.

ATCO's risk management approach is documented within the ATCO Gas Australia Gas Distribution Safety Case. Building and Energy (previously Energy*Safety*) are responsible for ensuring our approach to managing risk on the network is in line with any regulatory obligations and consider industry good practice and state requirements as applicable. Building and Energy provided no objections to our alternative risk management approach and supported the approach by way of acceptance of the Safety Case.

With regards to legislative precedence, if there is a conflict between the accepted Safety Case and the Standards prescribed in the Safety Case, the obligations in the accepted Safety Case prevail.

ATCO does not accept EMCa's findings that ATCO's Risk Management Framework should consider only AS4645.1:2018 measures in isolation. In developing our risk management framework, we have in addition to AS4645, considered the requirements of AS2885, other Australian Standards and land use planning publications. We have also documented and approved the reasons for our changes (e.g. the likelihood class frequencies defined in AS4645.1:2018 Table B2) in accordance with rules defined within AS4645 and AS2885.

- **Security of Supply Frequency**

  TCO RP 0280 AA5 Security of Supply Assumptions & Revised Risk Assessment[211] has been prepared to provide justification of our assumptions in establishing frequency of loss of gas supply scenarios.

  While we maintain that pipeline isolation is required in all instances of pipeline puncture, we have accepted EMCa's commentary that an additional risk reduction factor should be considered. We have therefore implemented an additional risk reduction factor to account for the probability that pipeline isolation would not result in a loss of positive pressure due to effective curtailment efforts.

  The revised methodology considers that *should a pipeline puncture and isolation occur*, and ATCO has adequate time to effectively implement curtailment, affected customers would only remain unable to use gas for a period of 3 days (time taken to repair the punctured high pressure pipeline). As positive pressure is maintained in the network, there is no requirement to isolate, purge and reconnect the network.

  To establish the probability of this occurrence, network modelling was undertaken to estimate the time taken to lose positive pressure in the impacted networks should pipeline isolation occur. During peak winter consumption conditions (6 hours of the day, 120 days of the year (8.25% of the year)), positive pressure would be depleted in assessed networks in between 40 and 100 minutes.

  ATCO has therefore assumed that during peak winter consumption conditions, loss of pressure in the impacted networks is rapid and there is inadequate time to enact curtailment prior to the loss of positive pressure occurring. In this instance, time to reinstate customers is significantly longer due to the requirement to isolate, purge and recommission the network.

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210 Attachment 10.102 Risk Management Approach Response ATCO RP 0379

211 Attachment 10.101: Security of Supply- Assumptions & Revised Risk Assessment ATCO RP 0380

The inclusion of this additional risk reduction factor, to account for the fact that positive pressure is maintained to the impacted networks, has reduced the frequency of assessed catastrophic supply loss outcomes by 91.75% (i.e. 91.75% of the time, effective curtailment efforts will prevent loss of positive pressure on the network).

The additional frequency risk reduction factor results in slabbing and increased pipeline patrol options (previously assessed as inadequate to reduce frequency from Remote to Hypothetical), as now being able to reduce the frequency of occurrence to Hypothetical. As such, concrete slabbing and increased pipeline patrol have now been included as options assessed within the three revised Security of Supply Business Cases.

In addition, EMCa have stated that "*We are not aware of an instance where network isolation following a puncture has been required anywhere in Australia and we consider it unlikely that network isolation will be required for a puncture of the GDS pipeline segments identified by ATCO to pose the highest customer supply risk*."

ATCO's document *TCO RP 0280 AA5 Security of Supply Assumptions & Revised Risk Assessment*[212] provides examples of these instances within Australia.

- **Security of Supply Consequence**

  With regards to EMCa's review of ATCO's consequence assessment, we do not accept EMCa's comments related to over-conservative assumptions applied. We have provided further justification for assumptions used to convert "customers lost" into "customer weeks lost" in *TCO RP 0280 AA5 Security of Supply Assumptions & Revised Risk Assessment*.

  This document provides additional detail in relation to:

  - High Pressure pipeline isolation and repair: Further explanation provided of a high pressure pipeline (1900 to 6900 kPa MAOP) puncture event, and why isolating a punctured high pressure pipeline at the upstream and downstream isolation valves is the required emergency response activity due to the safety and environmental effects of a high pressure loss of containment.
  - Network isolation and reconnection: Further explanation and overview of network isolation and purging activities required when positive pressure to a network has been depleted, and evidence as to why isolation points per 50 customers is a reasonable assumption due to safety implications.
  - Availability of resources: Further explanation is provided with regards to the unique nature of ATCO's predominantly PVC network within Australia. This includes the implications for sourcing additional flow-stopping resources and trained personnel in the event of a supply emergency, when required flow stopping techniques or equipment are not predominantly used elsewhere in Australia.

ATCO has prepared two submission documents to detail the justification of our supply risk assessment assumptions and provide compelling reasons as to why our alternative risk tolerance approach should be adopted:

- *TCO RP 0379 Risk Management Approach Response*[213].
- *TCO RP 0280 Security of Supply Assumptions & Revised Risk Assessment*[214].

In addition, GHD has provided a third-party subject matter expert review of these two documents, which concludes that ATCOs approach is reasonable, documented in:

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212 Attachment 10.101 Security of Supply- Assumptions & Revised Risk Assessment A TCO RP 0380

213 Attachment 10.102 Risk Management Approach Response ATCO RP 0379

214 Attachment 10.101 Security of Supply- Assumptions & Revised Risk Assessment A TCO RP 0380

- GHD, AA5 Security of Supply Assumption Response & Revised Risk Assessment, ATCO Gas Australia, 9111050-REP-0002-Rev 1, 3 June 2019. [Attachment 10.103: *GHD AA5 Security of Supply Assumption Response & Revised Risk Assessment]*
- GHD, AA5 Risk Management Approach Response, ATCO Gas Australia, 9111050-REP-0003-Rev 1, 3 June 2019. [Attachment 10.104: *GHD AA5 Risk Management Approach Response]*

10.4.1.5 ATCO's response: SCADA projects

The ERA disallowed the total expenditure of $12.6 million proposed by ATCO in relation to the Supervisory Control and Enhanced Data Acquisition program of works in AA5. ATCO does not accept the ERA's disallowance and proposes a revised AA5 capex forecast of $5.7 million.

The three programs that were proposed in our AA5 initial submission were: SCADA Systems and Infrastructure; Enhanced data acquisition; and Automated Meter Reading (AMR). We propose that these three original business cases were attempting to address multiple programs of work, with multiple investment drivers with a combination of different benefits. This led to a confusion between costs involved, different technology solutions and how ATCO were going to achieve future cost reductions, manage risk, improve monitoring performance and improve asset integrity.

To improve clarity on this broad program of works, we have restructured our proposal into five discrete and *independent* business cases (as compared to the three in our original submission). Each of these five new business cases represents a *stand-alone* project, rather than a broad 'SCADA' related program with interdependent activities. Table 10.10 provides a comparison for our revised proposal.

Table 10.10: Planned SCADA programs and associated activity

ORIGINAL 2020-24 PLAN	2020-24 REVISED PLAN	
BUSINESS CASE 1: SCADA SYSTEMS AND INFRASTRUCTURE	**SCADA SYSTEMS AND INFRASTRUCTURE**	
The original program of works combined two projects for two different investment drivers. The first program was installing infrastructure, operational technology and field devices to enable ATCO to adjust the network based on demand through supervisory control systems that would reduce UAFG, reduce operations and maintenance costs and provide efficiency in capex programs to utilise lower cost assets for mains replacement as well as defer some capex projects. The second project was in line with security of supply projects to enable remote control of critical isolation valves to enable the ability to isolate network segments (and associated customers) but maintain the integrity of the majority of the system (i.e. positive gas pressures).	**Business Case 1.** Automated network pressure control:	This initiative will introduce supervisory control to remotely control pressures to optimise network reinforcement, minimise network losses, and improve network operation and fringe pressures refer Attachment 10.109: Business Case - Automated network pressure control].
	Business Case 2. Remote network isolation:	This initiative maintains network integrity through the ability to operate networks remotely in supply emergencies, and significantly reduce potential number of customers affected to prevent catastrophic supply loss [refer Attachment 10.110: Business Case - Remote network isolation].
BUSINESS CASE 2: ENHANCED DATA ACQUISITION	**ENHANCED DATA ACQUISITION**	
The original business case proposed a larger scope of assets to be monitored ($5.7 million), including the remote monitoring of all medium pressure regulator sets (MPRs), and corrosion protection systems.	Business Case 3. Constant monitoring of gas quality:	This initiative reduces opex and improves gas quality management [refer Attachment 10.111: Business Case - Constant monitoring of gas quality].
	Business Case 4. Remote monitoring of corrosion protection systems:	This initiative reduces opex and improves preventative maintenance of pipelines to prolong asset life [refer Attachment 10.112: Business Case -

ORIGINAL 2020-24 PLAN	2020-24 REVISED PLAN	
		Remote monitoring of corrosion protection systems].
BUSINESS CASE 3: AUTOMATED METER READING	**AUTOMATED METER READING (AMR)**	
The original business case proposed the introduction of remote meter readings for gas customers in harder-to-access locations such as high-rise or gated buildings.	Business Case 5. Enable automated meter reading:	This initiative supports the gas and property industries to deliver innovative solutions for WA residents through a user demand model [Attachment 10.113: Business Case - Enable Automated Meter Reading (AMR)].

The following sections provide a summary of each program, providing further detail on scope, costs and benefits as outlined in their specific business cases [see Attachments 10.108 – 10.124: Business Cases]. We have responded to the Draft Decision where applicable, noting that our revised approach contains *five* business cases rather than *three*.

- **SCADA Systems and Infrastructure (2 new business cases)**

  The ERA and EMCa determined that the NPV analysis was not sufficiently robust nor compelling to support the proposed investment and did not support the 'high' risk as outlined in the business case. This program of works combined two projects for two different investment drivers. The first program was installing infrastructure, operational technology and field devices to enable ATCO to adjust the network based on demand through supervisory control systems that would reduce UAFG, reduce operations and maintenance costs and provide efficiency in capex programs to utilise lower cost assets for mains replacement as well as defer some capex projects. The first program also included IT projects broadly linked to data acquisition from the field, however these activities and associated costs are relevant to IT and discussed in Section 5.3.4. The second project was in line with security of supply projects to enable remote control of critical isolation valves to isolate network segments (and associated customers) but maintain the integrity of the majority of the system (i.e. positive gas pressures).

  The SCADA systems and infrastructure program of works has now been broken into two projects: *automated network pressure control*; and *remote network isolation* at an upfront capex cost of [redacted] respectively. The original business case proposed a similar scope of works as detailed for the two revised business cases, however we have reduced the scope to adopt lower upfront costs and adjusted programs of work to align with other components of our submission (i.e. security of supply). A summary of the two new business cases is given in Table 10.11.

Table 10.11: New business case summary under *SCADA Systems and infrastructure* ($M real as at 31 Dec 2019)

NEW BUSINESS CASE	SCOPE OF WORKS	INVESTMENT NEED	SCOPE CHANGE FROM ORIGINAL BUSINESS CASE	NEW CAPEX COST
Automated network pressure control	Install the operational technology infrastructure into the control room and in-field facilities as well as integrating business systems and processes. Install remote pressure control and segment the north and south metro gas zones to reduce costs associated with UAFG.	Reduce ongoing opex, defer or reduce capex and provide a platform for continuous asset management improvement through remote network adjustment	Refined costs relating to upfront capital, but kept the scope relatively the same	[redacted]

Remote network isolation	Install remote isolation at critical isolation valves and facilities to enable isolation of network segments to prevent a catastrophic supply loss and maintain the integrity of service to the majority of customers, in the event of an upstream supply emergency.	Maintain the integrity of services and prevent catastrophic supply loss of gas in the event of an upstream supply emergency. The ability to quickly limit supply disruption to the minimum number of customers results in significantly reduced reinstatement time and costs.	Refined costs relating to upfront capital. Scope captures supply risks whereby potential consequences are catastrophic (potential for >100,000 customer weeks lost).	[redacted]

- Business Case Summary: ***Automated network pressure control***

  The investment need for automated network pressure control includes the reduction of network opex, deferring or reducing future capex and providing a platform for continuous asset management improvement through remote network adjustment. The project involves the installation of operational technology infrastructure into the Jandakot and back-up control room facilities as well as installing in-field facilities. The scope includes integrating business systems and processes to enable alteration of network pressures (and flows) enabling a reduction in network losses. This project includes the isolation of the north and south metro gas networks to reduce costs associated with UAFG and improve network dynamics. Network dynamics are important to operate a safe and reliable network, and also to retailers who allocate gas to different zones but have to manage ongoing divergence between north and south.

  The capex cost of this project is [redacted] million in AA5 with an opex cost of $0.8 million over four years of AA5 beginning in 2021. This opex is proposed as a recurring opex step change (as detailed in section 9.4.3.1). The capex includes the installation of various assets including telemetry (or SCADA) ([redacted] million), operational technology (and IT) assets ([redacted] million), regulation assets ([redacted] million), building and facility infrastructure ([redacted] million) and metering assets ([redacted] million).

  The NPV of this project for the recommended option (Option 1) is $2.4 million, with a payback period of 7 years. The benefits of this project include reducing UAFG (up to 20TJ in AA5), reducing operations and maintenance costs, reducing capex related to mains replacement or new mains and deferring future reinforcement projects. The benefits to our customers in AA5 include:

  - potential for ATCO to reduce new asset installation costs or install more assets for the same capex (no incremental change to overall capex)
  - potential deferment of capex reinforcement (allows for capex prioritisation or reduced capex)
  - reduction in UAFG assuming reduction in network pressures
  - lower cost gas distribution service for customers in the long-term

  ATCO submits that this project meets the criteria in NGR 79 because the NPV is positive at $2.4 million with a payback period of seven years. This meets NGR 79(2)(a) in that the overall economic value of the expenditure is positive. The sensitivity analysis scenarios presented in the business case confirm the assumptions are robust and prudent as the project remains positive for increased or decreased costs and benefits.

- Business Case Summary: ***Remote network isolation***

  The investment need for remote network isolation includes maintaining the integrity of services and preventing the catastrophic supply loss of gas in the event of an upstream supply emergency. The ability to quickly limit supply disruption to the minimum number of customers results in significantly reduced reinstatement time and costs. This project includes the installation of remote

isolation at critical isolation valves and facilities throughout the gas network to enable isolation of network when required.

This project includes the integration into ATCO's OT platform. *This solution can be delivered on the current NEON OT platform; or any new platforms adopted by ATCO*. Due to the majority of costs being field components and devices, integration into back-end systems would not differ project costs by more than 5-10%. We have already carried out a system upgrade to our existing data acquisition system to enable the Two Rocks isolation project to move forward with a basic control protocol. A similar protocol can be utilised if needed (not recommended due to complexity and fit for purpose).

ATCO has estimated that five remote isolation projects may be proposed over the AA5 period upon further review into Intermediate supply risk pipelines. It is estimated that approximately [redacted] valves would be required to implement these projects.

The capex of this project is [redacted] million in AA5. Selected locations for remote isolation will be a combination of existing and new valves, however, these existing valves require upgrading to allow for remote operation in case of emergency.

This project meets NGR 79(1)(a) and 79(2)(b)(ii) because it is consistent with accepted good industry practice that the capex is justified and necessary to maintain the integrity of services. The gas network can be isolated at particular locations to isolate portions of the network (and associated customers) in an emergency to ensure the majority of the network integrity (customer supply) is maintained during an emergency.

- **Enhanced Data Acquisition (2 new business cases)**

The ERA did not accept the Enhanced Data Acquisition program of works, linking it to the SCADA systems and infrastructure program that was determined to not meet the governing criteria in the NGR 79. EMCa considered there is likely to be more cost effective approaches to acquiring data, noting that "a business case could be developed" based on different technologies and associated benefits.

Enhanced data acquisition is now broken into two projects: *constant monitoring of gas quality*; and *remote monitoring of corrosion protection systems* at a cost of [redacted] million and [redacted] million respectively. The original business case proposed a larger scope of assets to be monitored at a total cost of $5.7 million. Included in this estimate was the remote monitoring of all medium pressure regulator sets (MPRs), which has now been removed from the scope of works due to further analysis of the associated benefits compared to the upfront capex costs. The scope of works relating to *remote monitoring of corrosion protection systems* has been reduced, with estimated benefits through reduction in maintenance costs and better asset integrity management.

The proposed technology within this program is *platform agnostic* and is not linked to SCADA systems and infrastructure program but indeed has benefits of integrating control systems and data analysis in the future. A summary of the two new business cases and their change in scope is given in Table 10.12.

Table 10.12: New business case summary under *Enhanced Data Acquisition* ($M real as at 31 Dec 2019)

NEW BUSINESS CASE	DESCRIPTION	INVESTMENT NEED	SCOPE CHANGE FROM ORIGINAL BUSINESS CASE	NEW CAPEX COST
Constant monitoring of gas quality	Install odorant monitoring devices at key locations in the gas distribution network to enable remote	Reduce ongoing opex associated with gas quality sampling and testing.	Revised upfront capex expenditure based on device trials and vendor support based on odorant monitoring only.	[redacted]

NEW BUSINESS CASE	DESCRIPTION	INVESTMENT NEED	SCOPE CHANGE FROM ORIGINAL BUSINESS CASE	NEW CAPEX COST
	data acquisition of odorant concentrations.			
Remote monitoring of corrosion protection systems	Install pipeline cathodic protection (CP) test point monitoring devices on all Class 300 & 600 pipelines to enable remote data acquisition of induced direct and alternating current levels on the pipeline.	Reduce ongoing opex associated with CP test point monitoring and improve asset integrity management and ongoing preventative maintenance of pipelines.	Revised the number of CP test points to be monitored from 244 to 106. Revised the number of pipe to soil coupons to be installed from 300 to 30.	[redacted]

- Business case summary: ***Constant monitoring of gas quality***

  The investment need for constant monitoring of gas quality is to reduce ongoing opex associated with gas quality sampling and testing. This project involves installing odorant monitoring devices at key locations in the gas distribution network to enable remote data acquisition of odorant concentrations to reduce costs and improve sampling performance (frequency and data analysis) and a higher consistency of sampling results. The recommended solution does not require any investment in back-end systems for integrating data. This project can be completed using the current operational technology (data acquisition only) platform.

  ATCO completed a review of this project and identified that only [redacted] sites require remote odorant monitoring as opposed to the 22 that was proposed in our 2020-24 Plan. The capex of this project is [redacted] million over two years of AA5 with opex of [redacted] million over four years of AA5 beginning in 2021. This opex will be absorbed into the opex cost structure for AA5.

  The NPV of this project for the recommended option (Option 1) is $0.6 million, with a payback period of six years.

  The project meets the requirements of NGR 79(1)(a) because it is consistent with accepted good industry practice and NGR 79(2)(a), as our assessment shows the overall economic value of the expenditure is positive.

- Business case summary: ***Remote monitoring of corrosion protection systems***

  The investment need for remote monitoring of corrosion protection systems is to reduce ongoing opex associated with pipeline cathodic protection test point monitoring and improve asset integrity management through ongoing preventative maintenance of pipelines. This project involves installing 106 pipeline cathodic protection test point monitoring devices on all Class 300 and 600 pipelines and 30 pipe-to-soil coupons to enable remote data acquisition of direct and alternating current levels on the pipeline. The recommended solution does not require any investment in back-end systems for integrating data. This project can be completed using our current operational technology (data acquisition only) platform.

  The capex of this project is [redacted] million over two years of AA5 with opex of [redacted] million over four years of AA5 beginning in 2021. This opex will be absorbed into the cost structure for AA5 and future periods but is not significant enough to alter forecast opex.

  The NPV of this project for the recommended option (Option 1) is $0.1 million, with a payback period of eight years.

The project meets the requirements of NGR 79(1)(a) because it is consistent with accepted good industry practice to achieve the lowest sustainable costs, NGR 79(2)(a) and NGR 79(2)(b)(ii) because our assessment concludes the overall economic value of the expenditure is positive and necessary to maintain the integrity of services.

- **Automated Meter Reading Program:**

The ERA and EMCa determined that the detail provided in the business case was not sufficient to support the project expenditure or the positive NPV for this project.

We propose a revised project capex of [redacted] million for AA5. The scope of this project has changed; from ATCO installing the upfront technology as part of the capex program, to the retailer being able to choose from the available options dependent on the customer requirements funded by a capital contribution mechanism. The chosen customer installations will be installed by ATCO, but the costs passed on to the requesting retailers (or customers). The retailer may choose to pass on the upfront costs to customers. A similar program has been rolled out by the Water Corporation[215], in that customers who want to 'request a remote access meter'[216] (due to security fencing for example) can purchase one as a once-off cost of the capitalised portion of the meter installation. The retailer and utility can then manage their meter reading obligations without customer disruption or incurring additional costs per meter read.

The Water Corporation have two options available including Advanced Meter Infrastructure (AMI) (in which usage data is made available to the customer hourly), and AMR, similar to ATCO's proposal.

EMCa noted that it was not clear what new information would be gained from a trial of gas meters proposed by ATCO in the 2020-24 Plan, however the Water Corporation are conducting a 'trial of smart meters across WA' with the only benefits noted as additional and more frequent data for customers (and the Water Corporation) and helping customers resolve water leaks downstream of the meter. Wester Power are also conducting an 'Advanced meters' trial to enable customers "to actively manage their electricity use", combining energy efficiency activities to reduce electricity use[217]. We proposed a positive NPV in our initial submission with the included benefits:

- Reduction of reference and non-reference service costs (reduced manually intensive activities)
- Enable enhanced data capture for customers and ATCO
- Potential to create a customer portal to provide customer usage statistics (similar to the Water Corporations 'mywater' website platform[218]
- Reduce customer disruption
- Provide choice of energy supply solutions to WA gas customers and retailers

This business case is based on a broader economic value rather than purely *ATCO's cost basis*. As an example, a retailer requests ATCO to perform a reference service for a gas customer paid for by the retailer. The economic benefit from this project includes a cost reduction for the retailer as the service is now replaced with a different non-reference service based on the technology involved. The overall economic result is a lower gas cost to all customers into the future.

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215 Water Corporation website (2019) *Smart meters*, available at: https://www.watercorporation.com.au/my-account/reading-your-meter/smart-meters

216 Water Corporation Website (2019) *Access to your meter*, available at: https://www.watercorporation.com.au/my-account/reading-your-meter/access-to-your-meter

217 Western Power website (2019) *Advanced meters puts the power in your hands,* available at: https://westernpower.com.au/energy-solutions/projects-and-trials/advanced-meters-puts-the-power-in-your-hands/

218 Water Corporation (2019) *mywater,* available at: http://mywater.com.au

Table 10.13: New business case summary under *Automated Meter Reading* ($M real as at 31 Dec 2019)

TITLE	DESCRIPTION	INVESTMENT NEED	SCOPE CHANGE FROM ORIGINAL BUSINESS CASE	NEW CAPEX COST
Enable Automated Meter Reading	This project creates the infrastructure and systems to link equipment in the field to enable remote data acquisition of meter reads or remote isolation of meters or combinations of both. This expenditure enables the platform to support systems allowing retailers (or individual customers) to remotely read meters or isolate gas supply dependent on the installation.	To reduce overall costs of meeting regulatory obligations for ATCO and the retailers and make gas supply simple for customers	Changed the project cost model to enable customer demand to drive retailer choice, instead of ATCO determining options for retailers	[redacted]

- Business case summary: ***Enable automated meter reading***

  The investment need for automated meter reading (AMR) is to reduce overall costs of meeting regulatory obligations for ATCO and the retailers and make gas supply simple for customers. This project creates the infrastructure and systems to link equipment in the field to enable remote data acquisition of meter reads or remote isolation of meters or combinations of both. It enables the back-end hardware and software platform to support additional operational technology systems allowing retailers (or individual customers) to remotely read meters or isolate gas supply dependent on the installation. The recommended solution is the investment cost required to back-end systems for integrating data and control mechanisms. This project may or may not utilise SCADA systems if employed, however will have similar integration costs no matter what embedded technology platform is used.

  The capex of this project is [redacted] million over two years of AA5 beginning in 2020. The associated business case [Attachment 10.113: Business Case - Enable Automated Meter Reading (AMR)] provides options for customers and retailers to choose non-reference services that this solution provides as described above.

  The NPV of this project for the recommended option (Option 1) is $0.5 million with a payback period of 17 years. The NPV considers the [redacted] million in capex funded by ATCO, capital contribution for installations funded by customers or retailers, and benefits related to a reduction in costs incurred by ATCO and retailers. Assumptions are detailed in the business case along with sensitivities across these assumptions.

  The project meets the requirements of NGR 79(1)(a) because it is consistent with accepted good industry practice to achieve the lowest sustainable cost, and NGR 79(2)(a) because our assessment concludes that the overall economic value of the expenditure is positive with the value directly accruing to ATCO, retailers and customers. The benefits outlined in the NPV analysis had a base assumption of retailer and customer take up and the demand for the given services.

10.4.1.6 ATCO's response: Parmelia Gas Pipeline interconnection projects

ATCO proposed expenditure of $13.5 million on the Forrestfield and Rockingham PGP Interconnection Projects, this expenditure was disallowed by the ERA in their Draft Decision. ATCO does not accept the ERA's disallowance and proposes a revised AA5 forecast of $14.9 million. This forecast includes a carry-over amount of $1.4 million from AA4.

The ERA has stated that the expenditure has not been adequately justified via an ALARP test and has noted that the two proposed projects (originally approved as part of the AA4 submission) have been deferred into AA5.

Project Deferrals

In relation to the project deferrals, EMCa stated that *"Negotiations with APA have been cited as a reason for delays, however based on the information provided, we do not consider this sufficient to explain the extent of the deferrals. In our view, ATCO's decision to defer the four other projects beyond the AA4 period is a further indication that the benefit in terms of reduced risk is outweighed by the cost"*

ATCO emphasises that delays to the PGP Interconnection projects were not related to an assessment that the benefit in terms of risk is outweighed by the cost. The delay was however, related to an underestimation of practical considerations that required significant assessment to ensure feasibility and prudency within the project scope. In particular, the following challenges were encountered during the Project planning stage:

- Project cost negotiations with APA required multiple iterations to ensure costs were deemed prudent and in line with ATCO's expectations and industry benchmarks.
- Ongoing development of commercial interconnection agreements, which required consideration of gas quality and specification compliance requirements, delivery pressures and commercial fairness.
- Network gas quality compliance requirements. The ATCO network is fed by both the DBNGP and PGP transmission pipelines. The gas specifications provided through each pipeline differs in terms of heating value (energy per volume) and odorant levels. Where a distribution system receives gas from two or more pipelines with different gas specifications and 'commingling' occurs, network operators must operate the network under an approved plan in accordance with r 17B of the *GSSSR 2000*. Increasing the number of interconnections on the network requires detailed consideration and modelling into the dynamics of mixing the two gas sources, to ensure that compliance to odorant and heating value requirements are maintained.
- During the period of negotiation, APA was subject to an acquisition bid from CKI. During this acquisition bid period, the negotiation with APA with regards to PGP Interconnection projects were put on hold.

Supply Loss Risk

EMCa have agreed that loss of supply from the DBNGP is a hypothetical event, which could result in catastrophic supply loss. A loss of supply from the DBNGP, occurring upstream of the Forrestfield and Rockingham proposed interconnection locations, would affect approximately 310,000 gas customers for the amount of time taken to rectify the cause of the loss of supply (220,000 customers affected in the metropolitan area, 90,000 customers affected in the Rockingham region). If positive pressure is lost to the impacted network, the time off gas is significantly extended due to the requirement to isolate, purge and recommission sections of the network prior to reconnecting customers.

This would result in significantly more than 100,000 customer weeks lost. ATCO's revised risk assessment methodology estimates (should positive pressure be depleted to the entire impacted network - worst case scenario), that network isolation, purging and recommissioning activities could result in the average gas customer not supplied with gas for more than 100 days.

As the DBNGP is not owned or operated by ATCO, it is difficult to estimate with confidence the amount of time taken to restore the supply loss issue or estimate a quantitative probability of its occurrence. Similarly, the economic consequence to customers is difficult to quantify, as is the dollar value associated with the value of a reliable gas supply to consumers.

Although this event has been assessed as hypothetical, the 1984 incident, whereby a ripper punctured the WA Natural Gas Pipeline (now known as the PGP) resulting in its isolation for repair, indicates that these incidents are not unheard of, and that the risk of these incidents and their potential consequences should be treated as far as reasonably practicable.

Customer Effects

Should a loss of supply from DBNGP occur, potential effects to customers are discussed below:

- Residential customers suffer from an immediate loss of amenity following a loss of gas supply, from the inability to use gas for hot water, cooking and heating.
- Direct costs incurred by residential customers include costs for purchases of interim solutions such as microwaves, LPG for barbeques and electric heaters. After a prolonged period of outage, customers will likely make more permanent changes in their energy use such as changing to electric hot water and cooking appliances. Changing to electric appliances will incur ongoing higher energy costs over the life of the appliance as electricity is more expensive on a per kWh basis than gas in WA. It is assumed that the longer the gas outage, the more customers would convert to alternative energy sources and appliances permanently.
- Affected domestic customers that are unwilling or unable to switch to alternative fuel or appliances will suffer the loss of amenity over the period until reinstatement occurs.
- The flow on effect of many residential customers switching to electricity as a result of a prolonged gas supply loss is that the gas distribution network will become underutilised and we will be unable to recover our Maximum Allowable Revenue (MAR) without increasing transportation tariffs. The current design of residential tariffs for natural gas in WA recovers a higher proportion of variable than fixed costs. In the absence of change to residential tariff structures, customers that stay connected to the gas network will face higher gas prices going forward as full cost of maintaining the network still needs to be recovered.
- The opex incurred as a result of ATCO responding to a catastrophic supply loss event must be recovered, resulting in higher gas prices. Note: The loss of supply affecting 10,000 customers in AGN's Port Pirie and Whyalla networks[219] in 2015 incurred $0.7 million in opex in responding to this interruption. **It can therefore be assumed that a supply loss to 310,000 customers could reasonably incur a minimum of $21.7 million opex in response activities**.

  The required response expenditure could be significantly higher considering the AGN event maintained positive pressure to approximately half of the affected customers. In addition, a supply loss event of significantly higher magnitude would incur higher costs in relation to the procurement of external support and equipment where applicable.
- Gas supply outage to critical customers, including Public Transport Authorities and hospitals may have greater social impacts.
- Significant financial consequences for business and commercial customers, include direct costs (such as purchase of additional equipment and changeover costs, alternative fuel costs, restart costs, damaged products or equipment), and indirect costs (such as loss of profits, loss of customers, increased insurance costs, legal costs, and requirements to pay staff who may be unable to work).

[219] Pg. 7 Australian Gas Networks, Access Arrangement Information, For Australian Gas Networks' South Australian Natural Gas Distribution Network, July 2015.

- Whilst some larger commercial and industrial customers will have back up alternative energy sources, such as diesel, LPG, and electricity, many will not. It is rare for these types of customers to have a full redundancy in their energy supply, even if it would be economical to have this redundancy. Customers also may not maintain sufficient stores of alternative fuels to support continuous operation. Customer that switch to alternative fuel sources, rather than absorb lost production caused by closing services, incur costs for switching to LPG, diesel or electric alternatives.
- Safety risks to the public resulting from potential air ingress into the network.

Voice of Customer

ATCO spoke with a broad range of customer groups and consumer representatives as part of the VoC program in relation to the Security of Supply and PGP Interconnection projects. This engagement revealed that customers valued a safe, reliable and secure supply of gas and supported programs that would help to minimise service disruptions. Customers stated in the recent Review phase of our VoC program, that they expected gas to be an essential service like water and electricity. Customers also felt that not having access to gas for extended periods in the instance of a major outage, would have significant consequence for the ability to heat their homes, to take hot showers, bathe their children and prepare meals. Customers agreed that putting preventative measures in place to minimise disruptions was important to prevent the potential consequences of a supply loss event.

Waitsia Development

EMCa commented that a cost benefit analysis (CBA) is unlikely to support the project, particularly if the effect of the proposed development of the Waitsia gas field development is accounted for.

The timing of the Waitsia Stage 2 development is not certain, however is expected be in full operation at 100 TJ/day by 2022. As per the AEMO Western Australia Gas Statement of Opportunities (December 2018), the proposed Waitsia Stage 2 onshore gas development has changed ownership after Mitsui & Co (Australia) Ltd acquired AWE Ltd and Beach Energy Ltd acquired Lattice Energy Ltd (50% each). AEMO states that according to Beach Energy, several development options are currently being considered, including domestic gas and export of LNG. Therefore, there is uncertainty that this development will be intended for domestic gas users.

In addition, while the Waitsia gas field development will support WA's security of supply, the project does not protect ATCO's gas network from supply loss events that may occur downstream of the Waitsia field, such as failure of the DBNGP pipeline or facilities.

ALARP Statement

ATCO's proposed PGP Interconnection Projects reduce the risk of a catastrophic supply outage as a result of loss of supply from DBNGP from Intermediate to Negligible.

The proposed $14.9 million expenditure treats the risk by reducing the magnitude of the consequence of a DBNGP supply loss event by approximately 94%.

This project would incur a **cost of $0.74c per year to B3 customers** over AA5.

ATCO considers the project value reasonable when taking into consideration the potential consequences of a DBNGP supply loss event:

- Short-term and long-term direct and indirect financial effects to customers.
- Large scale prolonged loss of amenity from the inability to use gas for cooking, hot water and heating.
- Ongoing higher gas prices to remaining gas customers due to the potential for underutilisation of the network after a significant supply loss event.

- Direct cost to ATCO to respond to a supply loss event estimated to be significantly higher than the cost of the project.

Due to the low cost impact to customers per year, coupled with the significant reduction in consequences should the event occur, (both financial and social), we consider that the expenditure is justified to reduce Intermediate supply risk to Negligible.

National Gas Rules

ATCO considers that the project conforms to the capital expenditure rules specified in NGR 79(1)(a) as the capital expenditure is such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services. The final cost estimate is comparable with historical gate station installations and has been tested against market rates. As part of the planning phase, we have been in negotiations with APA to ensure costs are within industry benchmarks.

The proposed expenditure for PGP Interconnections meets the NGR 79(2)(c)(ii) to maintain the integrity of services. The recommended option is to install additional gate stations to interconnect with the Parmelia Gas Pipeline (PGP) to protect the reliability of gas supply to ATCO's gas distribution networks. This would reduce the number of customers lost from 310,000 to 19,400; a 94% reduction in consequence, safeguarding gas supply to residential customers against interruption on DNGBP upstream transmission pipeline.

10.4.1.7 ATCO's response: Other network sustaining capex projects and programs

Other network sustaining capex projects relate to inline inspection and network improvement projects. ATCO proposes to retain the original scope from the 2020-24 Plan, with a revised forecast of $13.1 million for AA5.

10.4.1.8 ATCO's response: Additional scope of works due to updated 2019 forecast

Since the Draft Decision, ATCO has revised the 2019 forecast and this has implications for AA5. The following sections outline four additional scopes that will be carried over from AA4 into AA5 that were not included in our submitted 2020-24 Plan.

- **End of life replacement - Metallic Mains ($10.4M)**

  ATCO proposes to replace [redacted] km of mains under railways and freeways, at a cost of $10.4 million. This project is deferred from AA4 to AA5, as reflected in our revised 2019 forecast.

  In the original submission, ATCO planned to complete the remaining Metallic Mains Replacement in 2019. The 2019 scope for metallic mains replacement was 17km of mains replacements comprising of:

  - [redacted] km of mains replacement in typically verges and underneath major roads and,
  - [redacted] of mains replacement underneath railways and freeways.

  The assets underneath railways and freeways are within the jurisdiction of the Perth Transport Authority (PTA) and require PTA approval for construction. During the planning phase, it was highlighted that the scope to replace metallic mains under railways and freeways in 2019 was not achievable. The proposed works require detailed HDD design due to the complexity of the construction extending the planning phase of the project. Gaining access to PTA's corridor at [redacted] sites will require specific detailed design and documentation to be submitted for PTA's approval in the planning phase.

  The scope in AA5 is to replace [redacted] km of metallic mains underneath freeways and railways. Detailed option analysis was conducted, where possible decommission or alternate routes with a minimal effect

on network reliability and capacity were recommended. The remaining [redacted]km are critical sections that are required to cross the freeways and railways. The forecast cost for the construction of these new mains are based on historical unit rates achieved in similar projects. The installation is not covered under the approved construction rates and will be tendered out to ensure we achieve the lowest cost of construction. This is an ongoing replacement program and is justified under NGR 79(2)(c)(ii) as it is required to maintain integrity of services.

The metallic mains replacement project makes up the majority of the expenditure related to the carry over network sustaining projects from AA4 to AA5. The additional works will not impact the deliverability of the remaining capex program because the works will be tendered out and carried out by a different contractor labour.

- **EOL Replacement - CBD Services ($0.9M)**

  The CBD services project was approved in 2018 is to address corroded services in the CBD and services within cavity walls with the potential to leak into buildings. These cases were identified as unacceptable risks through a Formal Safety Assessment (FSA). The project was planned for 2 years to be completed by the end of 2019. The delay in completing the program is due to difficulties in the planning phase; establishing building ownership and thus impacting communications for permissions and notifications for works. Restrictions from the City of Perth have limited the construction to night works and off-peak times to minimise the effect on the community.

  The replacement of gas services in the CBD due to poor condition and non-compliance complies with NGR 79 because:

  - it is prudent to replace assets when they are no longer fit for purpose. This project achieves the lowest sustainable cost of providing services by using approved contract agreements following a competitive tender process (NGR 79(1)(a)); and
  - it is justified under NGR 79(2)(c)(i) as it is required to maintain and improve the safety of services.

- **EOL Replacement – Regulator Set Lids ($0.2M)**

  Delays in the design and external load tests of the new regulator set lids (to meet the HSE requirements and standards) in AA4 has led to a carry over of $0.2 million to replace an additional [redacted] lids in AA5. This project satisfies NGR 79(2)(c)(i) as the capex is necessary to maintain and improve the safety of the services. The project maintains safety by ensuring corroded pit lids are replaced prior to an incident occurring.

  The project also meets NGR 79(2)(c)(iii) as the capex is necessary to comply with a regulatory obligation. This project will replace old legacy designed lids with a new design that complies with the maximum lifting weight, as per our Occupational Health and Safety requirements.

- **Asset Performance - Meters Compliance Project ($0.2M)**

  This project is aimed to remediate [redacted] non-complaint gas meter installations. Within three months into 2020, we forecast to complete the scope. The work has been delayed due to the complexity of the sites to remediate. The sites are in high density locations (CBD and City Centre Areas) and require bespoke designs for vent line, ventilation and security treatments.

  This project satisfies NGR 79(2)(c)(i) as the capex is necessary to maintain and improve the safety of the services. The project maintains safety by ensuring that the meter is in a safe location protected from damage by vehicle impact and unauthorised access.

  The project also meets NGR 79(2)(c)(iii) as the capex is necessary to comply with a regulatory obligation. This project installs vent lines and appropriate ventilation of the gas meter and regulator to ensure the set-up meets Australian Standards 4645.1.

10.4.1.9 ATCO's response: Summary of revised AA5 sustaining capex forecast

Considering our responses above, Table 10.14 outlines our revised sustaining capex forecast for AA5.

Table 10.14: Revised AA5 sustaining capex forecast

	2020	2021	2022	2023	2024	TOTAL
PVC Replacement Program	24.7	25.7	25.8	26.6	27.0	**129.8**
Meter Replacement Program	5.2	4.9	5.2	5.5	5.5	**26.4**
End-of-life replacement program	4.4	6.0	8.1	5.3	5.4	**29.2**
Security of supply program	-	0.8	-	-	-	**0.8**
SCADA projects	0.6	1.2	1.2	1.4	1.4	**5.7**
Parmelia Gas Pipeline interconnection projects	8.0	3.5	3.5	-	-	**14.9**
Other network sustaining capex projects and programs	3.8	1.9	4.3	2.6	0.5	**13.1**
Additional sustaining projects	11.7	-	-	-	-	**11.7**
TOTAL	**58.3**	**44.2**	**48.0**	**41.4**	**39.8**	**231.6**

10.4.2 ATCO's response: Growth capex

ATCO proposed $174.3 million of AA5 growth capex, and the ERA disallowed $162.2 million of this expenditure. ATCO does not accept the ERA's disallowance and proposes a revised forecast of $146.1 million.

ATCO's growth capex relates to the number of new customer connections in AA5. Section 7.4 and the Core demand forecast documents the underlying assumptions regarding the estimated new connections over AA5. In AA5, we expect to connect 67,014 new B2 and B3 customers to natural gas. Growth in the customer numbers spreads the benefits of gas and lowers prices to existing customers by spreading the largely fixed costs of operating the network across a larger customer base.

Growth capex is determined by multiplying the forecast number of new customer connections by the costs associated with each of those new connections. Costs include:

- Mains: the average cost of extending the gas network to connect the new customer.
- Meters and Services: the average cost of providing a service or feeder from the gas mains to the customer meter and installing and commissioning a meter at the customer's property.

Since the Draft Decision, ATCO has actualised 2018 and revised our unit rates and AA5 forecast. The changes are summarised in Table 10.15.

Table 10.15: 2020-24 Plan vs Revised AA5 sustaining capex forecast ($M real as at 31 Dec 2019)

	2020-24 PLAN	REVISED AA5 FORECAST	VARIANCE
Greenfield and Brownfield	154.3	126.3	-28.1
AL18 commercial meters	0.7	0.6	-0.0
Network Reinforcement	1.7	1.6	-0.1
Growth Development	10.4	10.7	0.3
Other	14.9	14.4	-0.5
Less Capital Contribution	-7.6	-7.5	0.1
TOTAL	**174.3**	**146.1**	**-28.2**

ATCO's forecast growth capex of $146.1 million is driven by the 67,350 new customers expected to connect to the network in AA5. We have outlined the assumptions used to assess our growth capex in the following sections.

10.4.2.1 Greenfield and Brownfield Capex

ATCO proposed greenfield and brownfield capex of $154.3 million in the 2020-24 Plan. The ERA did not accept $154.3 million as conforming capex. ATCO does not agree with the ERA's position and proposes that the AA5 growth capex related to greenfield and brownfield meets NGR 79 for the following reasons:

- Both greenfield and brownfield capex is consistent with that which would be incurred by a prudent service provider acting efficiently in accordance with accepted good industry practice, to achieve the lowest sustainable cost. Continuing to expand the network ensures that operating costs are spread over an increasing number of customers, helping to drive down the average cost per customer.
- Greenfield growth capex satisfies NGR 79(2)(b), in that the present value of the expected incremental revenue to be generated as a result of the expenditure exceeds the present value of the expenditure.
- Residential brownfield growth capex satisfies NGR 79(2)(c)(iii), as we have an obligation under our distribution licence to offer to connect customers that are within 20 metres of an existing gas main.
- Commercial brownfields growth capex satisfies NGR 79(2)(b), in that the present value of the expected incremental revenue generated as a result of the expenditure plus the historical level of capital contributions received from customers exceeds the present value of the expenditure.

ATCO has reviewed the ERA's commentary involving the NGR 79 test and has updated the growth test to address these concerns. The section below outlines the assumptions and findings of the updated NGR 79 test.

NGR 79(2)(b) testing: Assumptions

ATCO has adopted the following assumption in its modelling of the NPV (see Table 10.16), these are discussed in turn in the following sections.

Table 10.16: Greenfield and brownfield NPV assumptions

ASSUMPTION	DESCRIPTION
Greenfield and commercial brownfield growth capex	[redacted] per greenfield B3 connection is consistent with AA4 model ([redacted]).
	[redacted] per brownfield B2 connection.
Analysis period	50 years considering the 60 year life of 'medium and low pressure mains' and reflecting two lifecycles of 'Meter and services pipes'.
Tariff	ATCO has adopted the 2019 cost-recovery tariff detailed in the ERA's Draft Decision.
Discount rate	ATCO has adopted values from the 2019 tariff variation mechanism process.
Labour cost escalator – Opex	Over AA5 ATCO has adopted the labour cost escalator detailed in Section 9.4.5.4. Beyond AA5 ATCO has adopted 1.25%, considered reasonable by the ERA in paragraph 534 of the Draft Decision.
Labour cost escalator – Capex	AA5 forecast capex includes labour cost escalation of 1.47%. Beyond AA5 ATCO has adopted 1.25%.
Gas consumption	Based on the average gas demand for new customers as per the updated Core Energy forecast, with a 0.5% p.a. reduction in average consumption as per the ERA Draft Decision.

ASSUMPTION	DESCRIPTION
	A disconnection rate of 0.67% for B2 and 0.37% for B3 is assumed after 10 years.
Incremental opex	B2: $107.62 per customer B3: $26.5 per customer

Basis of forecast capex

The expenditure is derived by multiplying the expected volume with the unit rate. The unit rate is based on a three year average, including both contractor and material costs measured over 2016 to 2018. The costs incurred over this period can be considered efficient and a reasonable basis upon which to base the forecast costs for AA5 because they reflect competitively tendered main laying rates and material costs. Historical rates have been used in this case because the volume and type of work that is expected to be carried out in AA5 is similar in nature to what has recently been delivered. The historical rates therefore provide an appropriate basis for estimating the costs that are expected to be incurred in AA5.

The unit rates differ based on the nature of the work, e.g. between laying new services in new sub-divisions (greenfield) and laying services to existing properties (brownfield). A higher proportion of work is carried out in greenfield developments. The nature of the work to connect a new residential greenfield development is quite generic, and therefore the unit rates are relatively stable. Infill growth in brownfield areas typically requires higher traffic management and reinstatement costs.

Greenfield and commercial brownfield growth capex

ATCO has modelled the NPV of incremental revenue and costs associated to greenfield (B2 and B3) and commercial brownfield (B2) connections, in line with NGR 79(2)(b). Capex is based on 61,461 residential (B3) new connections in greenfield developments and 1,850 small commercial (B2) connections in greenfield and brownfield areas expected to connect in AA5.

The capex required to connect 3,703 residential customers (B3) in brownfield developments has not been included in the NPV analysis required for 79(2)(b), as we have an obligation to connect customers that are within 20 metres of an existing gas main as per ATCO's Gas Distribution License 8 (GDL8) Schedule 3.

ATCO has revisited the connection costs used in the NPV models, and we want to direct the ERA's attention to the cost per B3 connection for meter and services in Table 10.17. Our capex forecast is built up using 3 year average costs for meter and service *and feeders*. This has been tested using a bottom up approach and is calculated at [redacted]. Therefore, the AA5 rate of [redacted] per B3 connection is reasonable. This is comparable with [redacted] per B3 connection in AA4.

Table 10.17: AA4 and AA5 connection costs

	ATCO'S AA4 MODEL ($2019)	AA5 ($2019)
Meter and Service	[redacted]	[redacted]
Feeders	[redacted]	[redacted]
Cost / B3 connection	[redacted]	[redacted]

Analysis period

ATCO has chosen an analysis period of 50 years after consideration of the following:

- The tariff revenue for new connections is generally set to recover the investment over its economic life

- $37.9 million (or 34% of the growth capex) relates to mains extensions that have an economic life of 60 years
- $77.7 million (or 67% of the growth capex) relates to meters/services that have an economic life of 25 years. We have reflected the capex required to replace these meters/services in a second 25-year life cycle in the NPV testing

- Given that most of the B3 connections relate to suburban residential developments, it is likely these connections will be maintained in the long-run, however a disconnection rate of 0.37% is assumed after 10 years to account for the fact that not all gas users will remain connected for 50 years.
- A positive NPV over the asset life-cycle would mean that existing customers would be better off even if the NPV is only positive after 25 years.
- The drawback of using a shorter modelling period of only 25 years is that the recovery of the mains extensions is not fully reflected in the NPV assessment, and therefore we have modelled the NGR 79 test over 50 years.

Tariff

ATCO has adopted the 2019 cost-recovery tariff as calculated by the ERA as shown in Table 10.18.

Table 10.18: ERA extrapolated cost-recovery prevailing tariff 2019[220]

TARIFF	2019 PREVAILING TARIFF	2019 COST-RECOVERY TARIFF
B2 TARIFFS		
Fixed Charge	226.74	297.43
Usage <= 100 GJ	5.77	7.57
Usage > 100 GJ	3.44	4.51
B3 TARIFFS		
Fixed Charge	116.84	116.92
First 1.825 GJ	0.00	0.00
Usage >1.825 <= 9.855 GJ	4.89	9.96
Usage > 9.855 GJ	2.11	4.30

Discount rate

ATCO has adopted the WACC parameters used in the 2019 tariff variation process consistent with the ERA's Draft Decision.

Labour cost escalation – operating costs

ATCO has corrected the labour escalation for operating costs to reflect a rate of 1.47% in AA5 and 1.25% thereafter[221] above CPI inflation in the NPV modelling.

220 ERA Draft Decision, Table 57

221 [Reference to opex WPI]

Labour cost escalation – capital expenditure

For AA5 capex, we note that the labour escalation is already calculated and included within the capital cost estimate template. In determining capex in real 2019 dollars, we've included a labour escalation premium. This premium represents the amount above CPI inflation and is not removed when re-stating nominal figures over AA5 into real 2019 dollars (in the capital cost estimate template). As a result, the real 2019 capex forecasts in AA5 NPV models are already embedded in the labour escalation. A CPI escalator is then used to convert capex from 2019 dollars to nominal dollar values. Escalating AA5 capex further for labour inflation in the NGR 79 test would double-count the effect of wage price inflation.

For reinvestment capex post-AA5, a labour escalator of 1.25% above CPI inflation has been applied as required by the ERA.

Gas consumption

ATCO has updated the forecast average consumption per customer in line with the amended gas demand forecast as per required amendment 1 (refer Section 7.6) by incorporating 2018 gas demand and economic data. We note that the volumes related to new customers have slightly increased.

- **For B2 customers**, we have adopted the 0.5% reduction as per the ERA's Draft Decision[222] as we accept that average gas demand is unlikely to remain constant for 50 years. We note that this rate cannot be compared directly to the weighted average reduction rate of 1.4% for volume per connection between 2010 and 2017. The weighted average reduction of 1.4% is due to new customers joining in each successive year from 2010 onwards at a lower consumption level compared to the existing customer base. This effect of new customers joining the network gradually lowers the average consumption across the network (i.e. weighted average reduction of 1.4% noted by the ERA). The consumption assumed for new connections in the NGR 79 test from 2020 to 2024, is already lowered to account for the effect of new customers consuming less gas, and therefore applying a greater reduction to these values could overstate the effect of declining consumption.
- **For B3 customers**, we have adopted the 0.5% reduction as per the ERA's Draft Decision[223] as we accept that average gas demand is unlikely to remain constant for 50 years. We note that this rate cannot be compared directly to the weighted average reduction of 5.5% per year for new customer 'mature' consumption between 2010 and 2017. The weighted average reduction of 5.5% is due to new customers joining in each year from 2010 onwards at a lower consumption level compared to existing customers. This effect of new customers gradually lowers the average consumption across the network (i.e. weighted average reduction of 5.5%). The consumption assumed for new connections in the NGR 79 test from 2020 to 2024, is already lowered to account for the effect of new customers consuming less gas, and therefore applying a greater reduction to these values could overstate the effect of declining consumption.

  ATCO has adopted a disconnection rate of 0.67% for B2 and 0.37% for B3 after 10 years of connection, based on the average disconnections rate over the last 5 years.

Incremental operating expenditure

ATCO has used the output growth escalation value for AA5 of $10.8 million to derive an annual incremental opex cost per tariff class and has determined incremental opex for B3 customers to be $26.50. Previously, we calculated a global incremental opex value across all tariff classes of $58.09[224] per customer, which was

222 ERA Draft Decision, para 541-542

223 ERA Draft Decision, para 541-542

224 Draft Decision paragraph 545

included in the AA5 NPV model. Through further review of the incremental opex calculation as part of our Draft Decision response, we have allocated the output growth across tariff classes by referencing the allocation calculated for 2018. By applying the weighted annual real output growth rate to Network and IT costs, we have calculated an average incremental opex value of $26.50 for B3 customers over AA5. This is significantly lower than the previous global rate of $58.09 because growth in corporate costs has been removed from the opex output growth calculation, refer to Section 9.4.4 for further details.

The incremental operating expenditure for each tariff class is shown in Table 10.19.

Table 10.19: Incremental opex per tariff class ($M real as at 31 Dec 2019)

TARIFF CLASS	$ PER NEW CUSTOMER
A1	13,682.67
A2	10,801.26
B1	667.68
B2	107.62
B3	26.50

NGR 79 testing: Results

The NGR 79 test results are summarised in Table 10.20.

Table 10.20: NGR 79 tests – summary of results

NGR 79(2)(B) TEST	CAPEX ($M)	NPV ($M)	PAYBACK PERIOD	PAYBACK SENSITIVITIES		
				CAPEX +10%	OPEX +10%	DEMAND -10%
B2 & B3 greenfield capex[225]	116.3	32.7	20	20.7	28.9	26.7
Commercial (B2) brownfield capex[226]	3.1	2.4	13	2.1	2.3	2.0
	119.4					

Residential brownfield capex is a regulatory obligation under ATCO's distribution licence, and therefore meets NGR 79 irrespective of the NPV. The above analysis demonstrates that the requirements of the NGR and NGO have been met for other categories.

Discounted weighted average tariff analysis

In its Draft Decision, the ERA assessed whether ATCO's proposed greenfield and brownfield investment for AA5 is conforming capex for the purposes of the NGR, using two approaches:

- the 'incremental revenue' NPV test required by NGR 79; and
- undertaking an analysis of the change in the 'discounted weighted average tariff' (DWAT) implied by the investment, to 'confirm' the results of the incremental revenue test.

[225] [insert reference to confidential NGR 79 test NPV model – greenfield/brownfield B2/B3 combined – mark as confidential]

[226] [insert reference to confidential NGR 79 test NPV model – brownfield B2 combined – mark as confidential]

The ERA compared the DWAT without additional investment (i.e. just the 'base' customers) to the DWAT with the addition of new greenfield customers; and the addition of new brownfield customers. The ERA found that the scenarios with greenfield and brownfield customers have a higher DWAT than in the scenario with only base customers.

The ERA concluded that "*The DWAT analysis confirms the NPV results [..]. As the DWAT is higher under the scenarios with greenfield or brownfield customers connected, the existing customers would pay more than if these customers were not connected.*[227]"

ATCO has subsequently engaged HoustonKemp Economists to review the ERA's DWAT analysis and its relevance for the assessment of conforming new capital expenditure under the NGR. HoustonKemp's report is being provided to the ERA as [Attachment 10.105: HoustonKemp: Review of the ERA's DWAT].

HoustonKemp concluded that the DWAT model adopted by the ERA does not take any account of the differences in the effective *per gigajoule charge* that arises for customers with different usage levels, where tariffs are not based solely on a single usage charge.

The tariffs that are expected to apply to ATCO's new greenfield and brownfield customers (tariffs B2 and B3) contain both a fixed element and varying tiers for usage-based charges. Under this tariff structure, the lower consumption ATCO is forecasting for new customers means that they face a higher effective charge per GJ than existing customers. This effect is not picked up in the DWAT analysis, with the result that the DWAT analysis is not necessarily correlated with the findings of the NPV analysis.

HoustonKemp's report demonstrates that a greenfield or brownfield investment with a low cost that results in a positive NPV under the incremental revenue test (and therefore an implied decrease in actual tariffs to existing consumers) could result in an increase in the DWAT calculated using the ERA's approach, where the new customers purchase a relatively lower amount of gas than existing customers.

Conversely, a greenfield or brownfield investment with a high cost that results in a negative NPV under the incremental revenue test (and therefore an implied increase in actual tariffs to existing consumers in order to cover the investment cost) could result in a decrease in the DWAT calculated using the ERA's approach, in circumstances where new customers purchase a relatively higher amount of gas than existing customers.

Assessing changes in the DWAT using the formula and approach adopted by the ERA does not provide any additional confirmation or insights in relation to the incremental revenue test, as it may be either positively or negatively correlated with the findings of the NPV assessment.

NGR 79 sets out the relevant test for determining whether forecast capex is conforming. It includes the application of the incremental revenue test, in order to demonstrate that greenfield and brownfield investment is conforming capital expenditure. As the HoustonKemp report demonstrates, the DWAT analysis does not assist with the assessment required by NGR 79 and in our view, it is not relevant to the ERA's task under that Rule.

ATCO considers that it has demonstrated that the proposed greenfield and brownfield investments meet the requirements of NGR 79, including the incremental revenue test, and this test should be the sole focus of the ERA's assessment.

[227] Draft Decision, Para 552

10.4.2.2 Other growth capex

ATCO proposed $20.1 million (net of capital contributions) for other growth capex relating to network reinforcement, growth-related meter projects and growth development expenditure. The ERA has disallowed $7.7 million[228] (net of capital contributions). The ERA also reviewed additional growth capex projects for inclusion in the AA5 forecast, specifically relating to network reinforcement, growth-related meter projects, and growth development expenditure.

- **Network reinforcement**

  ATCO does not accept ERA's disallowance of $1.7 million for the proposed six network reinforcement projects in AA5.

  In line with the revised connection forecast, we have reviewed the requirement to reinforce the network in AA5. The scope of capacity upgrades on regulating facilities was reduced and some projects were deferred by one year, but the majority of the reinforcement projects are required in AA5.

  ATCO forecast $1.6 million for network reinforcement. The growth (greenfield and brownfield) in several suburbs (e.g. Atwell, Queens Park, Secret Harbour and Doubleview) is expected to reduce network pressures below the recommended minimum pressure during AA5. Minimum network pressures are required for service regulators to function and allow the safe supply of gas to appliances.

  A temporary loss of gas supply (below minimum pressures) can cause gas to enter into the building (when flame failure or regulator failure fails to operate upon gas returning to normal operating pressures) causing injuries and damage to property due to an ignition event. To ensure the safe and reliable supply of gas to existing customers is maintained and adequate capacity is available for ongoing growth, it is planned to reinforce the network by:

  - upgrading capacities at existing regulating facilities,
  - extending distribution mains to develop an interconnected gas network

  Refer to the Project briefs [Attachments 10.123: Project Brief - Brownfield New Connections Updated and 10.124: Project Brief - Greenfield New Connections Updated] for more detail.

  The investment need is to ensure network reliability during peak gas demand periods. The forecast of extremity pressures is based on sound capacity analysis methodology. The effect of growth on network capacity has been assessed using hydraulic models of the gas network verified using monitored pressure data.

  The delivery of the projects is forecasted throughout AA5, however, the effect of the increased gas demand on network capacities will be monitored annually with actual timing coinciding with the need to improve network capacity.

  Each of the projects undergo an 'options analysis' to identify and select the most cost effective solution. Project costs have been based on similar types of projects that have been subject to a competitive tendering process or approved contracted rates.

  Since the Draft Decision, the new connections forecast has been revised and the hydraulic models were refreshed. The majority of the reinforcement capex was still required with changes to timing of the projects. One project for a capacity upgrade on a medium pressure regulator set has been deferred out of the AA5 forecast.

  The expenditure was included by ATCO in the greenfield and brownfield NPV calculation models. The greenfield and brownfield models result in a positive NPV. Please refer to Section 10.4.2.1.

[228] Derived from Draft Decision, Table 59

It is efficient expenditure because the cost estimates for this project are based on costs for similar projects or approved contracted rates. The recommended option represents the most cost effective long-term solution and meets NGR 79(1)(a). These projects are in accordance with good industry practices; all gas utilities across Australia undergo network reinforcement from time to time with the objective to deliver a safe and reliable gas supply. Maintaining adequate network pressures is consistent with this objective. Planned network reinforcement projects are therefore consistent with achieving the lowest sustainable cost.

The proposed expenditure is consistent with the requirements of the NGR because it is necessary to maintain and improve the safety of services or maintain the integrity of services or comply with a regulatory obligation (NGR 79(2)(c)(i), (ii) and (iii)). Increased gas demand or new connections in brownfield areas (as is required under ATCO's GDL) to the network without corresponding reinforcement of the network, will result in operating below minimum pressure; putting the reliable supply of gas at risk and increasing potential safety issues downstream regarding transient gas loss during peak demand periods. Proactively addressing future gas capacity issues avoids the risk of outages and the associated reactive costs, maintains safety of services, and allows us to connect customers in brownfield areas as per our GDL.

- **Growth-related meter projects**

ATCO does not accept the ERA's disallowance of half of the proposed expenditure for the connection of AL18 commercial meters in AA5 ($0.3 million). ATCO's original submission included expenditure for the [redacted] new AL18 connections based on 2 year average. ATCO's revised forecast is [redacted] new AL18 connections based on a 3-year average of the volumes we delivered between 2016 and 2018. The forecast fits within the overall B1 new connection forecast. See Table 10.21 and Table 10.22.

Table 10.21: 3 year historical AL18 connection

	2016	2017	2018	AVERAGE
AL18 meter connections	[redacted]	[redacted]	[redacted]	[redacted]

Table 10.22: New Connection Forecast for A1, A2, B1

	2020	2021	2022	2023	2024
CIC Metersets	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
AL18	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
New Connection Forecast (A1, A2 and B1)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The AL18 meters form part of the B1 tariff. AL18 meter connections are customer-initiated standard commercial installations. AL18 meter connections have been separated from the rest of the (A1 – B1) commercial meters because they are considered a standard installation and follow a different work stream compared to a new meterset, which relates to commercial meters larger than AL18. However, the same investment governance and strategy is applied across all commercial meter connections. ATCO's Asset Lifecycle Strategy requires that all new commercial connections must pass an NPV analysis. If the connection does not pass an NPV test, a capital contribution from the customer is required.

The cost of the installation of an AL18 connection is based on a 3-year historical average unit rate. The volume is considered acceptable because it is based on the average volume ATCO has delivered in the last 3 years.

- **Growth development expenditure**

  ATCO does not agree with ERA's position to disallow $5.7 million of growth development capex (being $13.2 million of capex net of $7.5 million of capital contributions[229]) or that we should fund the growth development project as non-conforming expenditure.

  ATCO recognises that the Access Arrangement includes provisions for a speculative capital expenditure account that could be applied to the portion of capital expenditure costs associated with network extensions that do not satisfy NGR 79. ATCO does not consider that the use of the speculative capital expenditure account provides any incentive for ATCO to extend the network to connect a new customer or sub-divisions. Given the low risk margins in the rate of return, it is highly unlikely that ATCO would seek to take on the risk of recovering the capital by using the speculative capital expenditure account. ATCO is proposing to continue the current strategy to seek capital contributions from developers as it considers that land developers are best placed to manage the risks associated with recovering the reticulation costs from future gas users.

  Growth development expenditure relates to the cost to connect customers or subdivisions located away from the existing gas network and will require a network extension. ATCO's current strategy is to evaluate each customer initiated request that requires a major network extension. We ensure a positive NPV is achieved by offsetting expenditure with capital contribution. ATCO proposes $10.4 million in growth development expenditure in AA5, offset by capital contributions, and only the net capex will be added to the capital base. The forecast is based on historical expenditure and capital contribution. Between 2015 and 2018, ATCO has spent $5.4 million on growth development projects with the maximum expenditure of $1.8 million in 2017.

  The growth development expenditure is in addition to the separate cost to connect the greenfield residential or commercial customer. The cost to connect a greenfield residential customer returns a positive NPV. This is discussed in Section 10.4.2.1 above. Cost to connect greenfield commercial customers are evaluated separately and may be funded by further capital contribution to ensure the NPV is positive.

  As a result, ATCO considers this program complies with NGR 79, the projects requiring major network extensions are evaluated on a case by case basis and the most prudent solution is selected. ATCO's approach reflects the approach of a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost. The cost of the network extension is typically built up based on approved contractor rates or undergoes a tender process. ATCO's treatment of the projects to ensure it achieves a positive NPV will meet NGR 79(2)(b), therefore it is considered conforming capex.

- **Sub-meter to Master-meter**

  ATCO does not accept the ERA's decision to disallow $2.8 million for sub-meter to master-meter conversions.

  ATCO's distribution network is featured by sub-networks and meters that are privately owned and operated downstream of existing ATCO's owned master meters. These sub-networks are typically installed in high density residential housing complexes. These are legacy infrastructure and many of these installations are approaching end of useful life. While these installations are not ATCO's legal responsibility, the Sub-meter to Master-meter Conversion Project was identified in 2017 as a prudent

[229] Draft Decision, Table 59

intervention to address real safety and reliability issues, protect the market for reticulated natural gas and to do so in a manner that would avoid imposing additional costs on ATCO's customers.

Customers within the project will also benefit of having the ability to choose their own retailer. This project will also benefit all gas users by increasing the customer base and ensure that operating costs are spread over an increasing number of customers, helping to drive down the average cost per customer.

This project is an ongoing project from 2017 and ATCO plans to continue the process into AA5. The individual sub-meter to master meter projects are customer initiated and are individually assessed. The process is to ensure the most cost-effective solution is identified for each project. We note that the parameters for each project can be different in terms of both capex and the number of units contained in the conversion project. Therefore, each conversion project is individually tested under NGR 79 and where the NPV is not positive, a capital contribution is requested from the customer.

The forecast expenditure is based on converting [redacted] sub meters with a unit rate of [redacted], this is based on the historic conversion rate in AA4 and a reasonable basis for forecasting. The overall forecast expenditure is [redacted] million and is similar to the actual expenditure incurred in AA4, [redacted] million.

Based on the above, it can be concluded that the Sub-meter to Master-meter Conversion Program investments proposed in AA5 satisfy NGR 79 based on the following:

- The forecast investment represents the amount that would have been invested by a service provider achieving the lowest sustainable cost of providing services, as set out under NGR 79(1)(a). ATCO uses contractor unit rates set under ATCO's strategic contract with its major contractor (Kaizen Contract). Each project will have two cost estimates assuming work will be completed by either of its two main contractors. This is to determine the most cost efficient solution.
- The investment satisfies the incremental revenue test, as set out under NGR 79(2)(b). Every site is individually assessed and where the NPV is not positive, a capital contribution is requested from the customer.

10.4.2.3 Summary of ATCO's revised proposal to network growth capex

Table 10.23 provides a summary of the ATCO's revised AA5 growth capex forecast.

Table 10.23: ATCO's revised AA5 network growth capex ($M real, as at 31 December 2019)

	2020	2021	2022	2023	2024	TOTAL
Greenfield and Brownfield	19.6	23.4	26.5	27.9	28.8	**126.3**
AL18 commercial meters	0.1	0.1	0.1	0.1	0.1	**0.6**
Network Reinforcement	0.7	0.3	0.2	0.3	0.1	**1.6**
Growth Development	2.1	2.1	2.1	2.2	2.2	**10.7**
Other	3.0	3.1	2.9	2.6	2.7	**14.4**
Less Capital Contribution	-1.5	-1.5	-1.5	-1.5	-1.5	**-7.5**
TOTAL	**24.0**	**27.5**	**30.4**	**31.7**	**32.5**	**146.1**

10.4.3 ATCO's response: Structures and equipment capex

ATCO proposed expenditure of $6.4 million for structures and $16.4 million for fleet in the 2020-24 Plan. The ERA rejected $1.6 million of the fleet expenditure on the basis that is was linked to growth capex, which does not meet conforming capex criteria.

We accept the ERA's Draft Decision to reduce our AA5 fleet capex *in part*. We propose to reduce our fleet capex by $0.23 million, compared to the ERA's amendment of $1.6 million, resulting in a $16.1 million forecast for fleet capex in AA5.

ATCO's proposed AA5 fleet capex for AA5 was $16.32 million[230]. The ERA in its Draft Decision allowed the proposed capex for fleet replacement of $14.8 million. As the ERA determined that most of ATCO's proposed growth related expenditure did not satisfy the NGR as conforming capital expenditure, the fleet expenditure of $1.6 million related to increased demand from growth of the network was also considered not conforming capital expenditure.

ATCO forecasts demand for fleet assets, based on forecasted network activities as set out in the Asset Management Plan and detailed work programs. These forecasted activities inform a workforce plan that sets out resources required to deliver the program of work. An increase in the workforce would directly affect the demand for fleet assets.

ATCO's Asset Lifecycle Strategy for fleet[231] identified [redacted] additional vehicles required over AA5 to support the following projects:

[redacted]

As stated in Section 10.4.2, we maintain that our brownfield and greenfield growth capex meets NGR 79, and therefore have not removed the related proposed fleet capex for [redacted] vehicles. However, ATCO did revise the leak survey 5-year program and the automated network pressure control project, which reduced the number of light commercial vehicles required from [redacted].

These amendments have now been reflected in the revised fleet capex forecast (see Table 10.24), with the overall number of new vehicles reducing from [redacted], and a $0.3 million reduction in fleet capital expenditure in AA5.

Table 10.24: Revised AA5 Fleet capex ($M real as at 31 December 2019)

CATEGORY	2020	2021	2022	2023	2024	TOTAL
Submission	3.6	4.7	1.9	3.0	3.2	16.3
Revised	3.3	4.7	1.9	3.0	3.1	16.0
VARIANCE	**-0.2**	**-**	**-**	**-**	**-0.1**	**-0.3**

10.4.3.1 ATCO's response: Additional scope of works due to updated 2019 forecast

- **(New Depot - Osborne Park/Balcatta (Building) ([redacted]M)**

  Our 2020-24 Plan included a [redacted] million portion of the new depot carried over from AA4 into AA5. Since the Draft Decision, it is estimated that [redacted] million will be carried from AA4 into AA5.

  The deferment of the Malaga depot construction into AA5 is primarily due to limited availability of suitable industrial properties in the Osborne Park, Balcatta and Malaga area. ATCO has been in the market searching for a suitable property since early 2017, and it has taken over 2 years to secure the property for the Malaga depot. We have reached an agreement with the developer on the land sale contract and will be executing the agreement in June 2019. The land is part of a larger development,

230 Note – due to rounding, this was shown as *$16.4 million* in the 2020-24 Plan.

231 ATCO, Asset Lifecycle Strategy Fleet, table 4.1, page 15

and the civil work for the development will be completed by September 2019, and land settlement will take place by late 2019. For this reason, the construction work for the depot can only commence in 2020.

10.4.3.2 ATCO's response: Summary of revised structures and equipment capex

Table 10.25 provides a summary of the ATCO's revised AA5 structures and equipment capex forecast. The revised forecast is [redacted] million higher than the 2020-24 Plan due to the new depot carried over from AA4 into AA5.

Table 10.25: Revised AA5 Structures and Equipment capex ($M real as at 31 December 2019)

CATEGORY	2020	2021	2022	2023	2024	TOTAL
Fleet	3.3	4.7	1.9	3.0	3.1	16.0
Structures	1.9	0.4	0.3	0.1	0.1	2.8
PP&E	0.9	0.9	1.0	1.0	1.0	4.7
VARIANCE	**6.1**	**5.9**	**3.2**	**4.1**	**4.2**	**23.5**

10.4.4 ATCO's response: Information Technology

ATCO proposed IT expenditure of $36.1 million for the AA5 period in the 2020-24 Plan. The ERA determined that $26.8 million of the proposed expenditure was conforming capex.

ATCO maintains the five IT programs of work are aligned with industry best practice and are justified based on the primary drivers for each program as outlined in Table 10.26. Additional details on the program justification including specific compliance obligations are available in Section 6 of the IT Asset Strategy.

Table 10.26: IT Program of Work Primary Justification

IT PROGRAM OF WORK	PRIMARY JUSTIFICATION
Energised and Responsive Customer Engagement	• Stakeholder Expectations – easy access to information through their preferred communication channels, consistent with good industry practice, thereby enabling us to continue to maintain customer satisfaction levels. • Regulatory Obligations – ensuring processes for managing market transactions remain compliant with AEMO mandated changes to Retail Market Procedures WA Version 2.0 and minimises the risk of breach of gas market rules.
Network Digitisation & Intelligence	• Regulatory Obligations – ensures processes for recording, validating and managing measurement data remains compliant with AEMO's Retail Market Procedures WA Version 2.0 and changes to metering technology.
Asset Management & Service Delivery Excellence	• Regulatory Obligations ensure processes for managing assets remain compliant to maintain the integrity of services as required by ATCO's Gas Distribution License and the Energy Coordination Act 1994. • Safety of Services - improve the safety of services by providing real-time access to asset and location information, ensure better and earlier visibility to any safety issues.
Enterprise & Employee Enablement	• Safety of Services - mitigates the risk to the safety of consumers, staff, contractors and network operations by extending communication mediums available and enhancing the HSE and risk processes, consistent with good industry practice. • Data Security – ensures ATCO maintains a secure information technology environment mitigating the risk of cyber security threats • Regulatory Obligations ensure ATCO's health and safety processes and reporting remain compliant to maintain with the Occupational Safety and Health Act 1996 and the Occupational Safety and Health Act 1984.

IT PROGRAM OF WORK	PRIMARY JUSTIFICATION
Application Renewal	• Regulatory Obligations - ensure ATCO's critical systems are prudently maintained and operated efficiently, consistent with good industry practice, minimising the risk of prolonged system outages, security threats and breach of AEMO Retail Market Procedures WA Version 2 and other financial and regulatory obligations • Safety of Services - prolonged outages to critical applications present a risk to the safety of the network, employees and the public. Timely and accurate asset location information will be available to respond to "Dial Before You Dig" requests. ATCO field staff will continue to have access to Safe Work Instructions and asset location information reducing the risk of safety incidents in the field.

ATCO maintains **the forecast related to the IT program of work has been arrived at on a reasonable basis and it represents the best forecast possible in the circumstances**. The challenge in accurately forecasting programs many years in advance is particularly acute for technology related initiatives where rapid change is commonplace.

We consider that the forecast represents the best possible in the circumstances because of the process that we have followed to establish the AA5 forecasts, including revising the IT strategy, preparing project briefs, engaging with our external service providers, assessment of the end of life timing for our existing systems, obtaining cost forecasts from Deloitte, benchmarking ourselves against our peers, and a thorough assessment of the deliverability of the programs. These forecasts are based on the best information that we have available to us at this time and therefore consistent with NGR 74.

At more than five years out, it is difficult to conclusively demonstrate that the benefits exceed the cost of future IT programs, that is why we have implemented **a robust governance framework for IT program delivery**. Prior to any major expenditure, a detailed benefits analysis will occur within the business case stage, and this will require authorisation by the IGC before any program can commence. We submit that all proposed expenditure in our AA5 IT program is, and will continue to be, subject to rigorous evaluation through our governance processes. We submit that our forecast expenditure is conforming capex and satisfies NGR 79.

10.4.4.1 Removal of network digitisation and intelligence capex

ATCO's Network Digitisation and Intelligence Program included two projects[232] over AA5 (see ITAS), the *Continuous Improvements* project, and the *Historian* project:

- **Continuous Improvements Project** (regulatory, analytics, enhancements and innovations): **$0.8M**

  The Continuous Improvements Project under ATCO's Network Digitisation and Intelligence program is designed to deliver enhanced validation and management of network measurement and performance data and for ensuring processes for managing market transactions remain complaint with mandated changes to gas market rules, including the Retail Market Procedures WA Version 2 published by AEMO and the National Gas Rules. Ensuring accuracy and integrity of measurement data is crucial to ensure customers and the market are billed correctly and in a timely manner. ATCO captures gas distribution network monitoring data via commercial off the shelf products NEON and PowerSpring. The raw network measurement data is validated and processed by two (2) bespoke software applications; Gas Distribution Billing Data Verification (GDBDV) and Gas Monitoring Data (GMD).

  - GDBDV validates and processes interval meter data for ATCO's industrial customers and provides calculated hourly energy information to energy market participants prior to the daily 11:00 am deadline in compliance with AEMO's rules.

[232] ATCO, *Information Technology Asset Strategy, Table 8.6: AA5 IT capex forecast by program, project and year.*

- GMD validates and processes ATCO's gas distribution network pressure measurement data from pressure monitoring devices, high-pressure regulators, pressure reduction skids/sets and interval metering device data. Integrity of network data is paramount to network data based decision making, ensuring a safe and reliable network is maintained, enhanced and extended.

ATCO's Gas Inflow Management System (GIMS), is a bespoke software application that receives and validates AEMO market data. This software application:

- Processes transmission pipeline operator's data for gas delivered to ATCO's network
- Derives the heating value of the gas entering each gas zone/network.
- Converts volumetric meter reads into billable energy data for the entire gas network
- Provides AEMO heat values and the volume of energy delivered for each gas zone as per ATCO's market obligations.

Enhancements to the above mentioned systems are necessary to ensure validation processes continue to meet the demands of the gas market, identified issues are resolved and advancements to metering technology can be leveraged.

ATCO maintains the $847,815 for the Continuous Improvements Project is not linked to the SCADA expenditure and is therefore justified under NGR 79.

- **Historian Project: [redacted]M**

  As noted by the ERA, the Historian project is linked with the network sustaining automated network pressure control expenditure and as such has been transferred out of the AA5 IT forecast and now sits wholly within this program. Further supporting information for this expenditure is included in Section [redacted].

10.4.4.2 An across-the-board reduction of 20% for the remaining AA5 IT capex

ATCO does not accept the ERA's 20% reduction and maintains the forecast related to the IT program of work has been arrived at on a reasonable basis and it represents the best forecast possible in an environment of rapid technological change, increased cybersecurity threats, increasingly mobile workforces and adoption of cloud-based solutions. The ERA's proposed 20% reduction will result in ATCO's IT assets not being maintained in accordance with industry best practice and an increased security risk of loss of data, unauthorised access to network, employee and customer data and loss of data integrity.

ATCO leveraged industry leader Deloitte's consultants and their proprietary Project Estimator and Planning Suite (PE&PS) tool to develop a P50 cost model for the initial IT forecast. Deloitte sets aside significant research and development provisions across its global network to stay at the forefront of industry trends, technological changes and digital disruption and invests significantly in its tools and methodologies to allow its professionals to continue to provide world class services. Deloitte's PE&PS tool undergoes significant updates every three months to ensure the latest market information is gathered and updated into the estimation logic engine. Deloitte's PE&PS tool has been used to estimate thousands of IT projects across a wide range of industries world-wide, including regulated utilities. PE&PS is consistent with Project Management Institute (PMI) and follows Project Management Body of Knowledge (PMBoK) standards.

Prior to initial submission, Deloitte's forecast was validated and further refined by senior ATCO IT resources. ATCO submits Table 10.27 demonstrating the forecast variance from the Deloitte forecast, noting both forecasts were based on total business costs (including Albany, Kalgoorlie and non-reference services) and therefore differ from our final AA5 forecast in Table 10.31.

Table 10.27: Deloitte Revised Forecast ($M real as at 31 Dec 2019)

PROGRAM	DELOITTE FORECAST	ATCO REVISED FORECAST	VAR $	VAR %	VARIANCE EXPLANATION
Network Digitisation and Intelligence	[redacted]	[redacted]	[redacted]	[redacted]	Increase in cost for continuous improvements project due to higher labour costs for external consultants to enhance metering and measurement software applications. ATCO has several bespoke metering and measurement software applications for managing market transactions. These software applications must be maintained in order to remain compliant with mandated changes to the Retail Market Procedures WA Version 2 as directed by AEMO. Examples of these software applications are: • Gas Distribution Billing Data Verification (GDBDV), which validates and processes interval meter data for ATCO's industrial customers and provides calculated hourly energy information to energy market participants prior to the daily 11:00 am deadline • Gas Inflow Management System (GIMS), which receives and validates AEMO market data.
Energised and Responsive Customer Engagement	[redacted]	[redacted]	[redacted]	[redacted]	Cost reduction due to: • ATCO global initiatives resulting in cost sharing for configuration in the Salesforce platform • Vendor travel costs not required as ATCO Digital Centre of Excellence resource can be leveraged
Asset Management and Service Delivery Excellence	[redacted]	[redacted]	[redacted]	[redacted]	Increase in cost for continuous improvements project due to higher labour costs for external SAP consultants. ATCO's Enterprise Resource Management System (SAP) must be maintained to ensure processes for managing assets remain complaint to maintain the integrity of services as required by ATCO's Gas distribution License and the Energy Coordination Act 1994.
Enterprise and Employee Enablement	[redacted]	[redacted]	[redacted]	[redacted]	Cost reduction due to: • ATCO global initiatives resulting in cost sharing for Human Capital Management project • ATCO global initiative resulting in cost sharing for Identity and Access Management project
Application Renewal	[redacted]	[redacted]	[redacted]	[redacted]	Reduction due to: • Ability to leverage completed GIS architecture infrastructure strategy for the GIS Upgrade project • Availability of cloud solutions for Workforce Management upgrade.

To further validate our IT forecast, our planned IT expenditure was analysed through an independent benchmarking study conducted by KPMG[233], comparing the IT expenditure to nine benchmarks over a period of 16 years (covering AA3, AA4 and AA5).

ATCO submits KPMG benchmarking study [see Appendix 10.107: KPMG 2018 IT Expenditure Benchmarking Report] as further evidence of the validity of the forecasts. KPMG's study noted that:

> *"ATCO is forecasting further IT expenditure increases in AA5. Despite this, the IT expenditure is expected to remain lower than benchmarked industry."*

10.4.4.3 Further supporting information required for AA5 IT capex

ATCO has prepared its forecast of AA5 IT expenditure on a reasonable basis and it represents the best forecast possible in the circumstances. We propose that the business cases provided to the ERA justify the investment need, its timing, an assessment of the options and a reasonable cost forecast. We have responded to each of the Draft Decision's 'business case quality' points individually:

- *"…the business cases provided have not been through ATCO's designated capital expenditure governance process"* [234]*; and*

  "…business cases provided by ATCO appear to have all been prepared specifically for the AA5 process and have not been subject to the rigour and review that the ERA would expect a board to require before providing approval to progress."

  ATCO submitted five IT Program Business Cases to support the 2020-24 Plan. EMCa is correct that these Program business cases were not processed through ATCO's full capital expenditure governance process. ATCO notes however, that as outlined in the Information Technology Asset Strategy document[235], **all projects initiated within the IT Program of Works are governed by ATCO's IT Governance model**. This model includes the following mandatory review and stage gates for IT projects:

  - Formal approval by the Investment Governance Committee (**IGC**) of all business cases.
  - Progress reviews by the IT Steering Committee (minimum monthly).
  - Business case reviews to ensure the business benefits are still attainable by the business case owner and the IT Working Committee at each project stage gate.

- *"…whilst ATCO's IT strategy provides the context for the upgrade work, it is of the opinion that the quality of the business case information would fall well short of that which would be required to justify the expenditure in most cases."*[236]

  ATCO notes that the Application Renewal Program Business Case provides the detailed context and rationale for each of the identified upgrade projects. In accordance with ATCO's IT Governance model each project within the program would be justified and receive formal approval via ATCO's IGC prior to proceeding.

- *"EMCa found in one or more instances in the business cases that:*
  - *"Only one option other than the preferred approach is presented and it is a 'no action' option."*[237]
  - *"…benefits are largely vague, unsubstantiated qualitative statements."*[205]

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233 *ATCO Gas 2018 IT Expenditure Benchmarking Report* – EIM Document 96607694

234 Draft Decision, Para 587

235 ATCO, *Information Technology Asset Strategy, Section 7.2: IT Governance.*

236 Draft Decision, Para 588

237 Draft Decision, Para 589

- *"Cost estimates are preliminary and engagement with vendors is only in the preliminary stages."* [205]

Each of ATCO's program of works comprise a collection of projects that have been grouped based on their interdependency and synergy within the business capability area. Using a program approach to the delivery of IT projects allows us to manage multiple projects in a coordinated way to obtain benefits and maintain necessary compliance not available from managing projects individually, as such at a program level there is only one feasible option presented.

As projects are initiated, a project business case is developed that includes the necessary information to demonstrate prudent expenditure and compliance with NGR to secure capex approval from ATCO's IGC prior to proceeding. This includes considering options, such as extending existing software solutions, implementing new software solutions, or delaying the project based on the maturity of the solutions available within the market.

Our cost forecasts consider our current technology landscape and the available information in the market. ATCO therefore consider that these forecasts have been arrived at on a reasonable basis and represent the best forecast possible at this time. ATCO has demonstrated due diligence and governance in our submission of the Springboard – Strategic Asset Management business case in response to EMCa 31.

We note that as documented in *Section 8.3: Forecasting Method* of the ITAS document, the AA5 Capex was determined based on an initial top-down costing of the projects within each of the programs and then refined through a bottom-up estimating approach.

As stated in the ITAS[238], "ATCO has a Program Resource Plan based on a detailed resource model developed by Deloitte, an output of the PE&PS tool, which will enable us to deliver the five programs of work with the optimal mix of internal resources, vendor services and external consultants."

Each of the projects under the ATCO Application Renewal Program will have services provided by the software vendor (e.g. Esri, OpenText) and where appropriate a product specialist system integrator. For example, ATCO will engage Esri Australia for the GIS upgrade.

While the available technologies will continue to evolve rapidly during AA5, we have the necessary plans and governance processes in place to deliver the IT programs of work.

We have demonstrated our ability to deliver IT projects through previous access arrangements, most notably in AA4 with the delivery of our program of work within a variance of 4.5% including upgrades to the following business critical applications:

- SAP
- SharePoint
- Microsoft operating environment
- Integration platform (webMethods)

Table 10.28 provides an overview of the number of improvement projects delivered and forecasted for AA4. By way of comparison, we are proposing 5 upgrade projects under the Application Renewal program, 8 defined projects and 4 annual continuous improvement projects to deliver small enhancements to existing software applications. While these numbers vary in contrast, the materiality in the difference is associated to the larger upgrade projects forecasted in the Application Renewal Program and the reduction of smaller software enhancements in the continuous improvement projects.

238 ATCO, *Information Technology Asset Strategy*, Section 7.3: IT Program Delivery.

Table 10.28: AA4 IT Initiatives

PROJECTS/INITATIVES	AA4 COMPLETED	2019 FORECAST	TOTAL
Commercial Services	22	-	22
GIS	22	-	22
Data Management	11	-	11
Network Data Visualisation	7	-	7
Field Mobility	8	-	8
Business Support Systems	20	2	22
SAP	26	3	29
Enterprise Information Management	3	-	3
TOTAL	**119**	**5**	**124**

Table 10.29 and Table 10.30 provide the service provider and ATCO IT resourcing requirements by project phase for the Customer Care and Billing Upgrade project under the Application Renewal program as a sample. The analysis is the same for the other projects within our programs of work.

Table 10.29: Service Provider resourcing requirements (FTE)

SERVICE PROVIDER TEAM	ROLE NAME	PHASE 1 PLANNING & SCOPING	PHASE 2 SOLUTION DESIGN	PHASE 3 BUILD & IMPLEMENT.
Development	Application Architect	-	1.0	0.9
Development	Middleware Developer	-	0.1	0.6
Development	Application Developer	-	0.6	5.5
Functional	Functional Lead	-	1.0	0.8
Functional	Process Team Lead	0.3	-	-
Functional	Functional Test Analyst	-	-	1.6
Functional	Application Functional Analyst	-	5.2	1.8
Information Management	Information Architect	-	0.5	0.4
Information Management	Data Analyst	-	0.1	0.1
Information Management	Information Governance Specialist	-	-	0.0
Information Management	Data Integration Developer	-	-	0.1
Information Management	Information Quality Specialist	-	1.8	0.4
Organisational Change Mgt	Change Specialist	-	1.2	0.3
Organisational Change Mgt	Training Developer	-	-	0.8
Project Management Office	Service Delivery Manager	-	-	0.2
Project Management Office	Project Office Support	2.0	2.0	2.0
Project Management Office	Project Manager	1.0	1.0	1.0
Project Management Office	Project Controller	0.5	-	-
Project Management Office	Deployment Manager	-	-	0.1

SERVICE PROVIDER TEAM	ROLE NAME	PHASE 1 PLANNING & SCOPING	PHASE 2 SOLUTION DESIGN	PHASE 3 BUILD & IMPLEMENT.
Project Management Office	Service Delivery Analyst	-	-	0.0
Security & Controls	Controls Specialist	-	0.3	0.3
Security & Controls	Security Specialist	-	0.8	0.6
Technology	Technical Infrastructure Analyst	-	0.5	0.5
Technology	Technical Test Analyst	-	-	0.3

Table 10.30: ATCO IT resourcing requirements (FTE)

TEAM TYPE	ROLE NAME	PHASE 1 PLANNING & SCOPING	PHASE 2 SOLUTION DESIGN	PHASE 3 BUILD & IMPLEMENT.
Development	Application Architect	0.5	0.5	0.2
Development	Legacy Analyst	-	2.8	1.4
Development	Legacy Developer	-	0.3	2.5
Functional	Process Team Lead	2.0	-	-
Functional	Business Process Analyst	-	4.9	5.0
Information Management	Data Analyst	-	0.7	0.4
Organisational Change Mgt	Training Lead	-	-	0.5
Organisational Change Mgt	Trainer	-	-	0.2
Project Management Office	Project Manager	1.0	1.0	1.0
Project Management Office	Service Delivery Analyst	-	-	0.0
Security & Controls	Controls Specialist	-	0.4	0.4
Security & Controls	Security Specialist	-	0.9	0.6

10.4.4.4 Adjustment to the planning and scoping phase of the ERP Upgrade project

In the 2020-24 Plan, ATCO submitted an adjustment for non-recurrent step changes of [redacted] million in 2022 to complete the planning and scoping phase of our Enterprise Resource Planning (ERP) system SAP. We have revised our accounting treatment of this expenditure and now consider it to be capex.

SAP is used for the management of the GDS assets throughout their lifecycle, enabling us to monitor, maintain and replace assets prudently and efficiently. It supports the identification and justification of necessary investment and understanding of an asset's risk profile and forecast expenditure. Furthermore, an asset management system is a condition of our Gas Distribution License and the Energy Coordination Act 1994. The timing, complexity and magnitude of this project is based on the SAP product lifecycle, which dictates that we will be required to implement a major upgrade (re-implementation) of the application in AA6.

In preparation for an upgrade of this complexity and magnitude, the planning and scoping phase of the project will be completed in 2022. This timing enables us to make an informed decision on the transition from the current ERP system to the selected solution and include the associated prudent and efficient costs in AA6.

Further investigation of the scope of work to be undertaken in 2022 has determined that the deliverables of this phase include documentation of business requirements, integration requirements, data migration considerations and regulatory compliance requirements. These outputs will be used in the ERP Solution Design phase and are an integral first step in the development of the technology solution and are directly attributable to the ultimate intangible asset. On this basis, we have adjusted the capex cost of the ERP application renewal project to include this phase of work and have removed this cost from the operating expenditure step changes. ATCO submits a revised [Attachment 10.108: Business Case - Application Renewal] reflecting this change.

10.4.4.5 Revised AA5 IT capex forecast

ATCO submits a revised IT forecast of $35.9 million reflecting the removal of the Historian project from the Network Digitisation and Intelligence program and the inclusion of the Planning and Scoping Phase of the ERP Upgrade project.

Table 10.31: ATCO Revised AA5 IT Forecast ($M real at 31 December 2019)

PROGRAM	2020	2021	2022	2023	2024	TOTAL
Energised & Responsive Customer Engagement	1.2	1.0	0.4	0.3	0.1	2.9
Network Digitisation & Intelligence	0.2	0.2	0.2	0.2	0.2	0.8
Asset Mgt and Service Delivery Excellence	0.6	0.5	0.4	0.4	0.2	2.0
Enterprise Employee Enablement	1.3	1.3	1.2	0.9	.02	4.9
Application Renewal	4.1	5.8	4.7	3.5	7.2	25.3
TOTAL	**7.4**	**8.7**	**6.9**	**5.1**	**7.8**	**35.9**

10.4.5 ATCO's response: Equity raising costs

Equity raising costs are those associated with the benchmark efficient entity raising equity to fund its investment program to maintain the benchmark gearing assumption adopted in the rate of return. We have concluded that no equity raising costs are required over AA5.

Should we need to calculate equity raising costs in the future, we will use the method adopted in AA4. This method estimates equity raising costs based on the following assumptions (that are unchanged from AA4):

- Retained earnings of 30% of after-tax profits will be available to increase equity at zero cost.
- Dividends will be assumed to be paid at the benchmark payout ratio of 70% of after-tax profits.
- 25% of dividends paid out will be treated as being reinvested through dividend reinvestment plans, with an equity raising cost allowance of 1%.
- Any further required equity is raised at the Seasoned Equity Offering cost of 3%.

Equity raising costs are capitalised into the regulatory asset base (RAB) and will be recovered over 53 years (based on the weighted average economic life of the RAB as at 1 January 2020).

10.5 ATCO's Response: AA5 forecast overhead costs summary

The ERA did not provide a Draft Decision of ATCO's AA5 forecast overhead cost and did not provide an assessment of the approach used by ATCO to determine overheads in the 2020-24 Plan.

For our Draft Decision Response, we maintain the AA5 overhead methodology proposed in the 2020-24 Plan (i.e. the BST method), and have updated the base year to 2018 actuals, and the step and trend assumptions to be consistent with the approach adopted for opex.

In the 2020-24 Plan, we forecast $62.1 million of overhead costs to be capitalised in AA5. This value was derived by adopting the BST method to calculate overheads to be capitalised. Given that the nature of overhead costs is largely fixed, the BST method is suitable.

In the Draft Decision Response, we have used 2018 as the base year for determining overheads given that this is the most recent year of actual cost. Selecting 2018 as the base year is also consistent with the approach adopted for determining opex, refer to Section 9.4.1.

For consistency, we have included step changes relating to the overhead component of forecast opex step changes (see Section 9.4.3). Both the automated network pressure control step and the AA6 Regulatory Preparation step indirectly benefit the capex program and therefore a component of these costs is capitalised as overhead and reflected as a step change.

In line with the opex approach, the overhead BST has also excluded growth on corporate costs from the trend component (Refer to Section 9.4.4), which has resulted in no value being attributed to growth escalation given that overheads are predominantly corporate in nature.

By using 2018 costs to predict future overheads, ATCO ensures that a prudent approach is applied to the overhead estimate for AA5 and achieves the lowest sustainable overhead cost to support the capex program. Using this approach, we forecast $62.2 million of overhead costs to be capitalised in AA5.

Table 10.32 outlines the details of these costs.

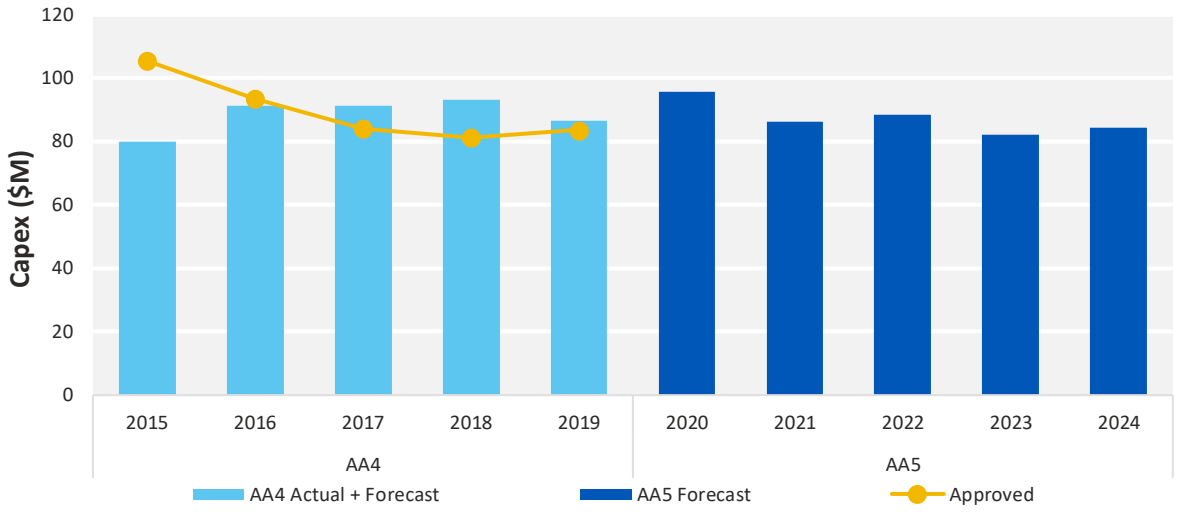
Table 10.32: Capitalised portion of overhead expenditure ($M real as at 31 December 2019)

	2020	2021	2022	2023	2024	TOTAL
Base Year	12.0	12.0	12.0	12.0	12.0	**59.8**
Recurrent Step Changes	-	0.0	0.0	0.0	0.0	**0.1**
Non-Recurrent Step changes	-	-	0.1	0.2	0.1	**0.3**
Growth escalation	-	-	-	-	-	**-**
Labour cost escalation	0.2	0.3	0.4	0.5	0.6	**1.9**
TOTAL	**12.1**	**12.2**	**12.4**	**12.7**	**12.7**	**62.2**

10.6 ATCO's Response: Revised AA5 forecast capex summary

During AA5, we propose to invest $437.0 million of capital, which is $4.2 million (1%) below the capex projected for the five years 2015 to 2019. Figure 10.2 compares our actual and forecast capex across AA4 and AA5.

Figure 10.2: AA4 vs AA5 capex ($M real at 31 December 2019)



Our capex is driven by:

- **Sustaining the network (*'network sustaining'*):** This involves maintaining and improving the safety and integrity of services, complying with regulatory obligations, and ensuring we can meet *current* levels of demand for services from our customers.
- **Growing the network (*'network growth'*):** This involves complying with regulatory obligations and ensuring we can meet *forecast growth* in demand for services through expansion of the network.
- **IT:** This involves IT systems at an operational and corporate level that enable us to provide services to customers and more strategic initiatives such as the digital transformation of our business.
- **Structures and equipment:** This involves expenditure to maintain and replace fleet vehicles (e.g. heavy and light vehicles), plant (e.g. trailers, excavators, compressors) and property (e.g. facilities, depots).

Table 10.33 provides a summary of our forecast capex over AA5, with a breakdown of expenditure by category.

Table 10.33: Forecast AA5 capex by capex driver ($M real at 31 December 2019)

CATEGORY	2020	2021	2022	2023	2024	TOTAL
Network sustaining	**58.3**	**44.2**	**48.0**	**41.4**	**39.8**	**231.6**
Asset replacement	45.9	36.7	39.0	37.3	37.8	196.8
Asset performance and safety	12.4	7.5	9.0	4.0	1.9	34.8
Network growth	**24.0**	**27.5**	**30.4**	**31.7**	**32.5**	**146.1**
Customer-initiated	23.3	27.2	30.2	31.4	32.4	144.4
Demand-related	0.7	0.3	0.2	0.3	0.1	1.6
Information technology	**7.4**	**8.7**	**6.9**	**5.1**	**7.8**	**35.9**
Structures and equipment	**6.1**	**5.9**	**3.2**	**4.1**	**4.2**	**23.5**
Fleet	3.3	4.7	1.9	3.0	3.1	16.0
Facilities, plant and equipment	2.8	1.2	1.3	1.1	1.1	7.5
TOTAL	**95.7**	**86.3**	**88.5**	**82.2**	**84.3**	**437.0**

Table 10.34 provides a summary of our forecast capex over AA5, with a breakdown of expenditure by asset class.

Table 10.34: Forecast AA5 capex by asset class ($M real at 31 December 2019)

CATEGORY	2020	2021	2022	2023	2024	TOTAL
High Pressure Mains - Steel	2.7	2.8	4.3	2.7	0.6	13.1
High Pressure Mains - PE	-	-	-	-	-	-
Medium / Low Pressure Mains	41.1	33.7	33.9	35.1	36.0	179.8
Regulators	1.1	0.8	1.0	0.7	0.4	3.9
Secondary Gate Stations	8.0	3.5	6.1	0.1	0.1	17.8
Buildings	1.9	0.4	0.3	0.1	0.1	2.8
Meter and Services Pipes	27.9	28.7	31.1	32.3	33.0	153.1
Equipment & Vehicles	0.8	0.8	0.9	0.9	0.9	4.2
Vehicle	3.3	4.7	1.9	3.0	3.1	16.0
Information Technology	7.4	8.7	6.9	5.1	7.8	35.9
Miscellaneous IT equipment	0.1	0.1	0.1	0.1	0.1	0.4
Telemetry	1.4	2.1	2.0	2.1	2.2	9.9
Land	-	-	-	-	-	-
Equity Raising Cost	-	-	-	-	-	-
TOTAL	**95.7**	**86.3**	**88.5**	**82.2**	**84.3**	**437.0**

10.7 Forecast capex: Summary

Table 10.35 provides an overview of the forecast capex associated with each capex driver category, including our forecasting method. This section provides further detail on our capex forecasts for AA5.

Table 10.35: AA5 forecast capex by cost driver ($M real as at 31 December 2019)

COST DRIVER CATEGORY	AA5 ($M)	AA5 (%)	COMMENT
Network sustaining	**231.6**	**53.0%**	
Asset replacement	*196.8*	*45.0%*	The mains and meter replacement programs make up over 80% of our asset replacement. For mains replacement, we propose to replace 305km of our PVC network that has been identified as Intermediate Non-ALARP. Meter Replacement is an ongoing compliance requirement to periodically replace residential and commercial meters to maintain reliable and accurate metering to end-use customers in accordance with the *GSSSR 2000*.
Asset performance and safety	*34.8*	*8.0%*	The 'Security of Supply' and 'Supervisory Control and Enhanced Data Acquisition' programs make up over 70% of our asset performance and safety sustaining capex. We are proposing three security of supply projects to maintain current levels of reliability of supply to all customers. In the Supervisory Control and Enhanced Data Acquisition program, we are proposing to enhance network management

COST DRIVER CATEGORY	AA5 ($M)	AA5 (%)	COMMENT
			where improved data acquisition and deployment of supervisory control will deliver greater functionality and network efficiency.
Network growth	**146.1**	**33.4%**	
Customer-initiated	*144.4*	*33.0%*	Network expansion projects will install new mains and services to connect an average of 16,000 new customers per year in AA5.
Demand-related	*1.6*	*0.4%*	We have identified areas of our network that require reinforcements by installing new mains, High Pressure Regulators or Medium Pressure Regulators to maintain security of supply to customers.
Information technology	**35.9**	**8.2%**	IT capex is driven by operational priorities, vendor announcements and compliance requirements.
Structures and equipment	**23.5**	**5.4%**	
Fleet	*16.0*	*3.7%*	Fleet is required to continue to provide services to our customers. Our forecast is aligned to our workforce plan to deliver the proposed program of work.
Facilities, plant and equipment	*7.5*	*1.7%*	We have identified several minor facility improvement initiatives for the seven facilities located in the Perth metropolitan and regional area. These initiatives are spread across the five years. Plant and Equipment is required to provide services to our customers and includes the replacement of necessary tools and equipment used by our field staff to undertake their duties.
TOTAL	**437.0**	**100.0%**	

11. Capital base

ERA required amendment 7:

ATCO must amend the opening capital base (real) at 1 January 2020 to reflect the values set out in Table 53 of this draft decision.

ATCO Response: Do not accept and propose a revised position

ATCO believes all AA4 capex expenditure meets the NGR and has provided additional information to support this. [see Chapter 5]

ERA required amendment 8:

ATCO must amend the projected capital base (nominal) to reflect the values set out in Table 65 of this draft decision.

ATCO Response: Do not accept and propose a revised position

ATCO believes $437.0 million of AA5 capex expenditure in its revised proposal meets the NGR and has provided additional information to support this. [see Chapter 10].

ERA required amendment 10:

ATCO must amend its proposed depreciation schedule in accordance with Table 71 of this draft decision.

ATCO Response: Do not accept and propose a revised position

ATCO does not accept required amendment 10. ATCO forecasts revised proposed depreciation based on its revised forecast capex and opening capital base.

CHAPTER HIGHLIGHTS

1. The capital base has been rolled forward over AA4 using forecast depreciation and actual capex.
2. Our opening capital base has increased from $1,103 million at 30 June 2014 to $1,334 million as at 1 January 2020, reflecting our response to the ERA's Draft Decision
3. Our projected capital base at the end of AA5 is $1,484 million, reflecting our response to the ERA's Draft Decision.

11.1 Introduction

The forecast value of our capital base at 1 January 2020 is $1,333.9 million. The value of our capital base is a primary input into our total revenue calculation; it forms the basis of our *return on assets*, and *depreciation* building blocks.

As part of the access arrangement process, we are required to adjust our capital base in relation to capex, depreciation and inflation using actual information from AA4, and forecast information from AA5. This chapter discusses how we have made those adjustments for AA4 and AA5, and sets out:

- How the capital base from AA4 has been rolled forward to determine the opening capital base at 1 January 2020, and by how much.
- How the projected capital base for AA5 has been calculated and its projected value.

The chapter will focus on the method used to calculate the capital base; including the treatment of inflation, disposals, capital contributions, and depreciation. Capex is detailed in Chapter 10 and Chapter 5 and will only be mentioned in this chapter to the extent it affects the value of the capital base.

11.2 Stakeholder engagement

In preparing this 2020-24 Revised Plan we have continued to engage with stakeholders, including through the submissions to the ERA on our 2020-24 Plan. There were no stakeholder submissions to the ERA that referred to the capital base proposed in our 2020-24 Plan.

11.3 Summary of the ERA's Draft Decision

The ERA's Draft Decision proposed amendments to both ATCO's AA4 and AA5 capex, resulting in corresponding revisions to our opening and projected capital bases.

11.3.1 Draft Decision: Opening capital base

As outlined in Section 5.2.5, the ERA determined in its Draft Decision that:

- $421.6 million (85.0% of ATCO's AA4 capex) complies with the criteria set out in NGR 79 and can be included in the opening value of the asset base for the AA5.
- $49.9 million (9.9% of ATCO's AA4 capex) does not comply with the criteria set out in NGR 79 of the NGR and should not be included in the opening value of the asset base for AA5.
- $25.6 million (5.2% of ATCO's AA4 capex) of capitalised overhead does not comply with the criteria set out in NGR 79 and should not be included in the opening value for AA5.

Table 11.1 shows the ERA's amended values for calculating the opening capital base for AA5.

Table 11.1: ERA's amended opening capital base at 1 January 2020 ($M real as at 31 December 2019)

	JUL TO DEC 2014	2015	2016	2017	2018	2019 (F)
Opening Capital Base AA4	1,102.59	1,126.96	1,160.15	1,196.86	1,222.01	1,246.88
Plus: Capital expenditure	42.45	73.05	81.12	72.62	74.93	77.39
Less: Depreciation	-18.04	-39.84	-44.21	-47.25	-50.07	-53.18
Less: Asset disposals	-0.04	-0.02	-0.20	-0.21	-	-
Opening Capital Base for AA5	**1,126.96**	**1,160.15**	**1,196.86**	**1,222.01**	**1,246.88**	**1,271.09**

11.3.2 Draft Decision: Projected capital base

As outlined in Chapter 10, following the assessment of ATCO's proposed conforming AA5 capital expenditure, the ERA determined that:

- $239.7 million (47.1% of ATCO's proposed AA5 capex) complies with the criteria set out in NGR 79 of and can be included in the projected capital base for AA5.
- $269.6 million (52.9% of ATCO's proposed AA5 capex) does not comply with the criteria set out in NGR 79 and should not be included in the projected capital base for AA5.

Table 11.2 shows the ERA's amended values for calculating the projected capital base for AA5.

Table 11.2: ERA's amended projected capital base for AA5 ($M real as at 31 December 2019)

	2020	2021	2022	2023	2024
Opening capital base	1,271.1	1,274.3	1,271.9	1,266.3	1,258.0
Plus: Capital expenditure	48.3	51.1	48.3	45.6	46.5
Less: Depreciation	-45.1	-53.5	-53.9	-53.9	-54.5
Less: Asset disposals	-	-	-	-	-
Closing capital base	**1,274.3**	**1,271.9**	**1,266.3**	**1,258.0**	**1,250.1**

11.3.3 Draft Decision: Depreciation

The ERA's Draft Decision rolled forward depreciation into the opening capital base based on the depreciation forecast in its AA4 Final Decision. The same method and amounts were applied by ATCO in its 2020-24 Plan in real terms.

Forecast depreciation included in the AA5 projected capital base is a function of:

- Asset lives
- Opening capital base
- Projected capital base

Asset lives proposed by ATCO were accepted in the ERA's Draft Decision.

The opening capital base was varied from ATCO's proposal by the ERA due to disallowing a proportion of ATCO's AA4 capex. Similarly, the projected capital base was varied from ATCO's proposal by the ERA due to disallowing a proportion of ATCO's AA5 capex. Table 11.3 shows the ERA's amended values for forecast depreciation for AA5.

Table 11.3: ERA's amended forecast depreciation for AA5 ($M real as at 31 December 2019)

ASSET CATEGORIES	2020	2021	2022	2023	2024	AA5 TOTAL
High Pressure Mains - Steel	3.5	3.5	3.5	3.6	3.6	**17.8**
High Pressure Mains - PE	0.1	0.1	0.1	0.1	0.1	**0.3**
Medium Pressure Mains	6.0	6.0	6.0	6.0	6.0	**29.9**
Medium / Low Pressure Mains	9.5	9.8	10.2	10.6	11.0	**51.2**
Low Pressure Mains	1.4	1.4	1.4	1.4	1.4	**7.1**
Regulators	1.2	1.2	1.2	1.2	1.2	**6.0**
Secondary Gate Stations	0.1	0.4	0.4	0.4	0.3	**1.7**
Buildings	-0.1	0.8	0.8	0.8	0.8	**3.2**
Meter and Services Pipes	20.0	20.5	21.0	21.4	21.9	**104.7**

ASSET CATEGORIES	2020	2021	2022	2023	2024	AA5 TOTAL
Equipment & Vehicles	1.8	1.8	1.8	1.5	1.1	**8.0**
Vehicle	-0.1	1.3	1.8	1.9	2.2	**7.0**
Information Technology	1.8	6.5	5.6	4.6	4.5	**23.0**
Telemetry and Monitoring	-	0.1	0.2	0.3	0.3	**0.8**
FRC	-	-	-	-	-	**-**
Land	-	-	-	-	-	**-**
Equity Raising Cost	0.0	0.0	0.0	0.0	0.0	**0.1**
TOTAL DEPRECIATION	**45.1**	**53.5**	**53.9**	**53.9**	**54.5**	**260.8**

11.4 ATCO's response to the Draft Decision

11.4.1 ATCO's response: Opening capital base

ATCO has amended the opening capital base in response to the Draft Decision.

The opening capital base is calculated using the 'roll forward' method, as set out in NGR 77(2). Depreciation used to calculate the roll forward asset base is the forecast depreciation in the ERA's AA4 Final Decision.

Figure 11.1: Opening capital base calculation

The opening capital base for AA5 (1 January 2020) is calculated to be $1,333.9 million as shown in Table 11.4.

Table 11.4: Opening capital base for AA5 ($M real as at 31 December 2019)

	JUL TO DEC 2014	2015	2016	2017	2018	2019 (F)
Opening Capital Base	1,102.6	1,127.2	1,167.2	1,214.1	1,257.9	1,300.5
Capex	42.6	79.8	91.3	91.3	92.9	85.9
Capital contribution AA4 Final Decision taxation adjustment	0.1	-	-	-	-	-
Equity raising costs	-	-	-	-	0.3	0.7
Depreciation	-18.0	-39.8	-44.2	-47.3	-50.1	-53.2
Asset Disposals	-0.0	-0.0	-0.2	-0.2	-0.5	-
CLOSING CAPITAL BASE	**1,127.2**	**1,167.2**	**1,214.1**	**1,257.9**	**1,300.5**	**1,333.9**

The opening capital base reflects forecast capital expenditure and forecast inflation for 2019. At the time of preparing this 2020-24 Revised Plan inflation for 2019 is forecast as 1.78%.

The opening capital base reflects our revised proposed AA4 capex outlined in Section 5.3.6. In accordance with the ERA's AA4 Final Decision, capex is net of capital contributions. As capital contributions are not

recognised for regulatory purposes as taxable revenue, the amount of capital contributions deducted from capex is adjusted for the effect of capital contributions being taxable in the year of receipt but the associated asset depreciation being deductible over the life of the asset. This is in accordance with the ERA's AA4 Final Decision.

As the AA4 Final Decision was published after the conclusion of 2014 it was necessary to make an adjustment to capital contributions received from July to December 2014 due to the new policy regarding the regulatory tax treatment of capital contributions. The amount of $0.1 million is shown in the July to December 2014 column of Table 11.4. This amount was excluded in error from ATCO's 2020-24 Plan.

At the next access arrangement review, consistent with NGR 77(2)(a), an adjustment will be made to the AA6 opening capital base and tariff revenue to compensate ATCO (or consumers) for the revenue foregone (or additional revenue recovered) over AA5 in respect of the difference between the actual and forecast capital expenditure and the actual and forecast inflation for 2019 for the effect on the opening capital base.

11.4.2 ATCO's response: Projected capital base

ATCO has amended the projected capital base in response to the Draft Decision.

The projected capital base is calculated using the roll forward method, as set out in NGR 78.

Figure 11.2: Projected capital base calculation

The projected capital base over AA5 is provided in Table 11.5, considering forecast (straight-line) depreciation and capex. The table shows a projected capital base of $1,484.4 million as at 31 December 2024. Capex and depreciation have been amended in accordance with our revised proposal for the opening capital base and proposed AA5 capex. Asset lives remain as per our 2020-24 Plan and the ERA's Draft Decision.

Table 11.5: Projected capital base ($M real as at 31 December 2019)

	2020	2021	2022	2023	2024
Opening Capital Base	1,333.9	1,381.9	1,411.0	1,440.7	1,462.6
Capex (net) (see Chapter 10)	95.7	86.3	88.4	82.2	84.3
Equity raising costs	-	-	-	-	-
Depreciation (as per Section 11.5)	-47.7	-57.2	-58.8	-60.3	-62.5
Asset Disposals	-	-	-	-	-
CLOSING CAPITAL BASE	**1,381.9**	**1,411.0**	**1,440.7**	**1,462.6**	**1,484.4**

11.5 Depreciation

ATCO's 2020-24 Plan was based on the application of the indexed straight line depreciation method, where the capital base is indexed by inflation and an offsetting inflationary deduction is included in the calculation of total revenue to avoid a double count of inflation. ATCO's 2020-24 Revised Plan is also based on the indexed straight line depreciation method consistent with the ERA's AA4 Final Decision tariff model.

ATCO recognises that there are two methods of depreciation that have historically been applied to calculate the depreciation building block in the Australian regulatory context:

- **Straight line depreciation**: Straight line depreciation method (or historical cost accounting) sets the allowance for depreciation over the economic life of an asset to be equal in current or prevailing price terms in each year of an asset's, or asset group's, projected economic life. Importantly, straight line depreciation is not applied in conjunction with any annual indexation adjustment to the capital base to account for the effect of inflation.
- **Indexed straight line depreciation:** Indexed straight line depreciation method (or current cost accounting) is applied to avoid a double count for inflation when a decision is made to index the capital base for the effect of changes in the inflation and a nominal rate of return is applied. In contrast to straight line depreciation, indexed straight line depreciation sets a different nominal allowance for depreciation in each year so that the amount is equal in constant price or inflation adjusted terms. The depreciation calculated is then reduced by the amount of inflation on the asset base so that inflation is not counted in both depreciation and the nominal return on the inflated asset base.

In addition, ATCO notes that there are several other depreciation methods that may warrant further investigation as the energy sector evolves over AA5, including the double declining balance method, the units of production method and the sum of year digits method.

ATCO's adoption of the indexed straight line depreciation method in this 2020-24 Revised Plan does not mean that ATCO considers that the indexed straight line depreciation method is the only method capable of achieving the NGR and NGO in these circumstances. The straight line depreciation method can also be applied for the following reasons:

- **Meeting the requirements of the Rate of Return Instrument:** The ERA's Rate of Return Instrument requires an explicit nominal post-tax modelling approach to be applied in the calculation of the rate of return.[239] ATCO notes that the indexed straight line depreciation method delivers a real return, in contrast, the straight line depreciation method delivers a nominal return meeting this requirement of the Instrument. The ERA has previously recognised, in its 2012 letter to the AEMC, that the AER's post-tax revenue model (**PTRM**) method does not deliver a nominal return as required under the Instrument. The ERA stated:

  > *The AER removes inflation on the opening value of the RAB from the forecast nominal value of real depreciation of the RAB. This inflation adjusted depreciation serves to deliver a return on and of the RAB within the model that is equivalent to a real approach.*[240]

  Similar to the AER's PTRM method, the cash flows that result from the ERA's Draft Decision model are equivalent to a real approach.

- **Consistent with the NGR:** Other requirements of the NGR support the straight line depreciation method, in particular:
  - NGR 76 sets out a complete listing of the building blocks and does not provide for a new separate building block to be added to remove the double count of inflation that is required under the indexed straight line depreciation method

[239] Economic Regulation Authority, Rate of Return Guidelines, December 2018, para 57

[240] Economic Regulation Authority, Submission on the Price and Revenue Regulation of Gas Services: Draft Rule Determination, Economic Regulation Authority, October 2012, p. 3

- the NGR does not require the application of inflation to the capital base. The potential for the application of inflation to the capital base is acknowledged in NGR 89(1)(d). This rule contemplates, but does not require, that the application of inflation to the capital base can occur where the accounting method approved by the regulator permits.

Consistent with ATCO's position in AA4, ATCO continues to consider that the optimal application of the NGR and NGO is to only account for inflation in the rate of return and not to apply inflation to the capital base. ATCO notes that this is becoming even more relevant with declining new connections numbers and average gas demand forecast for AA5. The indexed straight line depreciation method may lead to potential problems with recovering revenue that has been deferred as a result of the indexed straight line depreciation method on the expectation that future customers will be able to pay for this deferred revenue. Despite ATCO's position, ATCO's 2020-24 Revised Plan is based on the indexed straight line depreciation method. ATCO is not seeking to re-contest the application of the straight line depreciation method (or historical cost accounting) in this 2020-24 Revised Plan.

The depreciation schedule for establishing the opening capital base is based on the asset classes and the forecast depreciation in the ERA's AA4 Final Decision tariff model. The projected capital base depreciation includes a new asset class for telemetry as proposed in our 2020-24 Plan and accepted in the ERA's Draft Decision.

The depreciation schedule provides for the depreciation of each group of assets over their economic life. An asset is depreciated only once, so that the depreciation amount over its economic life, in real terms due to the application of the indexed straight line depreciation method, does not exceed the value of the asset at the time of its inclusion in the asset base.

The economic lives for asset categories are shown in Table 11.6. The asset life of 'equity raising costs' has been amended to align with the average life of assets at 31 December 2019, rather than 30 June 2014.

Table 11.6: Economic lives of asset categories (years)

ASSET CATEGORIES	ECONOMIC LIVES	
	AA4	AA5
CURRENT AND NEW ASSET CATEGORIES		
HP mains – steel	80.0	80.0
HP mains – PE	60.0	60.0
Medium and low pressure mains	60.0	60.0
Regulators	40.0	40.0
Secondary gate stations	40.0	40.0
Buildings	40.0	40.0
Meter and services pipes	25.0	25.0
Plant and equipment	10.0	10.0
Vehicles	10.0	10.0
IT (includes both in –house software and miscellaneous)	5.0	5.0
Land	-	-
Equity raising cost	65.8	53.2
Telemetry	N/A[241]	10
HISTORICAL ASSET CATEGORIES – NO LONGER USED FOR NEW CAPEX		
Medium pressure mains	60.0	60.0
Low pressure mains	60.0	60.0
Full retail contestability (historical IT costs)	5.0	5.0

[241] Prior to AA5, telemetry was included in the Information Technology category

The asset lives for assets included in the initial capital base at 1 January 2000 remain unchanged and are as stated in the ERA's AA4 Final Decision tariff model.

NGR *90* requires that an access arrangement must contain a provision governing the calculation of depreciation in the following access arrangement period (i.e. AA6) and resolving whether such depreciation is to be based on actual or forecast depreciation.

We propose that the opening capital base in AA6 will be calculated using AA5 forecast depreciation. We have adopted the same approach to forecast depreciation as we used in AA4. Using forecast rather than actual depreciation supports efficient capex decisions[242]. Forecast depreciation by asset class over AA5 is shown in Table 11.7. Note that information technology has been split into two asset classes for ease of reconciliation to supporting schedules and the tax asset base, although all IT capex has the same economic life of 5 years. Information technology includes all IT capex projects that are software. Miscellaneous IT equipment includes equipment such as mobile phones.

Table 11.7: Forecast depreciation AA5 ($M real as at 31 December 2019)

ASSET CATEGORIES	2020	2021	2022	2023	2024
High pressure mains - steel	3.5	3.6	3.6	3.6	3.7
High pressure mains - PE	0.1	0.1	0.1	0.1	0.1
Medium pressure mains	6.0	6.0	6.0	6.0	6.0
Medium and low pressure mains	10.2	10.8	11.4	12.0	12.6
Low pressure mains	1.4	1.4	1.4	1.4	1.4
Regulators	1.2	1.2	1.2	1.3	1.3
Secondary gate stations	0.1	0.6	0.7	0.8	0.7
Buildings	-0.0	0.9	0.9	0.9	0.9
Meter and services pipes	20.5	21.6	22.8	24.0	25.3
Equipment and vehicles	2.0	2.0	2.0	1.7	1.3
Vehicles	-0.2	1.3	1.8	2.0	2.3
Information technology	2.9	7.5	6.5	5.8	6.2
Miscellaneous IT equipment	-	0.0	0.0	0.1	0.1
Telemetry and monitoring	-	0.1	0.4	0.6	0.8
Full retail contestability	-0.0	-	-	-	-
Land	-	-	-	-	-
Equity raising costs	0.0	0.0	0.0	0.0	0.0
TOTAL DEPRECIATION	**47.7**	**57.2**	**58.8**	**60.3**	**62.5**

11.6 Inflation

We have applied an inflation adjustment to the opening capital base each year, consistent with the method we applied in the 2020-24 Plan. The inflation percentages applied to the opening capital base in each period are shown in Table 11.8.

Table 11.8: Inflation on opening capital base

2014 (A) JUL-DEC	2015 (A)	2016 (A)	2017 (A)	2018 (A)	2019 (F)	2020 (F)	2021 (F)	2022 (F)	2023 (F)	2024 (F)
0.66%	1.69%	1.48%	1.91%	1.78%	1.78%	1.28%	1.28%	1.28%	1.28%	1.28%

[242] Economic Insights Pty Ltd. *The use of actual or forecast depreciation in energy network regulation, report prepared for Australian Energy Market Commission*, 31 May 2012

Assumptions:

- Inflation from **July 2014 to December 2018** is actual inflation; the weighted average of eight capital cities as published by the Australian Bureau of Statistics.
- Inflation for **2019** is a forecast based on the December 2018 actual inflation figure, consistent with the forecast adopted in the Draft Decision.
- Inflation for **2020 to 2024** is our forecast based on the yield differential between 5-year indexed and non-indexed Commonwealth Government bonds. This method is often referred to as the 'Bond breakeven without adjustment' method. This method is prescribed under the rate of return instrument.

12. Rate of return

ERA required amendment 9:

ATCO must amend its rate of return estimate to be 5.70 per cent (vanilla nominal after-tax).

ATCO Response: Accept with modification

ATCO recognises that the regulatory framework requires the ERA's final decision to apply the December 2018 Guideline on a binding basis.

ATCO has updated the rate of return estimate to incorporate an updated estimate of the risk free rate and bank bill swap rate up to 30 April 2019.

ATCO's 2020-24 Revised Plan adopts a rate of return estimate of 4.87 per cent (vanilla nominal after-tax).

CHAPTER HIGHLIGHTS

1. Our estimate of the rate of return is 4.87% (vanilla nominal after-tax), which is based on the Binding Rate of Return Instrument published by the ERA in December 2018 and market data to the end of 30 April 2019.
2. Since December 2018, there has been a material decline in the risk free rate, with the result that the rate of return produced by the 2018 Guideline is historically low and in our view, will not contribute to the achievement of the national gas objective to the greatest degree, or provide us with a reasonable opportunity to recover at least our efficient costs (section 24 of the NGL).
3. ATCO will separately, and confidentially, nominate the sampling period for the market driven parameters that will be applied in the Final Decision.

12.1 Introduction

In December 2018, the ERA finalised their first review of the Rate of Return Guidelines. The Final guidelines and explanatory statement were published on 18 December 2018.

In April 2019, the Western Australian Government introduced the framework to adopt the rate of return guidelines on a binding basis, identical to the new rate of return rules that have been previously adopted in other Australian jurisdictions. The Rate of Return Guidelines published in December 2018 have now become a binding instrument in Western Australia.

During the ERA's 2018 review of the Rate of Return Guidelines, ATCO consistently did not accept the following aspects of the guideline:

- **Market risk premium**: ATCO considers that the market risk premium should be determined mechanically by applying equal weight to the dividend growth model and arithmetic mean of the historical market risk premium to derive the point estimate of the market risk premium.
- **Gamma (tax imputation credits):** ATCO considers the adoption of the Australian Taxation Office's tax statistics as the best and most direct estimate of gamma.

Despite these concerns with the ERA's Rate of Return Guidelines, we recognise that the regulatory framework requires the ERA's Final Decision to apply the December 2018 Guideline.[243]

12.2 Stakeholder engagement

There were no stakeholder submissions to the ERA that referred to the rate of return proposed in our 2020-24 Plan.

12.3 Summary of the ERA's Draft Decision

The Draft Decision implements the 2018 Rate of Return Guidelines and recognises that these Guidelines have now become a binding instrument in Western Australia.[244] For the market driven parameters, risk free rate, bank bill swap rate and debt risk premium, the Draft Decision incorporates an averaging period to 30 November 2018, as a placeholder.[245]

The parameters adopted in the Draft Decision for the rate of return are detailed in the following table:

Table 12.1: ERA's Draft Decision rate of return estimate

WACC COMPONENT	ATCO 2020-24 PLAN	DRAFT DECISION
Nominal risk-free rate	2.37%	2.34%
Real risk-free rate	0.52%	0.62%
Inflation rate	1.84%	1.71%
Debt proportion	55%	55%
Debt Risk Premium (**DRP**) (10-year average)	2.267%	2.254%
5-year interest rate swap (effective yield)	2.590%	2.54%
5-year interest rate swap spread	0.22%	0.20%
Debt issuing cost (0.100%) + hedging (0.114%)	0.214%	0.214%
Return on debt	**5.07%**	**5.01%**
Market Risk Premium (MRP)	6.90%	6.00%
Equity beta	0.7	0.7
Corporate tax rate	30%	30%
Franking credit	0.34	0.5
Nominal after-tax return on equity	**7.20%**	**6.54%**
Nominal after-tax WACC[246]	**6.03%**	**5.70%**
Real after-tax WACC	4.11%	3.92%

243 Under section 30C of the NGL, the rate of return instrument is binding on both the ERA and ATCO.

244 Draft Decision, paras 633-634

245 Draft Decision, para 649 & 660

246 Weighted Average Cost of Capital

12.4 ATCO's response to the Draft Decision

ATCO and the ERA are required to implement the 2018 Rate of Return Guidelines as these Guidelines have now become a binding instrument in Western Australia. Given this, ATCO is not seeking to re-contest the Rate of Return Guidelines as part of this process.

ATCO has re-estimated the market driven parameters for its 2020-24 Revised Plan to better reflect the prevailing market conditions. We have adopted market data to 30 April 2019 as a placeholder and will separately nominate a confidential sampling period to be applied for the purposes of the Final Decision.

12.4.1 ATCO's response: Risk free rate

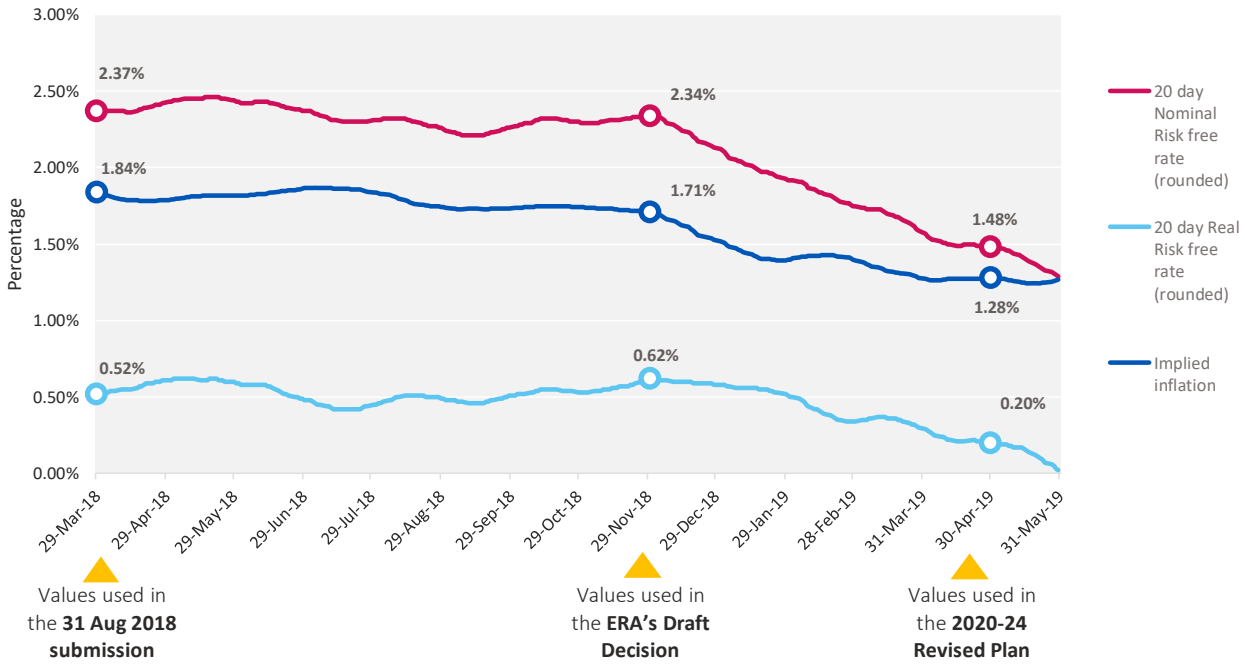
ATCO has re-estimated the risk free rate, and derived the inflation estimate, from Commonwealth Government Securities in accordance with the ERA's binding instrument.

Table 12.2: Risk-free rate estimate

	20 TRADING DAYS TO 30 APR 2019
Nominal return on Commonwealth Government Securities (5-year term)	1.48%
Real return on Commonwealth Government Securities (5 year term)	0.20%
Inflation	1.28%

ATCO notes that since December 2018, there has been a material decline in the risk free rate, as shown in Figure 12.1. This decline is discussed further in Section 12.4.5.

Figure 12.1: Risk-free rate since March 2018



12.4.2 ATCO's response: 5-year interest rate swap (effective yield)

ATCO has re-estimated the interest rate swap rate in accordance with the ERA's binding instrument. ATCO's estimate is 1.74%.

12.4.3 ATCO's response: Debt risk premium

ATCO has updated the debt risk premium estimate to reflect the 2019 Tariff Variation Mechanism. We have not re-estimated the 2020 forecast of the DRP at this time but instead have adopted the value from the Draft Decision.

Table 12.3: DRP_t values included in the 2020 estimate of the trailing average DRP

CALENDAR YEAR	DRP_t	METHOD
2011	2.371%	Adopted AA4 Final Decision value
2012	3.172%	Adopted AA4 Final Decision value
2013	3.068%	Adopted AA4 Final Decision value
2014	2.250%	Adopted AA4 Final Decision value
2015	1.953%	Adopted AA4 Final Decision value
2016	2.467%	Adopted the value determined for the 2016 Tariff Variation Mechanism
2017	2.326%	Adopted the value determined for the 2017 Tariff Variation Mechanism
2018	1.689%	Adopted the value determined for the 2018 Tariff Variation Mechanism
2019	1.663%	Adopted the value determined for the 2019 Tariff Variation Mechanism
2020	1.577%	Forecast – to be calculated using the automatic formula DRP estimate

ATCO has removed Annexure D (Automatic formulas for updating the debt risk premium) from the Access Arrangement to avoid creating confusion as to the method to be applied to calculate the annual debt risk premium given it is now prescribed in the binding rate of return instrument.

12.4.4 ATCO's response: Overall rate of return estimate

ATCO's estimate of the rate of return for this 2020-24 Revised Plan is 4.87%. Table 12.4 details the parameters that we have adopted to derive this estimate.

Table 12.4: Revised rate of return estimate

WACC COMPONENT	AA4 RATE OF RETURN (2019 DRP[247] values)	2020 PROPOSED RATE OF RETURN
Nominal risk-free rate	*1.96%*	1.48%
Real risk-free rate	*0.06%*	0.20%
Inflation rate	*1.90%*	1.28%
Debt proportion	*60%*	55%
Debt Risk Premium (**DRP**) (10-year average)	*2.309%*	2.254%
5-year interest rate swap (effective yield)	*2.430%*	1.74%
5-year interest rate swap spread	*0.47%*	0.26%
Debt issuing cost (0.100%) + hedging (0.114%)	*0.24%*	0.214%

[247] Based on 2019 Debt Risk Premium (DRP) values

WACC COMPONENT	AA4 RATE OF RETURN (2019 DRP[247] values)	2020 PROPOSED RATE OF RETURN
Return on debt	***4.98%***	**4.21%**
Market Risk Premium (MRP)	*7.50%*	6.00%
Equity beta	*0.7*	0.7
Corporate tax rate	*30%*	30%
Franking credit	*0.25*	0.5
Nominal after-tax return on equity	***7.21%***	**5.68%**
Nominal after-tax WACC[248]	***5.87%***	**4.87%**
Real after-tax WACC	*3.90%*	3.55%

We have based our proposed rate of return on the *return on debt* estimate for 2020. We have adopted the 2020 rate of return in our modelling of the building block revenue requirement over AA5 and to set the resulting price path. However, an update to the rate of return will be incorporated into each of the Annual Tariff Variations over AA5.

12.4.5 Material decline in the risk free rate

Since the publication of the 2018 Guideline, the allowed return on equity has fallen materially by an additional 80 basis points, in line with the fall in government bond yields. The ERA's allowed return on equity is currently 5.5% as set out in Table 12.5 below.

Table 12.5: ERA return on equity allowances

ERA ALLOWANCE	2013 GUIDELINE	AA4 RATE OF RETURN	2018 GUIDELINE	2020 PROPOSED RATE OF RETURN	CURRENT
Risk-free rate	3.5%	**1.96%**	2.1%	**1.48%**	1.3%
Equity beta	0.7	**0.7**	0.7	**0.7**	0.7
Market Risk premium	6.5%	**7.5%**	6.0%	**6.0%**	6.0%
Return on equity	**8.1%**	**7.21%**	**6.3%**	**5.68%**	**5.5%**

Source: ERA Guideline determinations, Reserve Bank of Australia.

During the development of the binding rate of return legislation in 2018, industry stakeholders advocated for the inclusion of provisions to reopen the rate of return instrument in the event of significant market disruption during a regulatory control period. The final legislation did not include any reopener provisions due to the overriding policy intent to ensure that the binding instrument was not subject to review and therefore change mid-period. However, ATCO now finds itself in the circumstance where there has been a material movement in the risk-free rate that has created significant regulatory uncertainty, the exact circumstances that stakeholders had raised, and policy makers had sought to avoid[249].

248 Weighted Average Cost of Capital

249 COAG Energy Council, Bulletin – Binding Rate of Return, June 2018, Available from: http://www.coagenergycouncil.gov.au/sites/prod.energycouncil/files/publications/documents/Binding%20Rate%20of%20Return%20-%20SCO%20Bulletin%20-%2027%20June%202018.pdf

The decline in government bond yields since the publication of the 2018 Guideline has been dramatic, as shown in Figure 12.2 below. Indeed, the yield on five-year government bonds has now fallen to 1.3%, which is a record low – lower than at any other time since World War II.

Figure 12.2: Five-year government bond yields

Source: Reserve Bank of Australian, Table f02d.

The risk-free rate volatility is currently at an extreme, being lower than at any other time in recorded history. The key question is whether real world commercial equity investors currently require a return on equity lower than at any other time in recorded history. Unless the ERA is confident about that, it could not be satisfied that its approach to the allowed return on equity in the 2018 Guideline will contribute to the NGO to the greatest degree in the current market conditions.

If it is the case that equity investors in a workably competitive market would require a return of more than 5.5% in order to invest in the benchmark efficient entity, the ERA's regulatory allowance clearly does not contribute to the achievement of the NGO because it will be insufficient to attract the investment.

In relation to this point, Australian regulators have previously been presented with detailed evidence to support the proposition that equity investors in workably competitive markets do not determine their required return by simply adding a fixed premium to the prevailing government bond yield. For example, a Frontier Economics report establishes that:

> *Evidence from a range of respected market participants is consistent with the weight of evidence set out above – that the required return on equity has remained relatively stable even as government bond yields have fallen. This position is supported by:*
>
> - *Central banks such as the Reserve Bank of Australia and the Federal Reserve Bank of New York;*
> - *Other regulators such as Ofgem, FERC, the ERA, and IPART;*
> - *Corporate advisory firms such as McKinsey and NERA-US; and*

- *Independent expert firms such as EY, KPMG, Deloitte, and Lonergan Edwards.*[250]

In its 2018 Guideline, the ERA has set an allowed return on equity that it considers to be consistent with the NGO as at December 2018. Accepting that to be the case, it does not logically follow that the approach the ERA adopted to determining the allowed return on equity will always produce the estimate that best contributes to achievement of the NGO in all market conditions.

Rather, the question of 'whether a particular determination of the allowed return on equity contributes to the NGO to the greatest degree' should be considered on the basis of information about financial market conditions at the time.

It is entirely possible that an approach that produces a reasonable estimate of the required return on equity (and which is consistent with the NGO) at one point in time, may fail when implemented at a different point in time, under different market conditions. ATCO accepts that the 2018 Guideline is binding. However, this does not mean that overall consistency of the determination with the NGO can be ignored at the time of each determination. Further, the ERA is required to have regard to whether its determination provides ATCO with a reasonable opportunity to recover at least its efficient costs (section 24 of the NGL).

[250] https://www.aer.gov.au/system/files/TransGrid%20-%20Frontier%20Economics%20-%20Appendix%20T%20Return%20on%20debt%20transition%20letter-%20R%20-%20Z%20-%20January%202017.zip.

13. Gamma and cost of tax

ERA required amendment 11:

ATCO must amend its calculation of income tax and tax depreciation methods as follows:

- Amend the asset lives for regulators and secondary gate stations to be capped to 20 years from 1 January 2020 as set out in Table 76 of the Draft Decision.
- Amend the depreciation method to the diminishing value method for new assets from 1 January 2020.
- Revise the calculation of the estimated cost of income tax as per Table 79 of the Draft Decision.

ATCO Response: Accept with modification

- ATCO has accepted capping the asset lives for regulators and secondary gate stations to 20 years from 1 January 2020.
- ATCO has not accepted the required amendment to use the diminishing value method of tax depreciation as it is not in the long term interests of consumers.
- ATCO has not accepted all of the Draft Decision required amendments, (e.g. regarding capex and opex) and is therefore unable to accept the estimated cost of income tax as per Table 79 of the Draft Decision.

CHAPTER HIGHLIGHTS

1. Our revised estimate of the cost of tax over AA5 is $9.6 million ($nominal).
2. We have revised the value of gamma to be consistent with the ERA rate of return guideline published 18 December 2018.

13.1 Introduction

We calculate the estimated cost of corporate income tax as part of determining our building block revenue requirement for AA5. We have calculated an estimate of our corporate income tax expense considering our revised forecast revenue, opex, interest on debt, and tax depreciation.

Table 13.1 presents the statutory income tax rate and the value of imputation credits that have informed our application of NGR 87A to calculate the cost of tax.

Table 13.1: AA5 proposed gamma and cost of tax

PARAMETER	PROPOSED VALUE
Corporate Tax Rate	30%
Franking Credit (gamma)	0.50

This chapter explains our approach to estimating the cost of tax, including how we have responded to the ERA's Draft Decision.

13.2 Stakeholder engagement

In preparing this 2020-24 Revised Plan we have continued to engage with stakeholders, including through the submissions to the ERA on our 2020-24 Plan.

There were 2 stakeholder submissions that referred to the cost of tax proposed in our 2020-24 Plan (see Table 13.2).

Table 13.2: Consideration of Stakeholder Feedback on Gamma and cost of tax

STAKEHOLDER FEEDBACK ON THE 2020-24 PLAN	OUR RESPONSE TO FEEDBACK ON THE 2020-24 PLAN
AGL in their submission to the ERA did not support fundamental changes to the treatment of tax: *"In this instance, the ERA is regulating a single gas network so unless it believes that ATCO is paying materially less tax than it has estimated in its AA5, AGL does not support any fundamental changes to the treatment of tax.* *AGL would encourage the ERA to consider the AER's final position on this matter when assessing ATCO's proposal."*	**Change from the 2020-24 Plan:** ATCO has adopted the ERA's value of "gamma" prescribed in the ERA's Rate of Return Guidelines.
Alinta Energy their submission to the ERA supported the introduction of the new 'telemetry' asset category: *"Alinta Energy supports the introduction of the new 'telemetry' asset category with a tax asset life of 10 years, recognising the increasing demand for enhanced flow measurement technologies."*	**No change from the 2020-24 Plan:** ATCO has maintained the new 'telemetry' asset category with a tax asset life of 10 years into the 2020-24 Revised Plan

13.3 Summary of the ERA's Draft Decision

The ERA's Draft Decision requires several amendments to ATCO's 2020-24 Plan. The ERA has requested that ATCO amend its calculation of income tax and tax depreciation methods as follows:

- Amend the asset lives for regulators and secondary gate stations to be capped to 20 years from 1 January 2020 as set out in table 76 of the Draft Decision.
- Amend the depreciation method to the diminishing value method for new assets from 1 January 2020.
- Revise the calculation of the estimated cost of income tax as per Table 79 of the Draft Decision.

In addition, the ERA requested additional information regarding the taxation treatment of refurbished assets[251].

13.4 ATCO's response to the Draft Decision

13.4.1 Tax asset lives

We have revised the tax asset lives applied to the tax asset base as required by the ERA, and to incorporate new information that has become available to ATCO. The three changes that we have made to the tax asset lives are:

1. **20 year cap**: ATCO has applied the 20-year asset life cap to the regulators and secondary gate stations asset classes from 1 January 2020.

[251] Draft Decision, Para 779

2. **5-year life for information technology**: ATCO has noted in reviewing tax asset lives that Section 40-95(7) (Item 8) of t*he Income Tax Assessment Act 1997* was revised effective 1 July 2015, changing the tax asset life of in-house software to 5 years As a result in this 2020-24 Revised Plan, we have split the Information Technology asset class into two:
   - In-house software: ATCO has adopted the 5-year asset life for this asset category and will apply this life to new capex from 1 January 2020. All of ATCO's IT capital projects qualify as "in-house software" for taxation purposes. All IT hardware is provided on a fee-for-service basis by our IT service provider WIPRO and is therefore included in the opex forecast.
   - Miscellaneous hardware: Some miscellaneous IT hardware items, such as mobile phones, are purchased outside the IT project budget. Typically, expenditure on these items is in the order of $100,000 per year. These items have retained a tax depreciation life of 4 years.
3. **15-year life for metering and services**: ATCO identified a typographical error in its tax asset lives for meters and services pipes asset class. Table 15.3 in the 2020-24 Plan stated the life was 25 years, whereas the underlying modelling applied 15 years. The 15 year life was also applied in the underlying modelling for AA4. We have amended the tax asset life table in this 2020-24 Revised Plan to correctly state the asset life for meter and services pipes asset class as 15 years.

Table 13.3: Tax lives (years)

ASSET CATEGORIES	PLAN	REVISED PLAN
CURRENT AND NEW ASSET CATEGORIES		
HP mains – steel	20.0	20.0
HP mains – PE	20.0	20.0
Medium and low pressure mains	20.0	20.0
Regulators	40.0	20.0
Secondary gate stations	40.0	20.0
Buildings	40.0	40.0
Meter and services pipes	25.0	15.0
Equipment and vehicles	10.0	10.0
Information technology: in-house software	4.0	5.0
Information technology: miscellaneous	4.0	4.0
Land	-	-
Equity raising cost	5.0	5.0
Telemetry	10	10
HISTORICAL ASSET CATEGORIES (NO LONGER USED FOR NEW EXPENDITURE)		
Medium pressure mains	20.0	20.0
Low pressure mains	20.0	20.0

13.4.2 Diminishing value method for tax depreciation

ATCO has not implemented the ERA's required amendment to adopt the diminishing value method (**DVM**) of depreciation on additions to the tax asset base from 1 January 2020.

The Draft Decision proposes ATCO use the DVM instead of a straight-line method (**SLM**) of depreciation for regulatory tax purposes. The ERA indicates that this change would be made prospectively to new assets from 1 January 2020[252].

For the reasons set out below, we consider that the National Gas Objective and the Revenue and Pricing Principles are best met through the continued adoption of the SLM, , and that use of the DVM does not necessarily satisfy the National Gas Objective to a greater degree than use of the SLM.

Accordingly, ATCO submits that the SLM should continue to be applied as the basis for calculating tax depreciation under the regulatory model in respect of ATCO's 2020-24 Access Arrangement including assets added to the tax asset base from 1 January 2020.

13.4.2.1 DVM may not be adopted by the benchmark efficient entity

The application of the DVM was considered by the ERA as part of its draft and final decisions for ATCO's 2014-2019 Access Arrangement. Ultimately, the ERA accepted ATCO adopting the SLM.

In the ERA's Draft Decision, the ERA required ATCO to adopt the DVM for tax depreciation:

> *2166. The Draft Decision required ATCO to apply diminishing value depreciation on new capital expenditure from the fourth access arrangement period to depreciate the TAB, in line with the behaviour of a benchmark efficient entity as outlined in the NGR.*[253]

In the ERA's AA4 Final Decision, the ERA accepted the SLM for tax depreciation:

> *2170. The Authority has reviewed ATCO's response and the Ernst & Young opinion. The Authority has decided to accept ATCO's adoption of the straight line method to depreciate new capital expenditure in its TAB after 1 July 2014 for the following reasons:*
>
> - *The Authority has sought and obtained evidence from ATCO that it has and continues to adopt straight line depreciation in its tax returns. The Authority considers that ATCO has the incentive to select the most efficient tax depreciation method, particularly during the pre-tax regime.*
> - *The Authority now considers that a benchmark efficient entity would seek to minimise its tax liabilities over the lives of the assets, rather than over one access arrangement period only. Such an entity would select the tax depreciation methodology that achieves this, based on its circumstances. In a neutral NPV context, and in line with the National Gas Objective, the benchmark efficient entity would also safeguard the long term interests of consumers through making sure that costs are evenly spread out through the lives of assets.*[254]

ATCO submits that the ERA has previously accepted that the SLM is in the long-term interests of consumers and consistent with the National Gas Objective. There is no reason for this to have changed.

The ERA's position appears to be premised on the AER's finding that the DVM is used for more than 60% of assets owned by private sector networks. ATCO contends that this conclusion drawn by the AER is unreasonable for the following reasons:

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252 Draft Decision, Recommendation 11 at page iii

253 Ibid, Para 2166

254 Ibid, Para 2170

- 40% (using SLM) is a material proportion of assets that can't be assumed away as inefficient practice. As private sector entities, operating under strong cost efficiency incentives, continue to apply the SLM to 40% of their assets, it cannot be assumed that this is inefficient behaviour. The tax regime is highly complex and there are other reasons why networks continue to use the SLM as part of an efficient tax management strategy (see further discussions below).
- In explaining the incentive benchmark approach on pages 21 and 22 of the "*AER Discussion Paper, Review of regulatory tax approach*", November 2018, the AER explains that:

  > *Consumers also benefit when efficient approaches or costs are revealed and more accurate or efficient benchmark* [sic] *is set in subsequent regulatory periods. Over multiple regulatory periods this cycle of efficiency gains, revealed costs and lower benchmarks benefits both energy networks and consumers.*

  The AER's consideration of this issue goes beyond 'revealed cost' – the data reveals that 40% of assets are depreciated using the straight-line method; not that it is efficient tax practice for 100% of assets to be depreciated using the DVM.
- ATCO submits that picking a single low-cost approach and applying it as the approach to be adopted invariably by the efficient benchmark, despite it not being comprehensively applied, is at odds with other parts of the building block model that do use revealed cost, being:
  - Cost of debt: the ERA sets the efficient benchmark debt costs based on the average observed credit rating of the 'benchmark' firm. It does not adopt the observed credit rating that will generate the lowest costs overtime as the benchmark.
  - Operating Expenditure: the ERA does not apply an opex forecast based on an aggregation of the lowest cost practices observed across the industry – rather it looks at revealed opex for each firm and (unless materially inefficient) bases the new benchmark on this revealed cost.
- If the DVM were applied to 100% of new assets, in the short term it would materially undercompensate networks continuing to use the SLM.

In establishing a benchmark in relation to depreciation approaches, the ERA should consider establishing a benchmark that uses both the DVM and the SLM, to reflect the proportions of the *actual* use of these depreciation approaches.

As noted above, ATCO submits that it cannot be reasonably assumed that a benchmark efficient entity will always select the DVM.

The AER's analysis, which the ERA has relied upon, demonstrates that the SLM is adopted by non-NTER (*National Tax Equivalent Regime*) entities for approximately 40% of assets by value[255]. It is reasonable to assume that these entities would seek to minimise tax liabilities to the extent permissible under tax law and in doing so they have adopted the SLM.

The AER's conclusions appear to presuppose that the DVM will always be the best choice for taxpayers in minimising income tax liabilities. This cannot be correct as non-NTER entities have adopted the DVM in respect of only 60.42% of assets by value[256]. A significant proportion remain subject to the SLM.

Ernst and Young made similar observations as part of ATCO's response to the ERA's 2014 Draft Decision:[257]

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255 AER, Discussion paper – Review of regulatory tax approach, November 2018, Page 67

256 Ibid.

257 Ernst & Young, Review of regulated tax asset base for regulated revenue purposes- addendum to the report of Vaughan Lindfield, 21 November 2014, Page 4 [Attachment 13.100: Ernst & Young Tax Opinion from AA4]

c. As the ERA correctly pointed out at Paragraph 1103 of the Draft Decision, the diminishing value method is an option under tax law. If the ERA is correct by arguing that a benchmark efficient entity always adopts the diminishing value method, this leads to an absurd outcome that the choice of the depreciation methods becomes effectively redundant for federal taxpayers as a broad collective. The ERA approach appears to presuppose that the diminishing value method will always be the best choice for federal taxpayers in minimising their income tax liabilities. However, such a presumption is unlikely to be correct in all circumstances. Whilst the diminishing value method provides larger tax depreciation at an early stage of the effective life of a depreciable asset in comparison with the straight-line method, this is not the only factor for federal taxpayers to determine a choice of the tax depreciation methods. There are other relevant factors such as one described at Subparagraph d below.

d. The diminishing value method results in an undeducted amount remaining at the end of the effective life of a depreciable asset whereas there is no such undeducted amount under the straight-line method. Given these characteristics of the depreciation methods and the size of the capital investments, infrastructure taxpayers will generally choose the method that provides the better after tax return based on discontinued cash flows. The assumption that the diminishing value method provides the best outcome in all circumstances is false. This choice can be influenced by many factors including any disparity between the economic life of the asset as compared to the effective life of the asset for tax purposes.

There is clear evidence that the benchmark efficient entity will not always adopt the DVM. If it did, then ATCO considers that the AER would have found a much higher percentage of firms adopting the DVM. ATCO recognises that the benchmark efficient entity may not be the same for every service provider.

Rather, the evidence shows that both the DVM and SLM may be capable of contributing to the achievement of the National Gas Objective, and that it cannot be said that the DVM necessarily does so to a greater degree, or that it would necessarily be adopted by the benchmark efficient entity, for some or all of its assets.

13.4.2.2 DVM gives rise to intergenerational inequity

The regulatory models are built on the premise of maintaining the financial capital maintenance (**FCM**) principle, sometimes referred to as NPV=0. Satisfaction of this principle ex ante in most instances requires simple alignment between forecast profiles and expected profiles. In other words, if a firm uses the SLM, then if the regulatory model also adopts that approach, FCM is preserved ex ante with the same logic also applying to the DVM.

Therefore, the decision to apply one form of tax depreciation over another as a blanket benchmark requires consideration of the inherent NPV value of each form of depreciation, but also consideration of issues such as intergenerational equity (discussed further below) and price path.

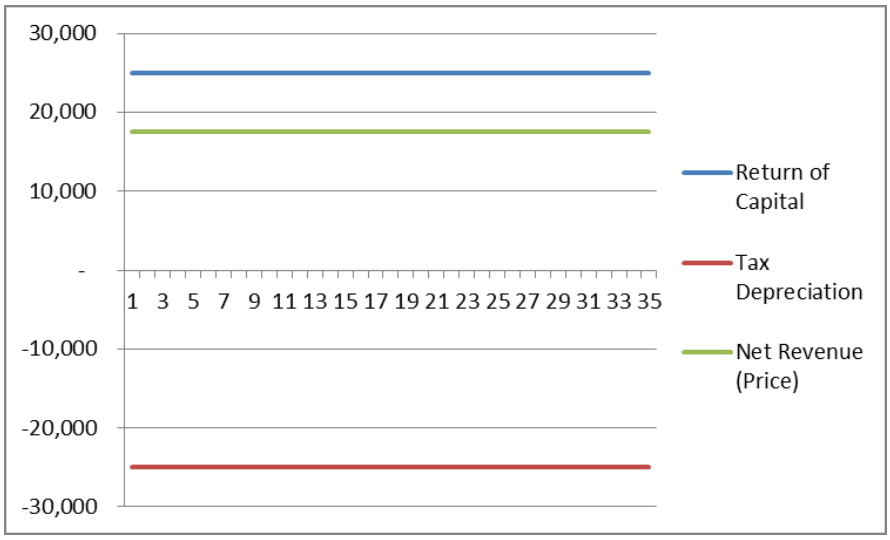
To consider the issue of whether one form of depreciation is inherently superior to the other and whether tax and regulatory depreciation approach should be linked, we undertook some simple stylised modelling to help understand the inherent properties and potential interrelationships under the NPV = 0 principle.

The series of charts below and associated commentary show that use of the straight line method of taxation depreciation in concert with straight line regulatory depreciation best aligns cost recovery with usage of services, irrespective of the age of the underlying asset.

SLM regulatory and SLM tax depreciation

Figure 13.1 below shows the expected profiles built into the current regulatory models where both the regulatory depreciation and tax depreciation are based on the SLM. For simplicity, issues such as CPI effects have been ignored.

Figure 13.1: SLM regulatory and SLM tax depreciation



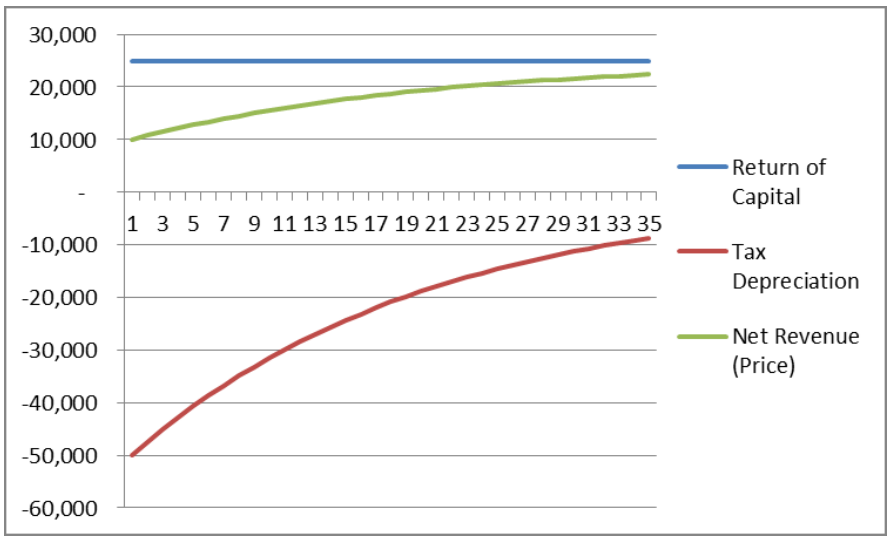
As can be seen, the inherent profile is that of consistent cost recovery over the service life of an asset with customers paying an equal share at all stages of the asset's life.

This approach also infers a bias towards stable prices over time for any given asset in order to satisfy the NPV = 0 principle.

SLM regulatory and DVM tax depreciation

The chart below uses the same data, but in this instance DVM is used for tax depreciation.

Figure 13.2: SLM regulatory and DVM tax depreciation



What can be seen is that customers serviced by the asset in the early years of an asset's life pay considerably less for the asset than customers using the asset towards the end of the asset's serviceable

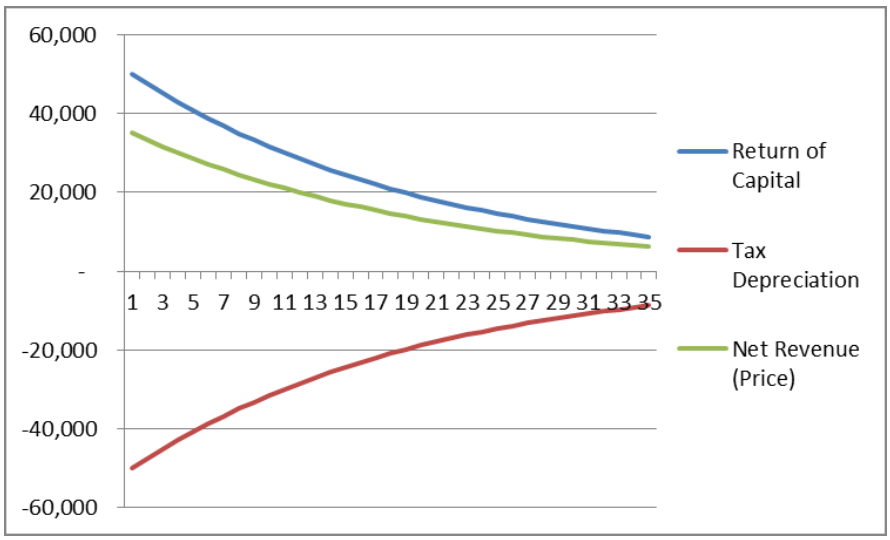
life. This poses a question of intergenerational equity (discussed further below) and whether customers are paying their fair share of the asset's costs for the service that they obtain.

This approach also implies that prices are likely to increase over time for any given asset in order to satisfy the NPV = 0 principle.

DVM regulatory and DVM tax depreciation

The chart below again uses the same inputs but applies DVM to both regulatory and tax depreciation.

Figure 13.3: DVM regulatory and DVM tax depreciation



This aligns the benefits from the tax shield with the costs being recovered from customers for the use of the asset. It again raises intergenerational questions as to whether customers in the earlier year of an asset's life enjoy greater benefits/service than those at the end of an asset's life, and therefore should be required to pay for that benefit.

This approach also implies that prices are likely to decrease over time for any given asset in order to satisfy the NPV = 0 principle.

Conclusion

What the simplistic analysis above seeks to illustrate is that the issues before the ERA are complex and long-lasting, particularly on the point of whether to apply approaches as sector-wide benchmark methods.

In determining the taxable income that would be earned by a benchmark efficient entity (as required under NGR 87A), and achievement of the National Gas Objective, the ERA must consider the issue of intergenerational equity for both the tax costs and the underlying asset costs recognising the inherent price path that these decisions will create. This is particularly important for gas distribution networks that have been experiencing declining average demand that is expected to continue.

The ERA's Draft Decision acknowledges that the DVM defers the recovery of tax costs to future regulatory periods and could result in future customers bearing a higher proportion of tax costs than current customers (i.e. intergenerational inequity)[258]. In response to this matter, the ERA contends that:

[258] ERA Draft Decision at paragraph 762

The ERA considers this argument over-simplifies ATCO's capital investment profile. Capital investment is ongoing. ATCO regularly invests in new assets with a range of different asset lives. This will result in the taxation profile being 'smoothed' across time periods.

ATCO submits that the ERA's counter-argument above regarding the taxation profile of ATCO being 'smoothed' across time periods due to ongoing capital investments does not consider that this can only hold true if ATCO's capital investment year-on-year is identical in terms of both the types of assets acquired and the quantum of capital investment each year. This does not accord with commercial reality as demonstrated by the historical investment in the mid-west and south-west gas distribution systems.

ATCO contends that the ERA has not appropriately addressed the issue of intergenerational inequity raised by the application of the DVM to the regulatory model. Where such inequity exists as a result of applying the DVM, this does not align with the National Gas Objective.

13.4.2.3 Smoothing effect over gas prices

It is important that considerations of the depreciation method result in the consumer receiving efficient pricing signals. During our recent VoC engagements, participants told us that they value price stability.[259]

The AER has illustrated the different profile of tax depreciation under the SLM and the DVM in Figure 6.5 of its report. This shows that the DVM results in rapid changes in prices.

Ernst and Young highlighted that the SLM will contribute to a stable pricing path both within an access arrangement period and between access arrangement periods.[260]

> h. The straight-line method produces a relatively constant depreciation amount over the effective life of a depreciable asset. As such, the adopt of the straight-line method should contribute to a "smoothing effect" over the gas pricing (i.e. less volatility in gas pricing) not only within the access arrangement period but also over the different access arrangement periods. The adoption of the diminishing value method for this access period is likely to increase tax costs in future access periods to the extent that the quantum of capital costs included do not remain at the same level (i.e. the starting base for future access periods may be lower as a consequence of adopting the diminishing value in respect of capital expenditure incurred after 1 July 2014).

The long-term interests of consumers are best served by the tax costs incorporated into tariffs reflecting the tax costs that would be incurred by the benchmark efficient entity adopting the SLM. This is to ensure that consumers avoid seeing movements (up or down) in prices as a result of the individual tax circumstances of a firm. This is illustrated by the situation where consumers are receiving services from two firms that are identical in all aspects except their tax arrangements. These consumers should not receive different price signals simply because of the firms' different tax arrangements. This example highlights the importance of the incentive regime to customers (who pay no more than efficient costs) as well as service providers (who are incentivised to act efficiently).

ATCO notes that, for similar reasons to the above, the AER has adopted the indexed straight line depreciation method (or current cost accounting method) in the PTRM for the regulatory asset base, as it results in a more even allocation of the return on and of capital in real terms over time.

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259 ATCO, 2020-24 Plan, 31 August 2018, Page 15, Available from: https://www.erawa.com.au/cproot/19448/2/ATCO%20AA5%20Access%20Arrangement%20Information.PDF

260 Ernst & Young, Review of regulated tax asset base for regulated revenue purposes - addendum to the report of Vaughan Lindfield, 21 November 2014, Page 4

13.4.2.4 Entities operating in the mining, energy and water industry may not choose DVM

ATCO disagrees with the AER's conclusion that a benchmark efficient entity would *always* choose the DVM. The conclusion largely assumes the benchmark efficient entity is always in a tax payable position. If the benchmark efficient entity were in a tax loss position, then the assumption may not be appropriate leading to an incorrect conclusion on DVM.

ATCO considers that given the risks associated with carrying forward and utilising tax losses, outlined below, it is therefore likely that the benchmark efficient entity will seek to avoid being put into a tax loss position as might occur by using DVM.

The ATO provides an annual '*Corporate Tax Transparency Report*' (**Transparency Report**), which is based on information collated from the income tax returns of the largest corporate entities operating in Australia. Figure 13.4 has been extracted from the latest ATO Transparency Report for the 2016-17 income year. A benchmark service provider would fall within the mining, energy and water industry (**MIN**).

Figure 13.4: Relevant figures from ATO Transparency report

Figure 25: Proportion of entities with nil tax payable, by industry segment, 2014–15 to 2016–17

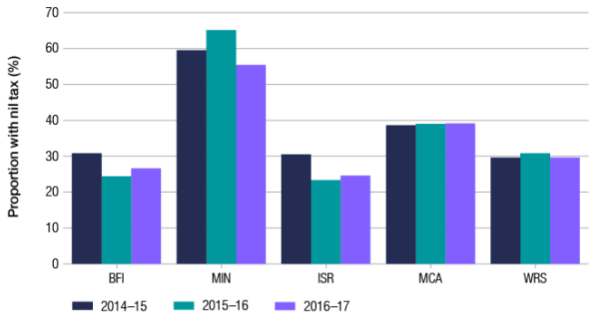
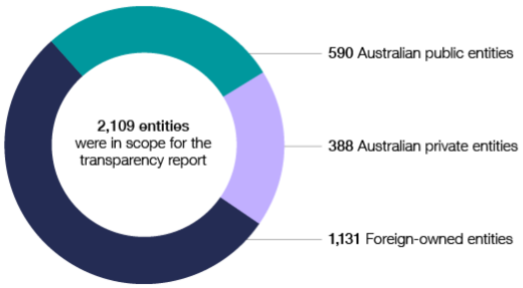


Figure 18: Corporate entities, by ownership segment, 2016–17



These statistics illustrate that a significant proportion of the largest corporate entities operating in the Australian MIN industry have had nil tax payable positions over the relevant period. In particular, more than 50% of the MIN industry has been in a nil tax payable position over the 2015, 2016 and 2017 income years (a nil tax payable position indicates the entity is in a tax loss position).

ATCO therefore submits that the benchmark efficient entity must place significant weighting towards and have regard to entities that are in tax loss positions.

Many entities operating in the MIN industry are involved in significant infrastructure projects. These projects typically generate both accounting and tax losses in the early stages of their lifecycle.

Broadly, tax losses may only be carried forward and utilised at a future point in time by an entity if either the Continuity of Ownership Test or the Business Continuity Test are satisfied. The satisfaction of either of these tests is not without risk as they are subject to future expectations about ownership structure and business activities of the entity, respectively, which cannot be ascertained with certainty at the time tax losses are incurred. Furthermore, the ability to carry forward and utilise tax losses is subject to various other integrity rules contained in the tax law.

Tax losses arise when the total deductions (including tax depreciation) claimed by an entity for a given income year exceeds its assessable income for the year. Hence the quantum of tax losses incurred by an entity is a function of the relevant tax depreciation method adopted by the entity. Whilst the calculation of accrued tax losses is built into the regulatory tax model, the model does not take into account tax risks associated with the preservation of tax losses.

Considering the above, ATCO contends that a benchmark efficient entity that is in a tax loss position would have a natural preference for SLM over DVM when taking into account the following factors:

- It reduces the quantum of tax losses to be carried forward into later years and hence reduces the associated tax risks; and
- It would maximise the amount of tax depreciation being applied in the future to shelter against assessable income in future years.

13.4.2.5 SLM mandated for some asset classes

The *Income Tax Assessment Act 1997* requires that the SLM is adopted for certain types of assets. For example, buildings and intangible assets (such as software). This is acknowledged in PWC's report, which states:

> *…except in respect of intangible assets or capital works expenditure captured by Division 43 of the ITAA 1997 that are required to be deducted for tax purposes on a straight line basis…*[261]

For these asset classes it would be inconsistent with the tax law to adopt anything other than the SLM.

ATCO submits that the added complexity of adopting two different tax depreciation methods in the regulatory models could be avoided if the SLM is retained across all asset classes.

13.4.2.6 Practical difficulties with switching to DVM

It is also a highly relevant consideration for the ERA to consider the practical difficulties in implementing any change from SLM to DVM.

ATCO contends that, as a result of having to apply the DVM to all assets acquired post 1 January 2020, this places significant burden on the company, as well as a need to commit significant company resources, to adopt new practices and procedures to deal with each of the matters identified above. These costs will need to be allowed for in the AA5 cost forecasts and will ultimately be paid for by consumers.

This is counter-intuitive to the course of action undertaken by a benchmark efficient entity, which would seek to adopt efficient tax practices within the boundaries of the tax law at a minimal cost to company resources.

ATCO also notes that the ERA has not addressed the issue when using the diminishing value method of the asset never been totally being written off to zero. The AER has addressed this issue by writing the asset off to zero in the final year of its economic life.

13.4.2.7 Summary of DVM vs SLM arguments

For the reasons noted by the ERA in its AA4 Final Decision and summarised above, ATCO considers that the National Gas Objective and the Revenue and Pricing Principles are best met through the adoption of the straight-line tax depreciation method. In particular, the more constant level of tax depreciation and therefore the tax building block:

- Promotes efficient growth in the market for reference services by allowing for efficient use of the GDS.
- Encourages efficient production and investment decisions by the service provider, thereby contributing to efficient growth in the market for reference services.
- Avoids price shocks for consumers when major assets reach the end of their effective life and are replaced.

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[261] PWC, AER Tax Review 2018 Expert Advice, 26 October 2018, Page 20

- Ensures outcomes that are in the long-term interest of consumers with respect to price by avoiding subsidies between current and future consumers.

13.4.3 Gamma

We have updated the value of gamma to 0.5 consistent with the ERA's Draft Decision and rate of return instrument.

We note that we do not agree with the value of gamma, but we are required to apply for tax purposes the ERA's rate of return guidelines.

ATCO considers there are better estimates of gamma available based on taxation statistics as documented in its submission to the ERA as part of the 2018 rate of return guideline review process.

13.4.4 Refurbished assets

The ERA requested additional information regarding the taxation treatment of refurbished assets.[262]

- ATCO's current tax policy for refurbishment capital expenditure; and
- The amount of capital expenditure that would be regarded as refurbishment capital expenditure in the AA5 period.

ATCO's responses are below:

- **Current tax policy**: ATCO adopts a view that for tax purposes, refurbishment capital expenditure is immediately deductible to the extent the expenditure does not give rise to an overall improvement to the output, performance, efficiency or effective life of the asset as compared to their original state when they are purchased and does not relate to an improvement of the asset. This approach is consistent with ATCO's accounting treatment for refurbishment capital expenditure.
- **AA5 Period refurbishment expenditure:** There are no amounts included in our forecast capital expenditure that would be considered refurbishment capital expenditure under ATCO's current policy in the AA5 period.

13.4.5 Carry forward tax losses

The ERA has included in the calculation of taxable income carry forward losses from AA4.[263] ATCO does not accept the carrying forward of tax losses across access arrangements periods. In this 2020-24 Revised Plan, we have not carried forward tax losses from AA4.

ATCO accepts that the tax building block calculation relates to the benchmark efficient entity not the actual service provider's tax costs. However, ATCO does not agree that:

- the NGR permit the carry forward of tax losses from a prior AA period;
- nor that tax losses from a prior AA period have any relation at all to the taxation building block expense of a benchmark service provider for the forthcoming access arrangement period.

ATCO notes that the reason why the AA4 Final Decision model calculated tax losses was due to the price path that was adopted in the AA4 period, which resulted in an uneven cash flow profile due to the application of NGR 92. If a different price path had been adopted over the AA4 period, then there may not have been a tax loss in the AA4 Final Decision model.

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262 Draft Decision, Para 779

263 Draft Decision, Table 79

13.4.5.1 NGR does not permit carry forward of tax losses

ATCO considers that the NGR do not allow the carrying forward of tax losses. The task under NGR 87A is to estimate the forward looking estimate of the cost of corporate income tax. There is no express provision in the NGR that allows for a tax loss to be rolled forward from one period to the next. Rather the NGR require the cost of corporate income tax to be estimated by reference to the AA5 period as a standalone period. ATCO's view is based on the wording in NGR 87A being specific in referring to:

> *… The estimated cost of corporate income tax of a service provider* ***for each regulatory year of an access arrangement period***

The estimate required is *for each regulatory year of an access arrangement period.* The term ETI_t in NGR 87A requires an estimate of the taxable income "*for that regulatory year*". The task is prospective and relates to future access arrangement periods, in this case, AA5. It does not relate to, or allow any consideration of, tax losses in preceding access arrangement periods, bearing in mind that the tax loss calculated in the AA4 Final Decision model was also an estimate for the AA4 period. As noted above, the tax loss arose due to the price path adopted.

Further, there is no express mechanism in the NGR for carrying forward decrements in the nature of tax losses from earlier periods. In contrast, the NGR does allow the carry forward of other decrements, such as in the case of incentive mechanisms, NGR 76(d). The absence of any express provision relating to the carry forward of tax losses from previous periods indicates there is no ability to do so.

Furthermore, ATCO notes the lack of any fixed principle having been imposed by the decisions that led to the approval of the access arrangement for AA4, or any reference in the reasons for the AA4 Final Decision that the tax losses will be carried forward to AA5.

Finally, ATCO notes that the benchmark efficient entity has a discretion whether or not to deduct a tax loss from an earlier "loss year" from any excess in total assessable income over total deductions in the income year.[264] The tax loss can be deducted only to the extent that it has not already been utilised (which includes by being used as a deduction).[265] Thus, the expression "taxable income" in the ITAA 1997 prima facie refers to income in the year, and only at the choice of the entity will this be net of the entity's past tax losses that have not yet been deducted. Therefore, it is not possible to say that the BEE would necessarily utilise any accumulated losses in a given year.

ATCO considers that "taxable income" in a year of AA5 cannot be taken to be net of accumulated tax losses from AA4.

13.4.5.2 Carry forward tax losses do not represent tax losses of the benchmark efficient service provider

Noting that ATCO does not accept the inclusion of carry forward tax losses in the tax building block calculation by carrying forward the tax losses from a prior period tariff model, ATCO considers that the Draft Decision to simply adopt the tax loss value from the latest AA4 model:

- cannot represent the benchmark efficient entity's tax loss for that prior period and therefore does not produce the best estimate of ATCO's forward looking tax costs over the AA5 period; and
- is contrary to the incentive framework of the NGR and NGL.

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[264] s 36-17(2) and (3) of the ITAA 1997

[265] s 960-20(1) and (2)(a) of the ITAA 1997

13.4.5.3 Not the benchmark efficient tax loss

Using the carry forward tax loss from the prior period tariff model breaches the NPV = 0 principle and is not in the long term interests of consumers.

Unlike the regulatory asset base, the tax asset base (TAB) is rolled forward using actual (rather than forecast) tax depreciation calculated using actual capex. This ensures that the tax building block for the access arrangement period is the best forecast possible for the benchmark efficient service provider, as it aligns with the ATO's tax assessments being based on actual costs. The Draft Decision and ATCO's 2020-24 Plan rolled forward the TAB on the following basis:

- **Actual capex**: The capex rolled forward in the TAB over the AA4 period is the actual capex incurred by ATCO that the ERA assess is conforming with NGR 79.
- **Actualised tax depreciation**: The tax depreciation in the roll forward is recalculated to be based on the actual capex incurred by ATCO (assessed to be conforming with NGR 79) and the tax lives that were applied in AA4 period.

This roll forward method of the TAB over AA4 ensures that future tax expenses are based on that efficient rolled forward tax asset base.

If the tax loss from the latest AA4 tariff model is simply adopted in the AA5 model, then the tax loss rolled forward may include taxation depreciation that has not been incurred. Simply adopting the tax loss value from the latest AA4 model and rolling forward the TAB with actual tax depreciation is inconsistent with the NGR 74, NPV=0 principle and the national gas objective because:

- **Tax building block can be under-estimated:** If there is a shortfall of actual capex versus forecast capex, the tax depreciation included in the tax loss carried forward is greater than the tax depreciation included in the TAB roll forward. Therefore, as a result of applying actual tax depreciation to the TAB and adopting the tax loss value from the prior period model, the tax loss carried forward is overstated. Effectively the benchmark service provider through the carry forward tax loss is being charged taxation depreciation that does not relate to the approved efficient roll forward of the TAB, effectively under-estimating the benchmark service provider tax costs.
- **Tax building block can be over-estimated:** Conversely if actual capex is greater than the forecast capex for the prior period the tax loss carried forward does not include all the tax depreciation included in the roll forward of the TAB. Therefore, the tax building block will never include all of the tax depreciation related to the excess of assets rolled forward over the prior period forecast, effectively over-estimating the benchmark service provider tax costs.

In both cases the NPV = 0 principle is breached, and consumers will pay for a tax expense over time greater than or less than would be incurred by the benchmark efficient service provider.

Noting that ATCO does not accept the inclusion of carry forward tax losses in the tax building block calculation, ATCO considers that the alternative best estimate of the AA5 tax costs is determined by re-estimating the final tax loss position at the end of AA4 by updating the 2019 TVM model tax calculation based on actual costs and revenue. This is because the benchmark efficient service provider's tax carry forward tax losses position will reflect the ATO's normal approach of assessing actual costs and revenues over time. The ATO does not base its tax assessments on a forecast of costs and revenues, particularly a forecast that could be up to 5 years out of date. Re-estimating the carry forward tax losses position in this way will ensure that the building block tax expense in AA5:

- is the best estimate or forecast in the circumstances arrived at on a reasonable basis (NGR 74); and
- is the tax building block allowance for the benchmark efficient entity.

13.4.5.4 Contrary to the incentive framework of the NGR and NGL

Furthermore, simply rolling forward the tax loss from a prior period diminishes the incentive for the service provider to act efficiently:

- Any incentive to minimise taxation cost is removed as no benefit will accrue to the service provider
- Incentives to minimise expenses and increase revenues are reduced as taxation expense will increase or tax losses reduce while forecast losses carried forward do not reflect the efficient entity's efforts to become more efficient and increase utilisation of the network to the benefit of all consumers.

In summary, carrying forward tax losses from a prior period is not in the long term interest of consumers.

13.4.6 Revised estimate of income tax

ATCO is unable to revise the estimated cost of income tax per table 79 of the ERA's Draft Decision. We have revised estimates of inputs to the tax calculation in several ways that vary from the ERA's Draft Decision. Therefore, our estimate of the cost of income tax will vary from the ERA's Draft Decision due to the different amounts of expenditures and revenue used in the income tax calculation. Table 13.4 shows the revised estimate of taxation allowance.

Table 13.4: Calculation of income tax included in allowable revenue ($M nominal)

	2020	2021	2022	2023	2024
Tariff revenue (smoothed)	175.9	180.8	185.8	190.8	196.5
Expenses					
- Opex	-66.1	-68.9	-72.3	-74.9	-76.5
- Interest	-31.4	-32.9	-34.0	-35.2	-36.2
- Tax Depreciation	-61.2	-65.2	-67.4	-70.2	-73.1
Total Tax Expenses	-158.7	-167.1	-173.7	-180.2	-185.8
Estimated taxable income	17.2	13.8	12.1	10.5	10.7
Tax payable	5.2	4.1	3.6	3.2	3.2
Less value of imputation credits	-2.6	-2.1	-1.8	-1.6	-1.6
ESTIMATE OF CORPORATE INCOME TAX	**2.6**	**2.1**	**1.8**	**1.6**	**1.6**

The revision of the capex forecast and 2018 capex being finalised requires that the roll forward and forecast tax asset bases be revised by ATCO, as shown in Table 13.5 and Table 13.6.

Table 13.5: Revised Roll forward of AA4 tax asset base ($M nominal)

	2014	2015	2016	2017	2018	2019
Opening value	467.2	483.3	509.0	542.8	577.3	614.6
Plus, capex (net)	39.2	74.5	86.5	88.1	91.5	86.5
Less, tax depreciation	-23.0	-48.8	-52.5	-53.4	-53.7	-57.0
Less, asset disposals	-0.0	-0.0	-0.2	-0.2	-0.5	-
CLOSING VALUE	**483.3**	**509.0**	**542.8**	**577.3**	**614.6**	**644.1**

Table 13.6: Revised projected AA5 tax asset base ($M nominal)

	2020	2021	2022	2023	2024
Opening value	644.1	679.9	703.2	727.7	744.0
Plus, capex (net)	97.0	88.6	91.9	86.5	89.8
*Less, t*ax depreciation	-61.2	-65.2	-67.4	-70.2	-73.1
Less, asset disposals	-	-	-	-	-
CLOSING VALUE	**679.9**	**703.2**	**727.7**	**744.0**	**760.8**

13.5 Summary of corporate income tax expense

We have calculated our estimate of corporate income tax using the same method we applied in AA4. Our approach is first to estimate taxable income as follows:

Smoothed tariff revenue

plus Revenue from prudent discounts.

plus Ancillary reference service revenue.

minus Approved forecast opex.

minus Depreciation of the tax asset base, excluding capital contributions. Tax depreciation is applied on a straight-line basis.

minus Debt servicing costs, calculated by multiplying the debt portion of the opening RAB by the debt to equity ratio (consistent with the rate of return assumption) and the nominal hybrid trailing average cost of debt (based on the trailing average estimate of the debt risk margin, annually updated, plus the 'on the day' nominal risk-free rate).

equals Estimated taxable income.

We then apply the statutory tax rate of 30% and the value of imputation credits to the estimated taxable income to determine our estimate of corporate income tax. The estimate of corporate income tax is shown in Table 13.7.

Table 13.7: Estimate of corporate income tax ($M nominal)

	2020	2021	2022	2023	2024
Estimated taxable income	17.2	13.8	12.1	10.5	10.7
Tax payable	5.2	4.1	3.6	3.2	3.2
Less value of imputation credits	-2.6	-2.1	-1.8	-1.6	-1.6
Estimate of corporate income tax	**2.6**	**2.1**	**1.8**	**1.6**	**1.6**

14. Working capital

ERA required amendment 12:

ATCO must amend its return on working capital calculation to be consistent with this draft decision and as set out in Table 85.

ATCO Response: Do not accept and propose a revised position

As ATCO has not accepted all required amendments, (e.g. regarding capex and opex amendments) it is unable to comply with required amendment 12.

CHAPTER HIGHLIGHTS

1. We have calculated working capital in accordance with the method in the ERA's AA4 Final Decision tariff model except for the 2020 opening working capital balance.
2. The 2020 opening working capital balance has been re-estimated.
3. Working capital parameters are the same as the 2020-24 Plan and the Draft Decision.

14.1 Introduction

Working capital refers to a stock of funds that we must maintain to pay costs as they fall due, and inventory held to meet service requirements within mandated or reasonable service delivery times. The cost of this stock of working capital (being the required return on the capital investment) is incurred during everyday business operations and the provision of reference services.

The requirement to maintain a stock of funds arises from the misalignment (on average) between incurring the costs of providing services and recovering the revenues associated with the provision of those services. In addition, a stock of materials is held to allow the efficient and timely provision of services. The cost of working capital reflects the return on the capital funds required to be maintained.

14.2 Stakeholder engagement

In preparing this 2020-24 Revised Plan we have continued to engage with stakeholders, including through the submissions to the ERA on our 2020-24 Plan.

There was 1 stakeholder submission that referred to the working capital proposed in our 2020-24 Plan (see Table 14.1).

Table 14.1: Consideration of Stakeholder Feedback on Working Capital

STAKEHOLDER FEEDBACK ON THE 2020-24 PLAN	OUR RESPONSE TO FEEDBACK ON THE 2020-24 PLAN
Alinta in their submission to the ERA question the receivable days adopted by ATCO: *"We note there have been adjustments to some of the parameters applied to the components of working capital in AA5, principally based on payment terms of creditors and with retailers. We question the considerable increase in receivables from 18 days to 62 days, noting the 10 business day payment terms for reference services in the proposed revised Template Service Agreement13."*	**No change from the 2020-24 Plan:** ATCO has retained its receivable days estimate in this revised plan on the basis that the AA4 estimate excluded the unbilled revenue attributed to the meter reading cycle.

14.3 Summary of the ERA's Draft Decision

ATCO calculated working capital in accordance with the "working capital cycle" model, consistent with the method in the ERA's AA4 Final Decision tariff model. In the 2020-24 Plan, we submitted updated parameters to this model to calculate our AA5 working capital requirements. Table 14.2 shows the updated parameters used in our calculation.

Table 14.2: ATCO's working capital parameters

PARAMETER	AA4 (FINAL DECISION)	AA5 (PROPOSED)	BASIS OF CALCULATION
Inventory as a % of capex	0.89%	0.89%	Based on 2017 inventory as a percentage of 2017 capex.
Creditors	15 days	19 days	Determined from the standard terms of payment to suppliers, labour, and suppliers of UAFG. The amount relates to total expenditure including capex.
Receivables	18 days	62 days	Determined from the payment terms of our contracts with retailers.

The return on working capital will change as a result of required amendments to other aspects of ATCO's proposal, (e.g. the rate of return - WACC, target revenue, capex and opex).

Consistent with the required amendments detailed in the sections of the ERA's Draft Decision dealing with these aspects, the ERA has recalculated the return on working capital for AA5, as shown in Table 14.3.

Table 14.3: ERA's Draft Decision calculation of return on working capital for AA5[266]

RETURN ON WORKING CAPITAL	2020	2021	2022	2023	2024
Opening working capital ($nominal)	1.23	35.24	35.97	36.43	36.82
WACC (nominal)	5.70%	5.70%	5.70%	5.70%	5.70%
Return on working capital ($nominal)	0.07	2.01	2.05	2.07	2.10

266 Draft Decision, Table 85

14.4 ATCO's response to the Draft Decision

A return on opening working capital is included in "Total revenue" for each year of the access arrangement period, as shown in Table 14.4.

Table 14.4: Return on working capital

RETURN ON WORKING CAPITAL	2020	2021	2022	2023	2024
Opening working capital ($nominal)	22.3	22.3	23.3	23.8	24.8
WACC (nominal)	4.87%	4.87%	4.87%	4.87%	4.87%
Return on working capital ($nominal)	1.1	1.1	1.1	1.2	1.2
Deflator to $real 2019	1.013	1.026	1.039	1.052	1.066
Return on working capital ($real 2019)	1.1	1.1	1.1	1.1	1.1

The ERA in its Draft Decision at paragraphs 810 to 812[267] considered ATCO's method of calculating receivables days, noting it was consistent with other ERA decisions. The ERA found ATCO's calculation of receivables days to "follow a reasonable method". However, the opening working capital balance in our 2020-24 Plan was not based on this method but was carried forward from the AA4 Final Decision tariff model. The value carried forward did not allow for the inclusion of the average days of unbilled haulage; the inclusion of which has been accepted in the ERA's Draft Decision. Therefore, we have restated the opening 2020 working capital balance as the estimated closing working capital balance for 2020 as the best estimate available. In AA4, the opening working capital balance was similarly estimated by the ERA as the closing balance for the first period, July to December 2014, of AA4.

We have now calculated the return on working capital in a manner consistent with the ERA's Draft Decision in all years of AA5.

[267] Draft Decision, pages 171-172

15. Incentive mechanisms

ERA required amendment 16:

ATCO must delete the proposed Network Innovation Scheme (Part 12, Incentive Mechanisms) and associated cost pass through item (Annexure B, clause 2.1(e)) from the proposed revised access arrangement.

ATCO Response: Accept

ATCO has removed the proposed Network Innovation Scheme from the proposed revised access arrangement.

CHAPTER HIGHLIGHTS

1. We are no longer proposing the Network Innovation Scheme for AA5.
2. We do not have any incentive mechanisms in our current access arrangement.

15.1 Introduction

Over AA5, we expect the Western Australian energy market to continue to undergo rapid change, with renewable energy revolutionising the way energy networks operate. We believe our gas network has an important role to play in supporting the decarbonisation of the energy sector as well as offering a solution that balances environmental issues, cost, and security.

During this time of rapid technological change, innovation in our business is a major focus. The integration of new technologies into our network provides opportunities to improve our services and allow better responsiveness to customer choice.

In ATCO's 2020-24 Plan, we proposed a *network innovation scheme* for AA5 to incentivise investment in innovative technologies. In this 2020-24 Revised Plan, we have removed the *network innovation scheme* for AA5 in response to the Draft Decision.

The Network Innovation Scheme (**NIS**) proposed in ATCO's 2020-24 Plan shared some of its significant features with the AER's Demand Management Innovation Allowance available under the Demand Management Incentive Scheme. This Scheme allows electricity distributors in the National Electricity Market to seek additional funding (generally through opex) to manage peak demand on the network instead of investing in network augmentation.

The electricity distributors apply to the AER for amounts up to $1 million per year to invest in demand management (but only recover the amount they spend below this cap). As such, our proposed NIS was modest, targeted, and accountable. The Scheme was intended to support small-scale innovation projects to underpin ATCO's introduction of new network services that have the potential to deliver long-term benefits for gas consumers but have an uncertain probability of success.

ATCO does not currently have any incentive mechanisms in AA4.

15.2 Stakeholder engagement

In preparing this 2020-24 Revised Plan we have continued to engage with stakeholders, including through the submissions to the ERA on our 2020-24 Plan.

There were five stakeholder submissions that referred to the forecast operating expenditure proposed in our 2020-24 Plan (see Table 15.1).

Table 15.1: Consideration of Stakeholder Feedback on Incentive Mechanisms

STAKEHOLDER FEEDBACK ON THE 2020-24 PLAN	OUR RESPONSE TO FEEDBACK ON THE 2020-24 PLAN
Alinta Energy in their submission to the ERA supported the proposed Network Innovation Scheme subject to the costs being recovered for those who benefit: *"Alinta Energy supports innovative and cost-effective energy solutions that benefit end-use customers.* *It is important the costs of any individual project under the Network Innovation Scheme (NIS) are recovered only from those who will benefit. For example, if a project benefits end-use customers on a particular network tariff, then we would anticipate the costs related to that project are recovered from those customers only and not from the entire customer base.* *Additionally, should ATCO work exclusively with an end-use customer or an individual retailer on a project, then that project should not be included in the scheme."* **Kawasaki Heavy Industries** in their submission to the ERA supported the proposed Network Innovation Scheme: *"ATCO's proposed Network Innovation Scheme (NIS) is modest in relation to the risk it faces if policy and economic development render natural gas uneconomic."* **Professor Craig Buckley** in his submission to the ERA supported the proposed Network Innovation Scheme: *"I fully support ATCO's proposal to introduce a new incentive mechanism, the "Network Innovation Scheme" into the access arrangement."*	**Changes from the 2020-24 Plan:** Despite the support that the network innovation scheme received from some stakeholders, we have removed the network innovation scheme from the 2020-24 Revised Plan in response to the Draft Decision.

STAKEHOLDER FEEDBACK ON THE 2020-24 PLAN	OUR RESPONSE TO FEEDBACK ON THE 2020-24 PLAN
AGL in their submission to the ERA question the need for the proposed Network Innovation Scheme: *"First, AGL would question whether the existing regulatory framework is preventing ATCO from investing in innovation and therefore, why the need for this mechanism?* *Secondly, AGL does not perceive how any benefits of this scheme would be accrued and then shared between ATCO and consumers in the future, especially given the costs are being met upfront by consumers with little guarantee of benefits."* **Synergy** in their submission to the ERA supported innovation but do not support the proposed Network Innovation Scheme: *"Network innovation is important to achieving the lowest sustainable costs in relation to providing services. Therefore, Synergy supports ATCO's continued network innovation and highlights that both historical and forecast expenditure includes marketing and business development costs for such activities. A business under a price cap should have sufficient commercial incentives to use this allocated expenditure along with its own funds to innovate to increase its revenue or sustainably reduce the cost of services.* … *Synergy considers it important to delineate new business development (or entrepreneurial schemes) from innovation in relation to providing reference services. Therefore, Synergy does not support the introduction of a network innovation scheme funded by network users."*	**Changes from the 2020-24 Plan**: ATCO has removed the network innovation scheme from the 2020-24 Revised Plan in response to the ERA's Draft Decision.

15.3 Summary of the ERA's Draft Decision

The Draft Decision requires ATCO to delete the proposed Network Innovation Scheme. The ERA's reasons for seeking the removal of the proposed scheme include:[268]

- The proposed scheme is not consistent with the revenue and pricing principles.
- The proposed scheme would not contribute to the realisation of the national gas objective to a greater extent than other incentives available to service providers under the current regulatory framework.
- The administrative costs of assessing and approving recovery of scheme expenditures through the reference tariff variation mechanism have not been justified.

15.4 ATCO's response to the Draft Decision

ATCO accepts the required amendment to delete the proposed Network Innovation Scheme.

ATCO wants to acknowledge, and is very appreciative of, the support that the network innovation mechanism received from stakeholders, including Alinta Energy, and the detailed submissions made by Kawasaki Heavy Industries and Professor Craig Buckley.

[268] Draft Decision, para 945

Subsequent to the submission of ATCO's 2020-24 Plan in August 2018, the Australian Energy Market Commission (AEMC) commenced its *Electricity network economic regulatory framework review 2019*. One of the workstreams in the review is focused on regulatory sandboxes. The AEMC describes the workstream as follows:

> *The emergence of innovative energy technologies and business models can bring significant benefits to consumers, but new concepts can sometimes be inconsistent with the existing regulatory framework.*
>
> *The AEMC is exploring potential barriers to trialling new approaches and whether there may be a need for formal regulatory sandbox arrangements in the national electricity market. A "regulatory sandbox" is a framework within which participants can trial innovative technologies, business models, products and services in the market under relaxed regulatory requirements at a smaller scale, on a time-limited basis and with appropriate safeguards in place.*
>
> *The Commission was requested to consider issues beyond economic regulation of electricity networks and the need for regulatory sandbox arrangements in other parts of the NEM regulatory framework, for example, relating to wholesale electricity markets and consumer protections.* [269]

On 31 January 2019, ATCO provided a submission[270] to the AEMC in which ATCO supported the introduction of a regulatory sandbox framework within which participants could trial innovative business models, products and services in the market under relaxed regulatory requirements. ATCO submitted that:

- the regulatory sandbox framework should be available across different energy types, including gas, to avoid biases towards any particular technology.
- the AEMC's advice to the Senior Committee of Officials (SCO) should include allowing for the regulatory sandbox framework to be adopted in gas networks, through appropriate amendments to the NGR, so as to remove barriers for innovation and proof-of-concept trials across the energy sector.

On 7 March 2019, the AEMC published its interim advice to the COAG Energy Council's SCO on the regulatory sandbox arrangements. The AEMC's interim advice was that formal regulatory sandbox arrangements should be introduced in the national electricity market. The AEMC's interim advice also considered that further stakeholder consultation is warranted on whether the arrangements should be extended to the regulatory framework for gas.

The AEMC's interim advice provides ATCO's with the confidence that the architects of the regulatory framework are responding to the energy market changes and are considering mechanisms that will enable networks, including gas networks, to responds to the broader market changes to the benefit of energy consumers.

However, ATCO considers that without these types of changes the national gas regulatory framework in its current form does not provide adequate incentives for the business to invest in innovative technologies. This lack of incentive is a challenge for our business because:

- the returns provided under the rate of return guideline do not provide headroom for research and development risk; and

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269 Full details of the review can be found here--> https://www.aemc.gov.au/market-reviews-advice/electricity-network-economic-regulatory-framework-review-2019

270 ATCO, Submission on Regulatory Sandbox Arrangements to Support Proof-of-Concept Trials- Consultation Paper, 31 January 2019, Available from: https://www.aemc.gov.au/sites/default/files/2019-02/ATCO.PDF

- regulated energy businesses face different incentives to invest in innovation compared to unregulated businesses.

ATCO considers that the SCO and the AMEC should proceed with the development of a regulatory sandbox framework in the national gas framework as a matter of priority. The sandbox could reduce the barriers to innovation that exist in the regulatory framework, including by improving access to finance for projects through increased regulatory certainty.

ATCO sees that the Western Australia State Government has an important role to play in supporting innovation in the energy sector in Western Australia. General initiatives such as the new Industry Attraction and Development Fund and energy sector specific initiatives, such as the WA Government's Renewable Hydrogen Council[271], are welcomed.

[271] https://www.mediastatements.wa.gov.au/Pages/McGowan/2018/08/Bold-ideas-to-map-future-for-renewable-hydrogen-in-WA.aspx

16. Total revenue

ERA required amendment 5:

ATCO must amend the values for total revenue (nominal) to reflect the values set out in Table 22 of this draft decision.

ATCO Response: Do not accept and propose a revised position

As ATCO has not accepted all required amendments, (e.g. regarding capex and opex amendments) it is unable to comply with required amendment 5.

ERA required amendment 13:

ATCO must amend the allocation of forecast total revenue (nominal) between reference services and other services in accordance with Table 87 of this draft decision.

ATCO Response: Do not accept and propose a revised position

As ATCO has not accepted all required amendments, (e.g. regarding capex and opex amendments) it is unable to comply with required amendment 13.

CHAPTER HIGHLIGHTS

1. We applied the building block method on a post-tax basis to determine the total revenue in AA5.
2. The amended building block revenue requirement for AA5 is calculated to be $931 million ($nominal), which compares with $1,025 million in our submitted 2020-24 Plan.

16.1 Introduction

We have applied the building block method on a post-tax basis to determine the total revenue required in AA5 for the provision of reference services. The building block method is commonly used in regulatory determinations and is required by NGR 76.

'Total revenue' consists of 'building blocks' that are summed to determine total revenue in each year of AA5. These building blocks include the return on capital, depreciation, opex, and other components such as taxes and incentive mechanisms. We recover the total revenue through tariffs for the provision of reference services on a net present value equivalent basis.

Table 16.1 provides cross-references to the sections of this document that discuss and justify our revised proposal for each of the building blocks.

Table 16.1: Cross-references to building block information in this document

REVENUE BUILDING BLOCK	SECTION OF THIS DOCUMENT
Return on the projected capital base	Section 11.4.2 and Chapter 12
Return of the projected capital base	Section 11.5

REVENUE BUILDING BLOCK	SECTION OF THIS DOCUMENT
Return on working capital	Chapter 14
Estimated cost of corporate income tax	Chapter 13
Forecast opex	Chapter 9

16.2 Stakeholder engagement

In preparing this 2020-24 Revised Plan we have continued to engage with stakeholders, including through the submissions to the ERA on our 2020-24 Plan.

There were no stakeholder submissions to the ERA that referred to the total revenue proposed in our 2020-24 Plan.

16.3 Summary of the ERA's Draft Decision

The ERA's Draft Decision determined a total revenue of $880.7 million. ATCO, with the exception of the calculation of taxation, generally agrees with the method used by the ERA to calculate total revenue. However, we have not accepted several required amendments that affect the inputs to the total revenue calculation (e.g. capex and opex amendments). Therefore, we are not able to comply with required amendment 5 to amend the total revenue values to those set out in the ERA's Draft Decision table 22.

16.4 ATCO's response to the Draft Decision

The revised forecast total building block revenue for the provision of reference services over AA5 is $931.4 million, comprising the building blocks shown for each year in Table 16.2. The building blocks have been revised consistent with other revisions made to our proposal (e.g. capex and opex).

Table 16.2: Total revenue ($M nominal)

BUILDING BLOCK	2020	2021	2022	2023	2024	TOTAL
Forecast opex	66.1	68.9	72.3	74.9	76.5	**358.8**
Return of the projected capital base	48.3	58.7	61.1	63.4	66.6	**298.1**
Less inflationary gain in return on assets	-17.0	-17.9	-18.5	-19.1	-19.7	**-92.2**
Return on the projected capital base	65.0	68.1	70.5	72.9	74.9	**351.4**
Return on working capital	1.1	1.1	1.1	1.2	1.2	**5.7**
Tax payable	5.2	4.1	3.6	3.2	3.2	**19.3**
Less value of imputation credits	-2.6	-2.1	-1.8	-1.6	-1.6	**-9.6**
TOTAL REVENUE (UNSMOOTHED)	**166.0**	**181.0**	**188.3**	**194.8**	**201.2**	**931.4**

The total revenue requirement is collected on an NPV equivalent basis through the reference tariffs, as per the requirements of NGR 92. Our approach to revenue equalisation through the reference tariffs is described in Chapters 17 and 18.

The ERA also requires that the split of revenue between reference and other services be split in accordance with Table 87[272] of its Draft Decision. ATCO is unable to comply with required amendment 13 as the amount of revised reference service revenue proposed by ATCO is different to that in the ERA's Draft Decision table 87.

- The amount of haulage revenue will vary according to the reference service revenue required to equalise in NPV terms with total revenue, as well as updates to various elements of the forecast.
- Ancillary reference services revenue will vary due to revised forecasts of reference ancillary services incorporating 2018 data into the forecast method and adjusting for reduced cancellation charges revenue.
- Forecast revenue from prudent discounted services has been updated.

[272] Draft Decision, required amendment 13

PART C:

Derivation of Reference Tariffs

17. Reference tariffs

ERA required amendment 14:

ATCO must amend Annexure A of the proposed revised access arrangement to reflect the tariffs set out in Table 101 of this draft decision.

ATCO Response: Do not accept and propose a revised position

As ATCO has not accepted all required amendments, (e.g. regarding capex and opex) it is unable to comply with required amendment 14.

ERA required amendment 36:

ATCO must amend the proposed revised access arrangement to introduce reduced cancellation charges for the following ancillary services that are cancelled with reasonable notice, which is taken to mean more than three business days prior to the scheduled service date.

- Special meter reading
- Applying a meter lock
- Removing a meter lock

ATCO Response: Accept

ATCO accepts required amendment 36

CHAPTER HIGHLIGHTS

1. Our revised price path for AA5 promotes efficient price signals and enhanced price stability by aligning our *cost of service* with our *expected tariff revenue* over AA5. We are seeking to achieve this by:
   a) Proposing a 10.6% increase in tariffs for tariff classes A1, A2, B1, and B2 on 1 January 2020, followed by annual 2.3% real increases in each of the following years.
   b) Following increases in the B3 tariff class fixed charge over AA4, we propose to hold the B3 fixed charge at the 2019 level in real terms over AA5.
   c) Following significant decreases in the B3 tariff class variable charges over AA4, we propose to increase the variable charges on 1 January 2020 to a similar level to the 2018 prices in real terms followed by annual 2.3% real increases in each of the following years.
2. The average annual distribution charges over AA5 (based on average consumption in AA5) will be at lower levels (approximately 10% lower for most tariff classes), in real terms compared to the average annual distribution charge in AA4.

17.1 Chapter summary

17.1.1 Background and context of our proposed Reference Tariffs

The price path over AA4 has led to our expected tariff revenue being lower than our cost of service. The AA4 Final Decision resulted in our 2019 forecast tariff revenue being *$38 million lower* than the forecast

cost of service. The 2019 tariff levels are not sustainable into AA5 and price increases are necessary to allow the cost of service to be recovered.

The objective of the NGL 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…*"[273]. Any misalignment between the cost of service and expected tariff revenue creates price signals that lead to inefficient network investment and inefficient network utilisation.

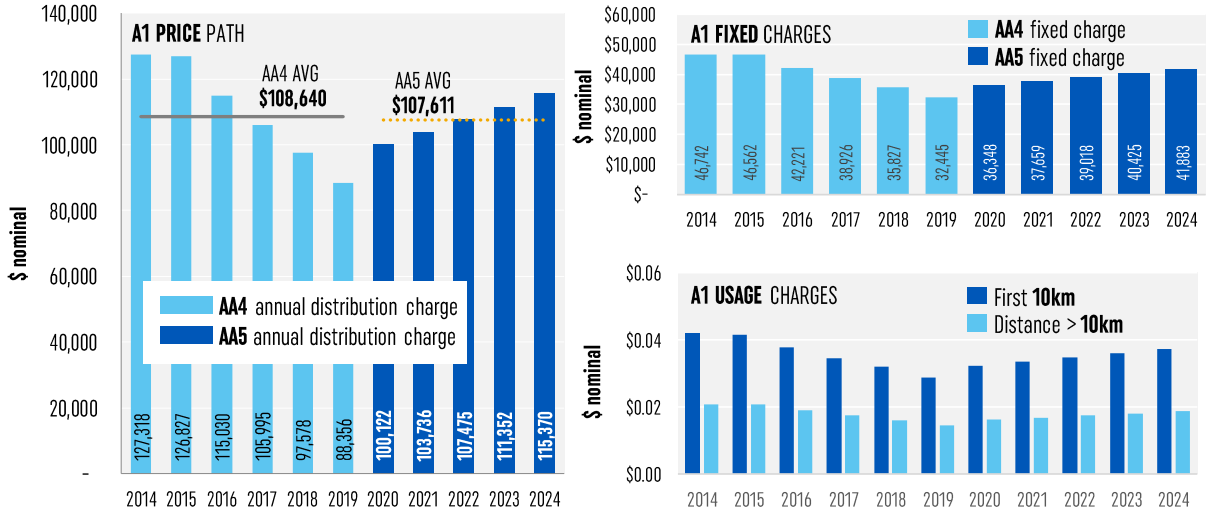
ATCO has continued to follow these principles in its revised proposal to:

- Create an efficient price path to match cost of service with revenue allowing efficient price signals
- As far as possible address retailer desires for a smooth price path without creating price volatility across future access arrangement periods.

Following these principles and implementing ATCO's revised cost of services results in real decreases in average distribution charges over AA5 compared to AA4 ranging from 9% to 13%.

17.1.2 Summary of reference tariff changes between AA4 and AA5

Figure 17.1: A1 customer reference tariff changes (AA4 to AA5)



A1 PRICE PATH

The average **distribution charge** (for an average consumption customer) has decreased from AA4, while aligning our cost to service with our expected tariff revenue.

A1 FIXED & USAGE CHARGES

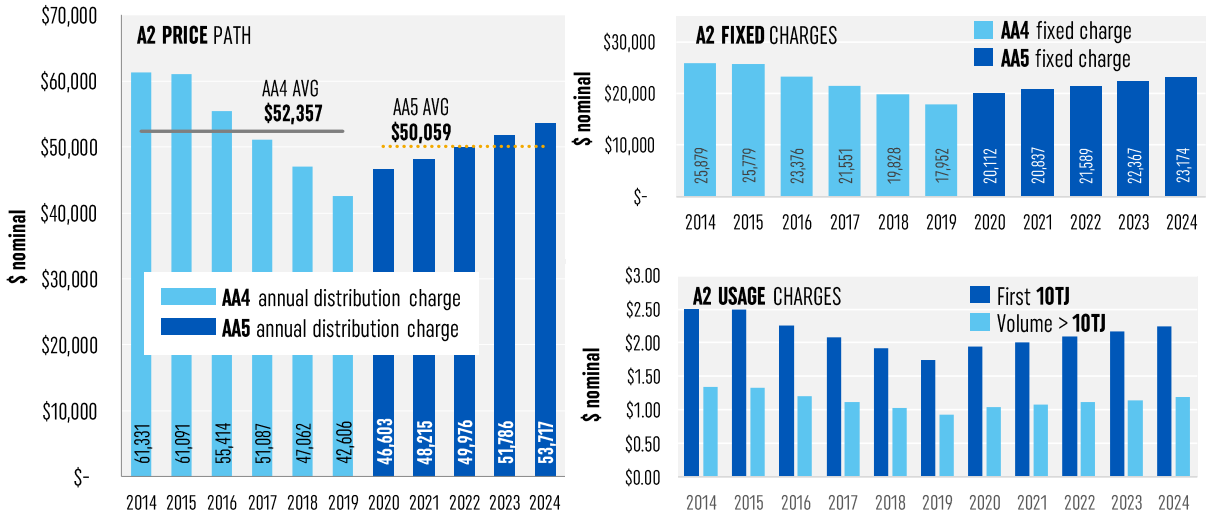
Fixed and usage charges have increased from 2019 to 2020 to realign cost of service with tariff revenue, although on average, charges are lower in AA5 than in AA4.

A1 MARGINAL USAGE CHARGES

Marginal usage charges are set to consider our long-run marginal cost, including the length of pipeline required. Declining block tariffs are set to encourage greater utilisation of the network.

[273] National Gas Access Act (2009), Section 23

Figure 17.2: A2 customer reference tariff changes (AA4 to AA5)



A2 PRICE PATH

The average annual **distribution charge** (for an average consumption customer) decreases in AA5. The charge aligns our cost to service with our expected tariff revenue.

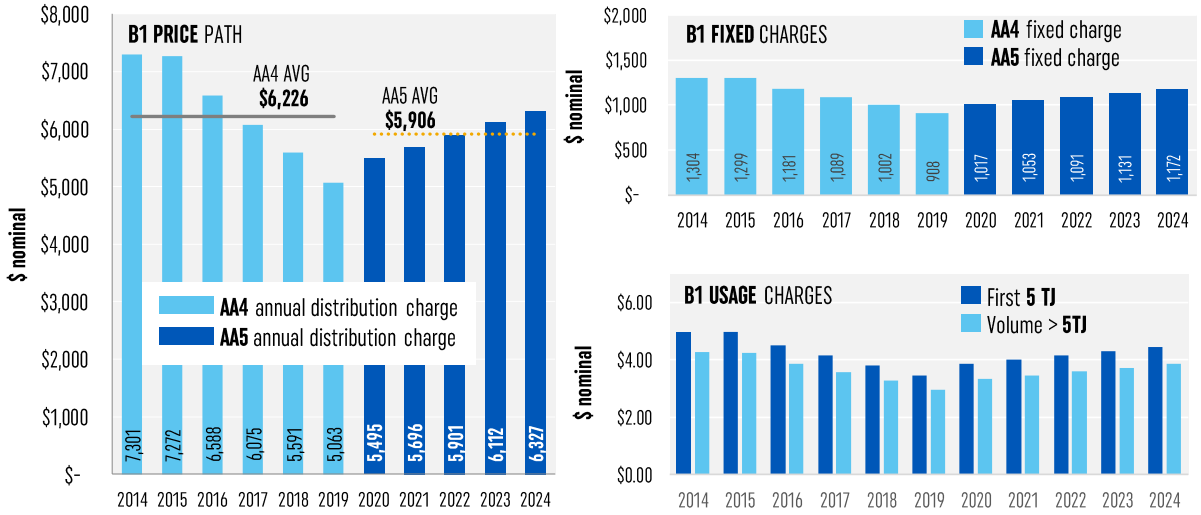
A2 FIXED & USAGE CHARGES

Fixed charges have increased from 2019 to 2020 to realign cost to serve and expected tariff revenue, while being lower on average over AA5 compared to AA4.

A2 MARGINAL USAGE CHARGES

Marginal usage charges consider long run marginal cost. Declining block tariff to encourage utilisation of network. First usage tariff band contributes to recovery of residual costs.

Figure 17.3: B1 customer reference tariff changes (AA4 to AA5)



B1 PRICE PATH

The average annual **distribution charge** (for an average consumption customer) maintains alignment of cost to service with expected tariff revenue. over AA5.

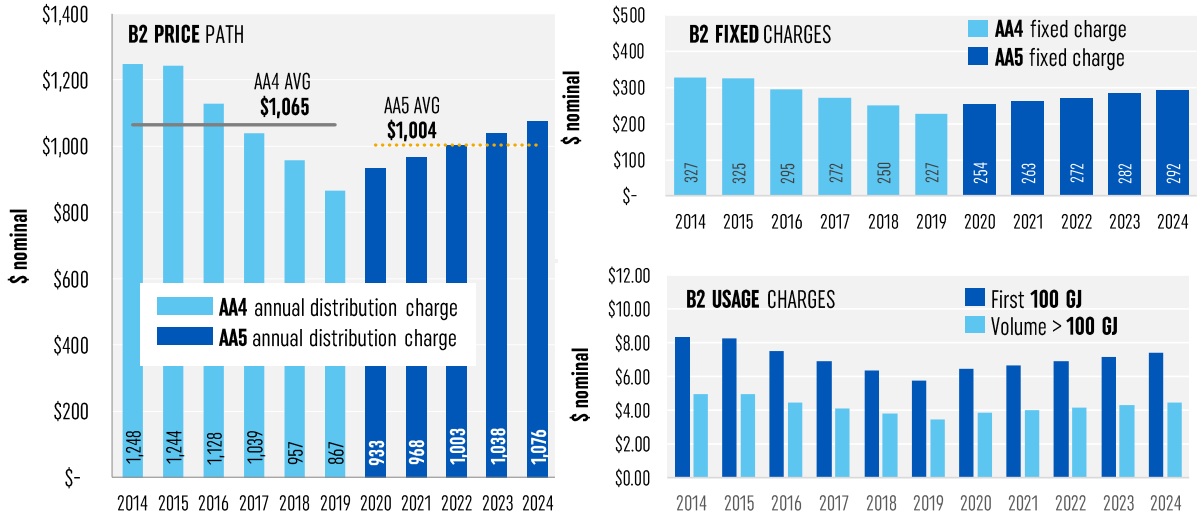
B1 FIXED & USAGE CHARGES

Fixed and usage charges have increased from 2019 to 2020 to realign cost to serve and expected tariff revenue, although on average, AA5 charges are lower than AA4.

B1 MARGINAL USAGE CHARGES

Marginal usage charges consider long run marginal cost. Declining block tariff to encourage utilisation of network. First usage tariff band contributes to recovery of residual costs

Figure 17.4: B2 customer reference tariff changes (AA4 to AA5)



B2 PRICE PATH

The average annual **distribution charge** (for an average consumption customer) maintains alignment of cost to service with expected tariff revenue. over AA5.

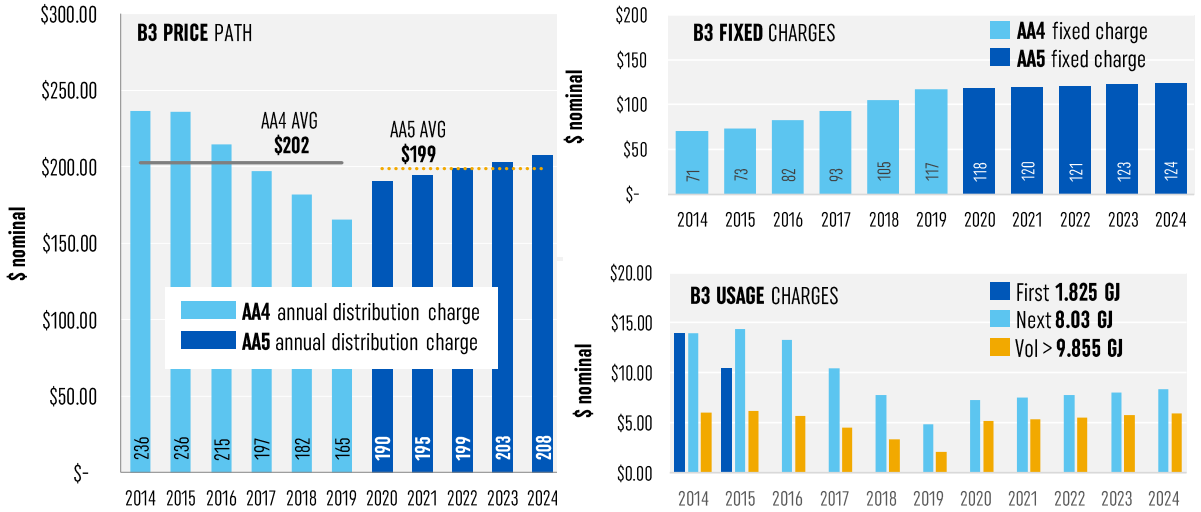
B2 FIXED & USAGE CHARGES

Fixed charges have increased from 2019 to 2020 to realign cost to serve and expected tariff revenue, although on average, AA5 charges are lower than AA4.

B2 MARGINAL USAGE CHARGES

Marginal usage charges consider long run marginal cost. Declining block tariff to encourage utilisation of network. First usage tariff band contributes to recovery of residual costs

Figure 17.5: B3 (residential) customer reference tariff changes (AA4 to AA5)



B3 PRICE PATH

Annual **distribution charge** decrease at average consumption to maintain the alignment of cost to service with expected tariff revenue.

B3 FIXED & USAGE CHARGES

Fixed charges held at 2019 real dollars as it reflects fixed costs per connection after increase during AA4 usage charges increased between 2019 to 2020 to realign cost to service with tariff revenue.

B3 MARGINAL USAGE CHARGES

Marginal usage charges consider the long-run marginal cost. Declining block tariffs encourage utilisation of the network. The zero-charge for the first 1.825 GJ is maintained to encourage connection and spread fixed costs over a larger customer base.

17.2 Introduction

This chapter sets out:

- The principles applied when setting tariff classes, tariff structures and tariffs
- Our proposed tariff structure and tariffs.

Our main considerations when setting tariff structures and tariffs, were to ensure economically efficient price signals, legislative compliance, and to balance the competing preferences of customers and retailers; respectively 'long-term price *stability',* compared with 'a steady and consistent price increase across the years of AA5'.

17.3 Stakeholder engagement

In preparing this 2020-24 Revised Plan we have continued to engage with stakeholders, including through the submissions to the ERA on our 2020-24 Plan.

There were 4 stakeholder submissions that referred to the forecast reference tariffs and price path proposed in our 2020-24 Plan, these are outlined in Table 17.1.

Table 17.1: Consideration of Stakeholder Feedback on Reference Tariffs

STAKEHOLDER FEEDBACK ON THE 2020-24 PLAN	OUR RESPONSE TO FEEDBACK ON THE 2020-24 PLAN
PRICE PATH Retailers in their submissions to the ERA were concerned with the amount of the price increase proposed in 2020 from the 2019 price. Retailers preferred a price path with a smaller price increase in 2020 with larger price increases in 2021 to 2024 than proposed by ATCO referred to as a "smoother" price path. Retailers expressed concern about the potential negative impact on gas network utilisation and new connections if they pass on distribution charge increases to business and residential customers.	**Changes from the 2020-24 Plan:** In real terms, tariff distribution charges have fallen across tariff classes at average consumption. Therefore, retailers during AA5 will be setting retail prices in an environment of distribution charges previously experienced by them. It is important for efficient utilisation of the gas distribution network that prices are set to reflect the cost of service. Achieving efficient utilisation of the network is best achieved by a price increase in 2020 that reflects the cost of service rather than a "smoothed" price path. The price path selected is consistent with the criteria set out by the ERA at paragraph 841 of its Draft Decision.
STRUCTURE OF REFERENCE TARIFFS **Alinta Energy** in their submission to the ERA supported the continuation of the AA4 tariff structure in AA5: *"Alinta Energy supports maintaining the current tariff charging parameters for haulage reference services in AA5…"*	**No change from the 2020-24 Plan:** Tariffs structures are unchanged from the proposed plan.
SPECIAL METER READ FEE **AGL** in their submission to the ERA noted the proposed special meter reading fee was in line with that charged by other gas distribution businesses. **Kleenheat** in their submission to the ERA regarded the proposed charge as high relative to what would be charged by an efficient network operator noting that the proposed charge was the second highest of those sampled and on average 23% higher than the charges sampled.	**No change from the 2020-24 Plan:** No change to the proposed meter reading fee has been made, as the charge reflects the cost to provide the service. ATCO notes that when benchmarked against the most recent published charges, our proposed charges are 11.5% higher than the national average as shown in Table 17.12 below.

STAKEHOLDER FEEDBACK ON THE 2020-24 PLAN	OUR RESPONSE TO FEEDBACK ON THE 2020-24 PLAN
CANCELLATION CHARGES **AGL** in their submission to the ERA raised the matter of cancellation charges for ancillary services not undertaken. AGL's proposed changes are as follows: "AGL therefore seek two components to the changes for the relevant services: 1. no charge when the service is cancelled before being scheduled - i.e. no impact on resources; and 2. a cancellation charge recognising that resources were allocated, and work cancelled, but that resources can be re-allocated to other work – i.e. colloquially known as a 'wasted truck' charge." Further AGL sought for special meter reads, that a specific *time frame for cancellations* should be set where no cancellation fee is incurred.	**Changes from the 2020-24 Plan:** ATCO has revised its ancillary service charges to allow for a zero cancellation fee to be charged for: • Apply meter lock • Remove meter lock • Special meter reads; where the cancellation is notified more than 3 business days from the proposed date of service. ATCO expects to put the necessary IT system changes in place so that this change can be implemented by 1 January 2020

17.4 Summary of the ERA's Draft Decision

The ERA in its Draft Decision at required amendment 14 stated ATCO must amend Annexure A of the proposed revised access arrangement to reflect the tariffs set out in Table 101 of the Draft Decision. The ERA outlined several principles, including some proposed by ATCO, to derive the price path for AA5 haulage reference tariffs. These principles were:

- Expected revenue to be recovered from each tariff class is between the avoidable cost of not providing the reference service and the standalone cost of providing the reference service.
- Tariffs take account of the long-run marginal cost for the reference service.
- Tariffs recover the efficient costs of service with minimal distortion to efficient pricing signals.
- Effects on small use customers and those that supply small use customers are considered as required by local regulations.
- Forecast revenue in the last year of AA5 is to be within 3% of total revenue for that year.

The ERA also adopted elements of the price path proposed by ATCO:

- The B3 standing charge was fixed in real terms at the 2019 level.
- A step increase was applied to all other tariffs from 2019 to 2020 with real tariff increases of 2.3% in each of the following years.

17.5 ATCO's response to the Draft Decision

As ATCO has not accepted all required amendments, (e.g. regarding capex and opex) it is unable to comply with required amendment 14. However, we continue to follow the principles outlined in its 2020-24 Plan to determine tariff classes, tariff structures and tariffs. We agree with the criteria set out by the ERA's Draft Decision (listed above) against which to sets its AA5 tariffs. Similarly, we will continue with elements of the tariff price path from our proposed 2020-24 Plan and adopted by the Draft Decision.

17.6 Tariff objectives

Our main considerations when setting tariff structures and tariffs, were to ensure economically efficient price signals, legislative compliance, and to balance the competing preferences of customers and retailers.

This section elaborates on the preference expressed by customers and retailers, our objectives in setting economically efficient price signals and the regulatory framework that underpins our legislative compliance requirements.

17.6.1 Customer and retailer preferences

We have sought to balance the competing views of customers and retailers on the overall price path:

- **Customers:** A strong preference of many of our customers is *stability* in pricing; that is, a step change in 2020 followed by stable distribution charges.
- **Retailers:** Feedback on the 2020-24 Plan indicated a clear preference by retailers to smooth the transition from AA4 tariffs to AA5 tariffs with equal increases from 2019 to 2024.

17.6.2 Economically efficient price signals

We have sought to provide economically efficient price signals by setting tariffs in a way that seeks to minimise:

- tariff variability *within* the access arrangement period; and
- tariff variability *between* access arrangement periods by setting the 2024 cost of service within 3% of the expected tariff revenue[274].

We have considered the need for tariffs to:

- reflect efficient costs to provide the service; and
- provide signals to promote efficient utilisation of, and investment in the network.

17.6.3 Regulatory framework

Meeting the objectives and compliance with the principles, processes and requirements of the legislation is a necessary consideration when setting tariffs.

In relation to the NGL, particular regard should be had to the NGO[275] and revenue and pricing principles[276].

In summary what the NGO and the revenue and pricing principles require is that *tariffs should reflect the costs of providing reference services and provide price signals that promote efficient investment in and utilisation of the network in the long term interests of consumers.*

The tests at NGR 94 put these principles into effect. The tests in the NGR include testing the expected tariff revenue, given the tariffs set, against the requirements that:

- for each tariff class the expected tariff revenue is between the avoidable cost and stand-alone cost of providing the reference service to that tariff class;
- in net present value terms, the total cost of service equals the expected tariff revenue; and
- the tariffs set consider the long run marginal cost of providing services.

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274 This is consistent with the approach applied to other gas distribution networks by the Australian Energy Regulator

275 National Gas Access Act WA (2009), Section 23

276 National Gas Access Act WA (2009), Section 24

In addition, the *National Gas Access (WA) (Local Provisions) Regulations 2009* require that:

- the impact on small use customers and retailers must be taken into account; and
- uniform tariffs must be applied to small use customers for the same service irrespective of their location.

ATCO in this revised proposal continues to comply with these legislative requirements while balancing the views of retailers and consumers for competing price paths.

17.7 Tariff setting process

The section summarises our process to set tariff classes, tariff structures, and tariff charging parameters. Our process is guided by the tariff objectives described in Section 17.6.

Our process to set the AA5 tariffs includes:

1. **Setting tariff classes:** Establishing the tariff classes for the reference services.
2. **Setting tariff structures:** Establishing the structure of each tariff for each tariff class
3. **Setting AA5 tariff charging parameters:** Determining the individual charging parameters for each of the elements of the tariffs.

Further detail on this process is in the following sections.

17.8 AA5 tariff classes

Our revised proposal maintains the same tariff classes in our 2020-24 Plan and accepted in the ERA's Draft Decision. These tariff classes are maintained because there are no material changes from AA4 in the:

- types of haulage services required by customers in each tariff class; or
- types of customers requiring reference services.

In addition, customers and stakeholders have not raised any concerns with the tariff classes during the VoC program or in responses to the Plan.

Our view is that the proposed tariff classes meet our regulatory obligations:

- **Economically efficient:** because they are based on the delivery facilities required and thus the cost to serve each tariff class. Therefore, customers have been grouped on an *economically efficient basis* as required by NGR 94(2)(a).
- **Avoid unnecessary transaction costs:** by maintaining the same tariff classes avoiding costs to retailers and other stakeholders of the costs of change.

17.9 AA5 tariff structures

ATCO's revised proposal maintains the unchanged AA4 tariff structures proposed in our 2020-24 plan and accepted by the ERA in its Draft Decision.

17.9.1 Tariff structure: *haulage services*

We will maintain the AA4 tariff structure for AA5. The basic tariff structure, including both a fixed charge and a declining block usage charge component, has been in place since January 2000; although there have been minor variations at access arrangement reviews.

Maintaining the AA4 tariff structure for AA5 supports the outcomes of the VoC program. We heard that customers value stability, therefore maintaining the existing tariff structure assists in keeping customers' prices relatively consistent. Retailers did not raise any concerns with the tariff structure for haulage services in responses to the 2020-24 Plan.

Our view is that the proposed tariff structure meets our regulatory obligations:

- **National gas objective (NGO):** The current tariff structure includes both a fixed charge and a usage charge component. This tariff structure design provides price signals to customers regarding their efficient usage of the network thus contributing to the achievement of the NGO.
- **Transaction costs:** NGR 94(4)(b)(i) requires transaction costs that are associated with charging parameters to be considered. Maintaining the existing tariff structure avoids potentially costly changes to systems (including retailer systems) and processes that may be required should the tariff structure change.
- **Responding to price signals:** NGR 94(4)(b)(ii) requires that tariffs must have regard to the ability of customers to respond to price signals. Maintaining a relatively simple tariff structure of a standing charge and two usage bands makes it easier for customers to understand the effect on the distribution charge of connection or changes in consumption.

Table 17.2 shows the proposed AA5 tariff structure for each tariff class (noting that we have adopted a single tariff class for each reference service).

Table 17.2: Tariff structure

REFERENCE SERVICE (TARIFF CLASS)	SERVICE ELEMENT	CHARGING PARAMETER
A1	Fixed charge for using the distribution system	Standing Charge ($/year)
	Fixed charge for the capacity of network utilised (reflecting maximum hourly quantity (MHQ) and pipeline length)	Demand Charge ($/MHQ GJ/km)
	Variable charge based on throughput and haulage distance	Usage Charge ($/GJ/km)
	Charge to reflect the specific costs associated with the customer for service pipe, regulators, metering, and telemetry	User specific Charge ($)
A2	Fixed charge for using the distribution system	Standing Charge ($/year)
	Variable charge based on throughput	Usage Charge ($/GJ)
	Charge to reflect the specific costs associated with the customer for service pipe, regulators, metering, and telemetry	User specific Charge ($)
B1	Fixed charge for using the distribution system	Standing Charge ($/year)
	Variable charge based on throughput	Usage Charge ($/GJ) with two blocks
	Charge to reflect the specific costs associated with the customer for service pipe, regulators, metering, and telemetry	User specific Charge ($)
B2	Fixed charge for using the distribution system	Standing Charge ($/year)

REFERENCE SERVICE (TARIFF CLASS)	SERVICE ELEMENT	CHARGING PARAMETER
	Variable charge based on throughput	Usage Charge ($/GJ) with two blocks
B3	Fixed charge for using the distribution system	Standing Charge ($/year)
	Variable charge based on throughput	Usage Charge ($/GJ) with three blocks

17.9.2 Tariff structure: *ancillary services*

Ancillary services are charged at the same rate to all customers within the relevant tariff classes, or at a rate to reflect the specific costs of the individual service provided. The rates charged reflect the cost to provide the service, and so promote efficient use of the service.

Table 17.3 shows the proposed tariff structures for ancillary services for AA5, which includes the new special meter reading service.

Table 17.3: Ancillary services tariffs

ANCILLARY SERVICE	CHARGING PARAMETER
Apply meter lock	Published tariff per activity
Remove meter lock	Published tariff per activity
Deregistering a delivery point	Published tariff per activity (tariff classes B2 and B3) or the reasonable cost to ATCO to deregister the delivery point (tariff classes A1, A2 and B1)
Disconnect service	Published tariff per activity
Reconnect service	Published tariff per activity
Special meter reading	Published tariff per activity

At required amendment 36, the ERA required ATCO introduce reduced cancellation charges for:

- special meter reading;
- applying a meter lock; and
- removing a meter lock,

where the cancellation is more than three days prior to the scheduled service date.

ATCO will implement reduced (to nil) cancellation charges for these services cancelled more than 3 business days before the requested date of service (as discussed in section 17.13.1).

17.10 AA5 tariff charging parameters

This section details our process and considerations to establish the AA5 tariff charging parameters.

17.10.1 Background and context

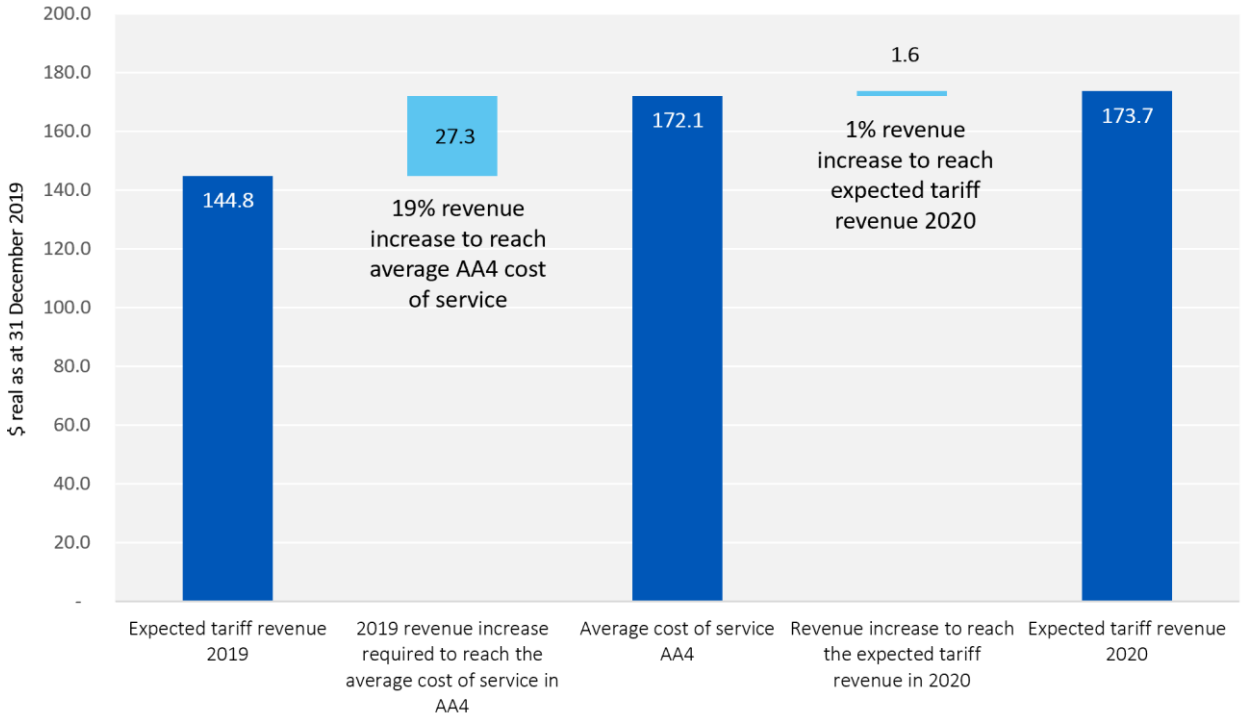
AA4 commenced on 1 July 2014; however, due to the time required to complete the AA4 regulatory process, prices remained at 2013/14 levels[277] until 1 October 2015. This resulted in the current AA4 price path, where the cost of service in 2019 is below our expected tariff revenue (see Figure 17.6).

[277] After adjustment for the removal of the carbon tax on 1 July 2014

In addition, over AA4 the standing charge for the B3 tariff class was increased to ensure recovery of fixed costs while B3 tariff class usage charges declined. Together these charges have led to a situation where, based on analysis of actual network growth projects, the marginal usage tariff in 2019 is expected to be below long run marginal cost. Together this potentially results in price signals, if maintained, that will cause inefficient network investment and inefficient network utilisation.

Figure 17.6 shows that almost all of the 20% revenue increase in 2020 is necessary just to return prices back to the average AA4 cost of service. The remainder of the revenue increase (1%) is required to recover the 2020 cost of service.

Figure 17.6: Tariff revenue requirements to meet our cost to serve



17.10.2 Process to set reference tariff charging parameters

The tariff setting process adopted for AA5 is the same as originally proposed in our 2020-24 Plan, and can be summarised as follows:

1. Allocate costs to reference services, noting that each haulage reference service corresponds to a single tariff class, so that tariffs can be set to recover those costs.
2. Estimate the long-run *marginal cost* of providing the reference services so that tariffs can be set to promote efficient utilisation of the network.
3. Set tariff components so the usage charge accounts for the long-run marginal cost and that the costs of providing the reference service are recovered.
4. Confirm that for each tariff class, the revenue expected to be recovered by the tariff charges lies between an upper bound of the stand-alone cost of providing the reference service and a lower bound of the avoidable cost of providing the reference service.

In addition, we have considered the objectives set out in Section 17.6 as part of the process of setting the reference tariff charging parameters.

17.10.3 AA5 reference tariff charging parameters outcomes

Our revised proposal maintains the price path in our 2020-24 Plan and accepted by the ERA as a step change in price in 2020 with an annual 2.3% change in the 2021 to 2024 years taking account of the:

- Criteria outlined in Section 17.4 noting this was also applied in the Draft Decision.
- The objectives set out in Section 17.6.
- The maintaining of the B3 standing charge at 2019 level in real terms proposed by ATCO and agreed by the ERA in the Draft Decision.
- The maintaining of the first 1.825GJ for the B3 tariff class at nil charge as proposed by ATCO and agreed by the ERA in the Draft Decision.

Table 17.4 summarises the proposed price movements for each tariff class over AA5.

Table 17.4: Summary of pricing outcomes

TARIFF CLASS	REAL PRICE CHANGE ON 1 JANUARY 2020		SUBSEQUENT ANNUAL REAL PRICE CHANGES (1 JAN 2021 – 1 JAN 2024)	
A1, A2, B1, and B2	10.6%		2.3%	
B3	Fixed: 0%	Marginal usage charge increased to $5.11	Fixed: 0%	Variable: 2.3%

In setting the AA5 reference tariff charging parameters we have considered the following matters:

- **Usage charges:** Usage charges reflect costs placed on the network by *additional usage*. That is, the marginal usage charge has been set taking account of the long run marginal cost of providing additional capacity. The first band of usage charges is set for an initial level of consumption to assist with recovery of costs not recovered by the marginal usage charge. AA5 usage charges have increased to align the cost of service and expected tariff revenue.
- **Fixed charges:** The fixed charge is set to recover the cost of service *not recovered via the usage charges*. The use of fixed charges to recover this 'residual revenue' minimises the distortion to price signals and is supported by regulatory precedent.
- **Efficient cost recovery:** Amendments to our reference tariffs allow our expected tariff revenue by tariff class to approximate the estimated costs of service by tariff class.
- **Customer and retailer pricing preferences:** The 2.3% annual increase was maintained in the ERA's Draft Decision and keeps the 2024 forecast revenue within 3% of cost of service keeping the potential price movement from AA5 to AA6 within acceptable bounds.

The following sections provide further detail on the movements in the tariffs over AA5 and outline the associated rationale.

17.10.4 B3 reference tariff

Our revised proposal is to apply a step change on 1 January 2020 consistent with our plan and the ERA's Draft Decision to the usage charging parameters for the B3 reference tariffs followed by annual price increases of 2.3%. The standing charge for the B3 reference tariff will remain at 2019 levels in real terms over AA5.

17.10.4.1 B3 usage charges

The B3 tariff includes three usage charges that are based on consumptions bands. The bands are defined as follows:

Table 17.5: B3 usage bands

BAND	VOLUME	CHARGING BASIS
1	First 1.825 GJ	$/GJ
2	Volume >1.825 < 9.855 GJ	$/GJ
3	Volume > 9.855 GJ	$/GJ

The first step in setting usage charges was to set the marginal usage charge at a value that considered marginal cost. Marginal cost estimation showed a wide range of values based on theoretical perturbation method calculation as well as the results from actual and forecast growth projects. Based on that analysis[278], a value of approximately $5 to $6 is reasonable.

The first 1.825 GJ of consumption has been maintained at *no charge* over AA5. No charge on the first 1.825 GJ was introduced during AA4 to offset the effect on small use customers of an increasing standing charge and has been maintained as proposed in our 2020-24 Plan and agreed in the ERA's Draft Decision

Given the other charges set, including the standing charge (see below), the charge for the usage band greater than 1.825 GJ up to 9.855GJ was set to recover the "residual" cost of service for the B3 tariff class. The value proposed for 1 January 2020 is $7.16 in real 31 December 2019 dollars.

After setting the tariffs for 1 January 2020, usage charges were increased at the rate of 2.3% (real) so that in NPV terms, the cost of service approximated expected tariff revenue.

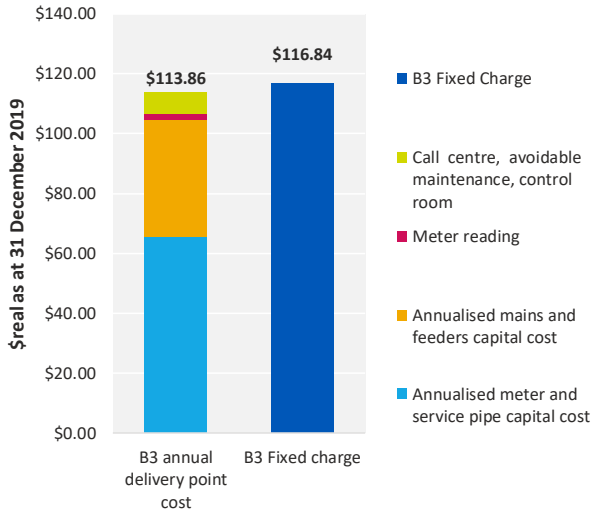
[278] Refer to attachment 19.1: '*Tariff setting method*'

17.10.4.2 B3 tariff – Standing (fixed) charge

The B3 fixed charge has been held constant at the forecast 31 December 2019 real dollar value of $116.84. Over AA4, the B3 tariff class standing charge increased from $77.93 to better approximate the fixed costs of a delivery point. The charge has now reached a level where fixed costs of an additional delivery point are recovered and so has been held constant over AA5 in real dollar terms (see Figure 17.7).

Holding the standing charge constant in real dollar terms in concert with the proposed usage charges ensures the economically efficient recovery of all B3 tariff class costs of service over AA5.

Figure 17.7: B3 Fixed Charges vs Cost of Delivery



17.10.5 A1, A2, B1 and B2 reference tariff

Our revised proposal is to apply a step change on 1 January 2020 to all charging parameters for the A1, A2, B1 and B2 reference tariffs followed by annual price increases of 2.3% as in our Plan and decided by the ERA in its Draft Decision.

As noted at Section 17.10.1 tariffs have declined over AA4 to the point where tariff revenue is below the cost of service. As required by NGR 92(2) and 94(5), tariffs must be set to equalise (in NPV terms) the cost of reference services and the expected revenue from reference services. To meet this requirement, we are proposing:

- a 10.6% real increase in tariffs on 1 January 2020; plus
- a real 2.3% increase per year from 2021 to 2024.

Given 2019 expected tariff revenue is below the cost of service and the annual tariff increases of 2.3% from 2021 to 2024, an initial price increase of 10.6% is required, to equate in NPV terms over AA5 the cost of service and expected tariff revenue as required by NGR 92(2) and 94(5).

The marginal usage charges have been confirmed to be within the ranges suggested by marginal cost analysis.[279]

17.10.6 Long run marginal cost estimates

The estimates of long run marginal cost have been maintained from our Plan. The estimates by tariff class are shown in Table 17.6.

Table 17.6: Long run marginal cost estimates ($ real as at 31 December 2019)

	A1	A2	B1	B2	B3
Average perturbation method	1.40	0.57	1.12	1.10	1.44
Average forecast/actual projects	1.43	1.56	1.98	3.96	5.93
Forecast 2020 marginal usage tariff	0.21*	1.14	3.63	4.21	6.22

* Based on an average 6km distance from transmission pipeline

[279] Refer to Attachment 19.1: 'Tariff setting method' *provided with the original submission*

17.11 Indicative prices

This section details indicative prices for each tariff class over AA5. The actual prices charged in each year are likely to differ from these indicative prices due to the annual operation of the tariff variation mechanism. This mechanism allows prices to change due to inflation, the annual update for the cost of debt, and cost pass through events. The tariff variation mechanism is detailed in Chapter 18 and documented in Annexures B and C of the proposed access arrangement.

Customers relying on this information to make business or investment decisions should consider the potential volatility between an indicative price and a final outturn price and the risks inherent in relying on them. Table 17.7 shows the proposed tariffs in nominal dollars before any tariff variation is applied.

Table 17.7: Proposed haulage tariffs ($ nominal) – indicative only

CHARGING PARAMETER	UNITS	2020	2021	2022	2023	2024
REFERENCE TARIFF A1						
Standing charge	$/year	36,348.22	37,659.23	39,017.54	40,424.83	41,882.88
Demand charge		-	-	-	-	-
First 10 km	$/GJ km	153.20	158.73	164.45	170.39	176.53
Distance > 10 km	$/GJ km	80.64	83.54	86.55	89.68	92.91
Usage charge		-	-	-	-	-
First 10 km	$/GJ km	0.03241	0.03358	0.03479	0.04	0.04
Distance > 10 km	$/GJ km	0.01634	0.01692	0.01754	0.02	0.02
REFERENCE TARIFF A2						
Standing charge	$/Year	20,111.77	20,837.17	21,588.73	22,367.40	23,174.15
First 10 TJ	$/GJ	1.94	2.01	2.09	2.17	2.25
Volume > 10 TJ	$/GJ	1.04	1.08	1.11	1.15	1.19
REFERENCE TARIFF B1						
Standing charge	$/Year	1,016.73	1,053.41	1,091.40	1,130.76	1,171.54
First 5 TJ	$/GJ	3.87	4.01	4.16	4.30	4.45
Volume > 5 TJ	$/GJ	3.33	3.46	3.58	3.71	3.85
REFERENCE TARIFF B2						
Standing charge	$/Year	253.79	262.94	272.43	282.25	292.43
First 100 GJ	$/GJ	6.43	6.67	6.91	7.15	7.42
Volume > 100 GJ	$/GJ	3.86	4.00	4.14	4.29	4.44
REFERENCE TARIFF B3						
Standing charge	$/Year	118.33	119.84	121.38	122.93	124.50
First 1.825 GJ	$/GJ	-	-	-	-	-
Volume > 1.825, < 9.855 GJ	$/GJ	7.25	7.51	7.78	8.06	8.35
Volume > 9.855 GJ	$/GJ	5.18	5.36	5.56	5.75	5.97

The revised proposed real dollar tariffs, as stated in Annexure A of the revised proposed Access Arrangement, are shown in Table 17.8 before any tariff variation is applied.

Table 17.8: Proposed haulage tariffs ($ real as at 31 December 2019) – indicative only

CHARGING PARAMETER	UNITS	2020	2021	2022	2023	2024
REFERENCE TARIFF A1						
Standing charge	$/year	35,889.75	36,715.21	37,559.66	38,423.53	39,307.27
Demand charge						
First 10 km	$/GJ km	151.27	154.75	158.31	161.95	165.67
Distance > 10 km	$/GJ km	79.62	81.45	83.32	85.24	87.20
Usage charge						
First 10 km	$/GJ km	0.03200	0.03274	0.03349	0.03	0.04
Distance > 10 km	$/GJ km	0.01613	0.01650	0.01688	0.02	0.02
REFERENCE TARIFF A2						
Standing charge	$/Year	19,858.09	20,314.83	20,782.07	21,260.06	21,749.04
First 10 TJ	$/GJ	1.92	1.96	2.01	2.06	2.11
Volume > 10 TJ	$/GJ	1.03	1.05	1.07	1.09	1.12
REFERENCE TARIFF B1						
Standing charge	$/Year	1,003.91	1,027.00	1,050.62	1,074.78	1,099.50
First 5 TJ	$/GJ	3.82	3.91	4.00	4.09	4.18
Volume > 5 TJ	$/GJ	3.29	3.37	3.45	3.53	3.61
REFERENCE TARIFF B2						
Standing charge	$/Year	250.59	256.35	262.25	268.28	274.45
First 100 GJ	$/GJ	6.35	6.50	6.65	6.80	6.96
Volume > 100 GJ	$/GJ	3.81	3.90	3.99	4.08	4.17
REFERENCE TARIFF B3						
Standing charge	$/Year	116.84	116.84	116.84	116.84	116.84
First 1.825 GJ	$/GJ	-	-	-	-	-
Volume > 1.825, < 9.855 GJ	$/GJ	7.16	7.32	7.49	7.66	7.84
Volume > 9.855 GJ	$/GJ	5.11	5.23	5.35	5.47	5.60

17.12 Tariff revenue

Given the above indicative tariffs, we have confirmed that the expected tariff revenue:

- in net present value terms equates to total revenue;
- for each tariff class, approximates the forecast total revenue for the tariff class; and
- for each tariff class, lies between the lower bound of avoidable cost and the upper bound of stand-alone cost over AA5.

The results of these tests showing compliance are shown in Table 17.9

Table 17.9: NGR 94 test ($M real as at 31 December 2019)

TARIFF CLASS	TOTAL COSTS ALLOCATED	STAND ALONE COSTS	EXPECTED REVENUE	AVOIDABLE COSTS
A1	33.8	174.3	34.9	3.1
A2	22.6	268.7	21.8	2.0
B1	51.6	419.3	47.7	6.9
B2	45.0	426.5	46.7	6.6
B3	637.9	739.4	640.0	115.4
Ancillary services	15.0	15.0	14.8	13.3
TOTAL	**805.9**		**805.9**	

17.13 Setting tariffs: Reference ancillary services

The five reference ancillary services provided in AA4 have been retained in AA5. An additional reference service, special meter reading, has been added for AA5. The service has been added due to the increasing demand related to the entry of new retailers to the Western Australian market and the consequent requirement for meter reads when customers change retailers.

Tariffs for ancillary services are based on the cost to provide those services and to promote efficient use of the services. Tariffs for ancillary services are shown in Table 17.10 and Table 17.11 and include:

- The direct cost of operations staff and contractors providing the service.
- The direct administration cost of providing the service.
- An allocation of corporate costs such as accounting services and IT services.

Table 17.10: Ancillary reference services tariffs ($ nominal)

TARIFF CLASS	2020	2021	2022	2023	2024
Apply Meter Lock	49.77	50.40	51.05	51.70	52.36
Remove Meter Lock	27.07	27.42	27.77	28.12	28.48
Deregistration Request	124.11	125.69	127.30	128.92	130.57
Disconnect Service	99.17	100.44	101.72	103.02	104.34
Reconnect Service	140.39	142.18	144.00	145.84	147.70
Special meter reading	12.98	13.15	13.32	13.49	13.66

Table 17.11: Ancillary reference services tariffs ($ real as at 31 December 2019)

TARIFF CLASS	2020	2021	2022	2023	2024
Apply Meter Lock	49.14	49.14	49.14	49.14	49.14
Remove Meter Lock	26.73	26.73	26.73	26.73	26.73
Deregistration Request	122.54	122.54	122.54	122.54	122.54
Disconnect Service	97.92	97.92	97.92	97.92	97.92
Reconnect Service	138.62	138.62	138.62	138.62	138.62
Special meter reading	12.82	12.82	12.82	12.82	12.82

17.13.1 Charges for cancelled ancillary services

In accord with required amendment 36 ATCO proposes to introduce a nil charge for the following services cancelled more than three business days prior to the scheduled date of service.

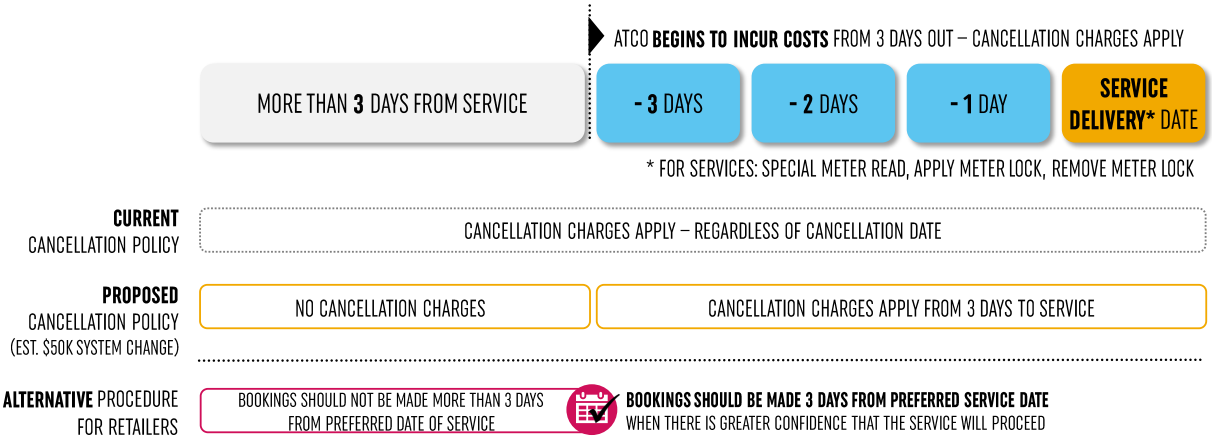
- Special meter reading
- Applying a meter lock
- Removing a meter lock

Although some costs will be incurred manually dealing with exceptions and in amending billing systems to implement this change, the costs of invoicing and administering a cancellation charge are likely greater than the costs.

Apply meter lock, remove meter lock and special meter reading

Charges for 'apply meter lock', 'remove meter lock' and 'special meter reading' will have no charge if cancelled three business days or more before the scheduled date of service. Services cancelled after that time will already have been sent to the contractor for action and so will incur a charge. Figure 17.8 illustrates this.

Figure 17.8: Cancellation charges overview



The additional IT capital cost to implement no charge for cancelled ancillary services is included in the revised forecast capex program for AA5.

Deregistration, disconnect service, and reconnect service

Other ancillary services, deregistration, disconnect service and reconnect service have scheduling procedures that make it difficult to set a single cut-off date for reduced charges. These services also incur cost from the time the request is received as the service order is passed to operations departments for scheduling and action. The preferred course of action is to work with retailers to reduce the number of cancelled service orders.

17.13.2 Charges for special meter reads

In consideration of Kleenheat's feedback regarding our special meter read charges, we have benchmarked our charges against all our national peers using the most recently approved tariffs. As shown in Table 17.12, ATCO's proposed charge is marginally above the national average (excluding Central Ranges, which appears to be an outlier).

Table 17.12: Special meter read charges comparison

NETWORK OPERATOR	UPDATED CHARGES TO APPLY FROM 1/07/2019
Multinet (Vic)	6.68
Australian Gas Networks (Vic & NSW) - Metro	9.20
AusNet (Vic)	9.24
Australian Gas Networks (SA)	10.80
Australian Gas Networks (Vic & NSW) - Non Metro	12.60
Jemena (NSW)	14.80
Evo Energy	17.20
Central Ranges Gas Network	46.08
Average excluding Central Ranges and ATCO	**11.50**
ATCO proposed charge	**12.82**
Compared to average	*11.5%*

18. Tariff variation mechanism

ERA required amendment 15:

ATCO must amend Annexure B, clause 1.3.1 to specify that the B3 fixed charge will remain constant in real terms. ATCO must delete the cost pass through item detailed in Annexure B, clause 2.1(e) of the proposed revised access arrangement.

ATCO Response: Accept

ATCO accepts required amendment 15.

CHAPTER HIGHLIGHTS

1. We maintain our proposed weighted average price cap tariff variation mechanism. The mechanism allows for:
   a) an annual adjustment for CPI (weighted average across eight capital cities); and
   b) an X-factor based on the approved price path and amendments to the ERA's AA5 Final Decision tariff model. This will incorporate cost pass through items and annual updates to the DRP.
2. The method of annually updating the debt risk premium is consistent with the ERA's rate of return instrument.

18.1 Introduction

The purpose of the tariff variation mechanism is to set out the detailed mechanism that causes our prices to be changed each year over AA5. Our annual price changes are subject to the approval of the ERA.

This chapter sets out ATCO's response to the required amendments that affected the tariff variation mechanism.

18.2 Stakeholder engagement

In preparing this 2020-24 Revised Plan we have continued to engage with stakeholders, including through the submissions to the ERA on our 2020-24 Plan.

There was one stakeholder submission that referred to the tariff variation mechanism proposed in our 2020-24 Plan (see Table 18.1).

Table 18.1: Consideration of Stakeholder Feedback on Tariff Variation Mechanism

STAKEHOLDER FEEDBACK ON THE 2020-24 PLAN	OUR RESPONSE TO FEEDBACK ON THE 2020-24 PLAN
Alinta Energy in their submission to the ERA supported the use of a weighted average price cap including all tariff classes as proposed by ATCO: *"Alinta Energy supports ATCO's proposal to retain the existing tariff classes (A1, A2, B1, B2 and B3) and tariff structures (comprising a fixed charge and a usage charge) for AA5."*	**No change from 2020-24 Plan:** ATCO has maintained the weighted average price cap into this 2020-24 Revised Plan but included clarification that the fix charge for the B3 tariff will remain flat in real terms over AA5.

18.3 Summary of the ERA's Draft Decision

The ERA's Draft Decision supported ATCO's proposed form of tariff variation; a weighted average price cap or "tariff basket". However, the ERA did require two amendments:

- Amend clause 1.3.1 of Annexure B to the access arrangement to specify the B3 fixed charge will remain constant in real terms over the AA5 period
- Delete the costs pass through item at clause 2.1(e) of the proposed revised access arrangement

18.3.1 Draft Decision: Tariff variation mechanism - Haulage Services

ATCO proposed to implement a 'weighted average price cap' (or tariff basket) tariff variation mechanism that places a constraint on the overall average movement in haulage reference service prices from one year to the next. The mechanism allows average prices to increase by the annual change in CPI (weighted average across eight capital cities), plus or minus an X-factor that is varied for debt risk premium updates and cost pass through items. ATCO's proposed weighted average price cap for all reference services for AA5 is the same approach currently used for AA4, but with the B2 and B3 tariff classes included in the price cap.

ATCO's proposed cost pass through items for AA5 include:

- Higher heating value (HHV) and gate point costs related to new gas inflows to the network.
- Any costs relating to a change in law or tax change.
- Any costs associated with a tax, fee, law or emissions trading scheme for greenhouse gas emissions.
- Any costs that are recoverable under the Network Innovation Scheme.

The ERA considers that ATCO's proposed weighted average price cap for all reference services meets the requirements of NGR 97. However, the formula in Annexure B of the access arrangement needs to be amended to specify that the B3 fixed charge will remain constant in real dollars over the access arrangement period.

Consistent with the ERA's decision to not allow the Network Innovation Scheme (see Section 15.3), the proposed cost pass through item for any costs that are recoverable under the scheme must be deleted.

18.3.2 Draft Decision: Tariff variation mechanism - Ancillary Services

ATCO's proposed tariff variation mechanism for ancillary reference services for AA5 is the same mechanism currently used for AA4. There were no submissions from interested parties seeking any amendments to the mechanism. For these reasons, and in the absence of any other reason to amend the mechanism, the ERA considers that ATCO's proposed tariff variation mechanism for ancillary reference services meets the requirements of NGR 97.

18.4 ATCO's response to the Draft Decision

ATCO has accepted both required amendments to the tariff variation mechanism. We have modified the tariff variation mechanism to:

- specify the B3 fixed charge will remain constant in real terms over the AA5 period; and
- delete the cost pass through item associated with the network innovation scheme.

18.5 Rationale for proposed reference tariff variation mechanism

18.5.1 Tariff variation by formula

We propose to implement a tariff variation mechanism that places a constraint on the overall average movement in haulage reference service prices from one year to the next (referred to as a *weighted average price cap*, or *tariff basket*).

This form of tariff variation was used during prior access arrangement periods. Therefore, it is a familiar method of tariff variation for our customers and the ERA. The 'tariff basket' is a common mechanism known for its administrative simplicity and positive incentive effects and is supported by regulators in Australian jurisdictions.

The tariff variation allows average prices to increase by the annual change in CPI, plus or minus the X-factor varied for DRP updates and cost pass through items.

Using a price cap provides an incentive for the business to increase customer connections and usage, as this generates additional revenue. In future access arrangement periods, customers benefit from costs being spread over a larger number of customers and volume.

Ancillary reference services described at Table 6.3 will be varied annually by the movement in CPI in the same manner as during AA4.

18.5.2 Cost pass through

The tariff variation mechanism allows the cost of 'cost pass through' events to be recovered. Cost pass through events are defined events that:

- incur costs that cannot be, and have not been, reasonably forecast;
- are beyond the control of ATCO; and
- relate to the provision of reference services.

The recovery of costs related to cost pass through events is made by recalculating the X factor in the ERA's final decision tariff model taking account of those cost pass through items.

In summary, the cost pass through events retained into AA5 are:

- HHV and gate point costs related to new gas inflows to the network.
- Any costs relating to a change in law or tax change.
- Any costs associated with a tax, fee, law, or emissions trading scheme related to greenhouse gas emissions.

ATCO in its revised proposed access arrangement has amended a new clause 2.2 of Annexure B to ensure any cost pass through items not recovered during AA4 are recovered in AA5. For administrative ease this will most likely be done by inclusion in the tariff variation year 2021 as that is the first year when all cost pass through items to the end of AA4 will be known. This action is in accord with the fixed principle 11.3 of AA4, which has been retained into the revised proposed Access Arrangement.

PART D:

Other

19. Fixed principles

ERA required amendment 17:

ATCO must amend fixed principles 11.2 and 11.3 to include specific dates to remove any ambiguity over the period to which the fixed principle applies.

ATCO Gas Australia Response: Accept with modification

- ATCO has modified fixed principle 11.2 to extend the application of it for a further 10 years (therefore expiring on 1 January 2031)
- ATCO has modified fixed principle 11.3 to include the start date of next access arrangement period (the AA6 will commence 1 January 2025) but is unable to be specific on the exact expiry date as the ERA will determine the end date of the AA6 period following the receipt of ATCO's AA6 proposal in September 2023.

ERA required amendment 18:

ATCO must delete fixed principle 11.4 from the proposed revised access arrangement.

ATCO: Do not accept and propose a revised position

ATCO does not accept the required amendment to delete fixed principle 11.5 from the access arrangement. This fixed principle is necessary for the operation of the development rebate scheme. We do not accept that the development rebate scheme is inconsistent with the NGR, and we have presented further information in support of the development rebate scheme in Section 22.6.2.

CHAPTER HIGHLIGHTS

1. We are proposing to extend two of our fixed principles that are due to expire during AA5.
2. We are introducing a new fixed principle to support the operation of the development rebate scheme.

19.1 Introduction

The purpose of fixed principles is to provide certainty that specific principles will not be subject to review for a stated period. This gives certainty, and reassures both customers and ATCO, that a particular principle will go unchanged for a pre-determined period.

We are proposing to extend the existing fixed principles that support the operation of the cost pass through mechanism into AA5 and have introduced a new fixed principle to support the operation of the development rebate scheme.

19.2 Stakeholder engagement

In preparing this 2020-24 Revised Plan we have continued to engage with stakeholders, including through the submissions to the ERA on our 2020-24 Plan.

There was one stakeholder submission that referred to the fixed principles proposed in our 2020-24 Plan (see Table 19.1).

Table 19.1: Consideration of Stakeholder Feedback on Fixed Principles

STAKEHOLDER FEEDBACK ON THE 2020-24 PLAN	OUR RESPONSE TO FEEDBACK ON THE 2020-24 PLAN
Synergy in their submission to the ERA did not support the introduction of the new fixed principle associated with the developer rebate scheme: *"In relation to ATCO's proposed developer rebate scheme, it should be noted that despite ATCO's forecasts of declining demand it has forecast continual and steady growth in customer numbers. Synergy considers ATCO should use its existing general marketing and business development expenditure allocation to support developers if ATCO considers it valuable and consistent with the NGO. Synergy therefore does not support the program being funded from tariffs or being enshrined as a fixed principle in the access arrangement."*	**No change from the 2020-24 Plan:** ATCO has maintained the fixed principle associated with the development rebate scheme as ATCO's is proposing to retain the development rebate scheme in this 2020-24 Revised Plan.

19.3 Regulatory framework

NGR 99 provides that an access arrangement may include principles that are fixed for a declared period. Fixed principles may be agreed on for two or more access arrangement periods.

19.4 Summary of the ERA's Draft Decision

ATCO proposed to extend two of the fixed principles that were due to expire in AA5 (11.2 and 11.3), and to introduce a new principle (11.4) to support the operation of the proposed development rebate scheme.

19.4.1 Draft Decision: Amendment of Fixed Principles 11.2 and 11.3

To extend the above fixed principles, ATCO amended the drafting to use the words "extended to apply as required" and the term "next access arrangement period", which is defined in the access arrangement to mean "the access arrangement period immediately after the current access arrangement period".

As there is no reference to any specific dates, the ERA proposed "to remove any ambiguity over the period to which the fixed principles apply, the access arrangement should be clear as to when the principles will expire".[280] The ERA's required amendment 17, requires ATCO to amend fixed principles 11.2 and 11.3 to ensure that there is not uncertainty as to what period the fixed principles apply.

19.4.2 Draft Decision: Amendment of Fixed Principle 11.4

Consistent with the ERA's decision to require ATCO to remove the proposed development rebate scheme (see Section 21.6.1), ATCO's related proposed fixed principle 11.4, must also be deleted.

[280] Draft Decision, Para 953

19.5 ATCO's response to the Draft Decision

As a result of retaining a fixed principle from AA4, we have renumbered the fixed principles in the revised proposed access arrangement. To assist the reader, we have prepared the following table to show the old and new numbering:

Table 19.2: Updated fixed principle numbering

PROPOSED ACCESS ARRANGEMENT AUGUST 2018	REVISED PROPOSED ACCESS ARRANGEMENT JUNE 2019	COMMENT
11.2	11.2	No change
N/A	11.3	Re-introduced the existing fixed principle 11.3 from the current access arrangement to support the tariff variation mechanism.
11.3	11.4	Consequential change to the section numbering
11.4	11.5	Consequential change to the section numbering

19.5.1 ATCO's response: Fixed principle 11.2

ATCO accepts the required amendment to include specific dates in fixed principle 11.2 to remove any ambiguity over the period to which the fixed principle applies.

ATCO has modified the drafting of fixed principle 11.2 to extend its application for a further ten years and as a result has adopted a similar form of drafting to fixed principle 11.1. We consider that this modified drafting provides clarity that the fixed principle will expire on 1 January 2031.

19.5.2 Re-introducing Fixed Principle 11.3

ATCO has re-introduced fixed principle 11.3 from the current access arrangement in order to support the operation of the tariff variation mechanism. Necessary amendments have been made to the fixed principle given the passage of time but retains the intent of the existing fixed principle 11.3 from the current access arrangement.

The purpose of fixed principle 11.3 is to allow for the recovery of any cost-pass through events between 1 October 2018 and 31 December 2019 to commence through AA5 tariffs. It is necessary for this fixed principle to be carried over from the current access arrangement in order to support the amendments that we have made to clause 2.2 of Annexure B and to ensure that the reference tariff variation mechanism, detailed in Annexure B, can recover these past costs.

The operation of fixed principle 11.3 and clause 2 of Annexure B has the following effect on any cost-pass through events that occur between 1 October 2018 and 31 December 2019:

- **Non-recurrent conforming operating expenditure:** the cost incurred within the final 15 months of AA4 will be fully recovered within the AA5 period consistent with clause 2.1(b) and 2.2 of Annexure B.
- **Recurrent conforming operating expenditure:**
  - the cost incurred within the final 15 months of AA4 will be fully recovered within the AA5 period consistent with clause 2.1(b) and 2.2 of Annexure B; plus
  - the recurrent cost incurred during AA5 will be recovered in AA5 consistent with clause 2.1(b) and 2.2 of Annexure B.

In subsequent access arrangement periods recurrent conforming operating expenditure, associated with the cost-pass through events between 1 October 2018 and 31 December 2019, may also form part of the total revenue as provided for in clause 2.3(b) of Annexure B.

- **Conforming capital expenditure:** any capital cost incurred within the final 15 months of AA4 will commence being recovered in AA5 as the depreciation of and return on the direct conforming capital expenditure. These costs will continue to be recovered in AA6 and beyond (depending on the assets economic life) through the return on and return of building blocks as provided for in clause 2.3(a) of Annexure B.

In summary, the amount of conforming capital expenditure, after adjustment for any depreciation allowed for in the tariff variation mechanism during AA5, will be added to the AA6 opening capital base and the amount of conforming operating expenditure may be added to the total revenue allowance in AA6 and subsequent access arrangements. The ongoing recovery of any cost-pass through events, occurring between 1 October 2018 and 31 December 2019, beyond the end of AA5, will occur in accordance with clause 2.3 of Annexure B. We have specified the date that the fixed principle will expire, 31 December 2024, being the end of AA5, consistent with the intent of the existing fixed principle 11.3 from the current access arrangement.

19.5.3 ATCO's response: Fixed principle 11.4 (previously 11.3)

ATCO accepts, with amendment, the required amendment to include specific dates in fixed principle 11.4 to remove any ambiguity over the period to which the fixed principle applies.

The purpose of fixed principle 11.4 is to allow for the recovery of any cost-pass through events in the final 16 months of AA5 to be recovered in AA6 tariffs.

It is necessary to allow the fixed principle to expire at the end of the AA6 period to ensure that the recovery of these costs commences within the AA6 period. The operation of fixed principle 11.4 and clause 2 of Annexure B has the following effect on any cost-pass through events that occur in the final 16 months of AA5:

- **Non-recurrent conforming operating expenditure:** the cost incurred within the final 16 months of AA5 will be fully recovered within the AA6 period.
- **Recurrent conforming operating expenditure:** the cost incurred within the final 16 months of AA5 will be fully recovered within the AA6 period plus the recurrent cost incurred during AA6 will be recovered in AA6 to the extent that the AA6 tariff variation mechanism allows. In subsequent access arrangement periods recurrent conforming operating expenditure may form part of the total revenue.
- **Conforming capital expenditure:** any capital cost incurred within the final 16 months of AA5 will commence to be recovered in AA6 as the depreciation of and return on the direct conforming capital expenditure. These costs are expected to continue to be recovered in AA7 and beyond (depending on the assets economic life) through the return on and return of building blocks.

ATCO is unable to be specific on the exact expiry date as the ERA will determine the end date of the AA6 period following the receipt of ATCO's AA6 proposal in September 2023. Instead, we have included reference to the commencement date of AA6, 1 January 2025 in the fixed principle to assist reduce uncertainty as to what period the fixed principles actually applies.

In addition, we have made a modification to the drafting of the fixed principle to enable the ERA to consider our application for the cost pass-through events through the reference tariff variation mechanism that is applicable in AA6. The current drafting allows for the ERA to consider our application during the AA6 review process, which presupposes that it will not be complete until after December 2024.

19.5.4 ATCO's response: Fixed principle 11.5 (previously 11.4)

ATCO does not accept the required amendment to delete fixed principle 11.5 from the access arrangement.

This fixed principle is necessary for the operation of the development rebate scheme. We do not accept that the development rebate scheme is inconsistent with the NGR, and we have presented further information in support of the development rebate scheme in Section 21.6.2.

Fixed principle 11.5 will continue to apply for the period described. This is to enable the recovery of the rebate amount through reference tariffs over time in subsequent access arrangements periods over the life of the network asset.

Therefore, this fixed principle will need to apply over the period that it takes to fully depreciate the rebate amounts over the life of the associated assets, consistent with the economic lives detailed in Table 11.6.

20. Template service agreement

ERA required amendments 19 to 35:

The ERA requests that ATCO make the following amendments to the Template Service Agreement:

- Amend clause 10.1(a) of the template service agreement to correct the reference to clause "10.1(a)". The reference should be a reference to clause "10.1(c)".
- Amend clause 10.3(a) of the template service agreement to retain the 10 business day timeframe for a user to raise a payment dispute, or to provide that a payment dispute must be raised prior to the due date of the payment claim.
- Amend clause 15.2(a) of the template service agreement to retain the current (AA4) drafting.
- Amend clauses 15.1(d) and 15.2(a) to make the clauses expressly subject to the ipso facto regime by adding the words (at the beginning of each clause) "subject to the Ipso Facto Regime,".
- Insert a definition of "Ipso Facto Regime" in clause 23.1 as follows: "*Ipso Facto Regime means the amendments made to the Corporations Act 2001 (Cth) by Part 2 of the Treasury Laws Amendment (2017 Enterprise Incentives No. 2) Act 2017 (Cth).*"
- Amend clause 16.2(k) of the template service agreement to read: "*If the Approved Security is to be provided by way of bank guarantee, the bank guarantee must be in the form set out in Annexure B (or such other form as is acceptable to <Service Provider>)*."
- Amend the time period in clause 19.3(d) of the template service agreement from 14 to 15 business days.
- Amend clause 17.1(b) of the template service agreement to replace the words "persons for whom the indemnity is held on trust" (as they appear at the end of the clause) with the words "each Indemnified Person".
- Amend clause 17.1(a) of the template service agreement to replace the reference to clause "17.1(b)" with a reference to clause "17.1(c)".
- Amend the definition of "insolvency event" in clause 23.1 of the template service agreement to delete paragraphs (g) and (h) from the definition.
- Amend clause 23.1 of the template service agreement to amend the definition of:
  - "*payment method*" to replace the words "*the Template Service Agreement*" with the words "*this Service Agreement*", and
  - "*reference service terms and conditions*" to replace the reference to clause "22.3" with a reference to clause "22.3(d)".
- Delete proposed clause 9(c) of Schedule 3 and clause 12(c) in each of Schedules 4 and 5.
- Amend clause 9 of Schedule 3 and clause 12 in each of Schedules 4 and 5 to provide that the user is not required to pay the reference tariff if the service provider fails to undertake the meter reading as a result of an event or circumstance within its reasonable control, which the service provider could have prevented or overcome.
- Amend clause 9 in each of Schedules 1 and 2, clause 8 in Schedule 3 and clause 7 in each of Schedules 4 and 5 in the same manner as ATCO is required to amend the provisions relating to payments for special meter readings (refer to requirement immediately above).

ERA required amendment 19 to 35 (cont.):

- Amend clause 4.3 of the template service agreement to insert the words "*Subject to clause 4.3A,*" (at the beginning of the clause).
- Insert a new clause 4.3A as follows: "*For the avoidance of doubt, <User> is not required to pay any applicable Charges and other amounts payable under this Service Agreement in accordance with clause 4.1 if an event or circumstance within the control of <Service Provider> prevented <Service Provider> from providing, undertaking or completing the Service*."
- Redraft clause 4.3(a)(ii) of the agreement to make clear the intended effect of the clause.
- Amend clause 4.4(a) of the template service agreement to read as follows to clarify the time period in which a delivery point deregistration must occur. "*<User> must pay all Charges and other amounts payable under this Service Agreement in respect of the Delivery Point, until such time as the Delivery Point is Deregistered, which time must not exceed the timeframe specified in clause 127 of the Retail Market Procedures;*"
- Amend clause 9.3(c) of the template service agreement to limit the service provider's discretion to require the user to pay an amount to cover its costs:
  - by a requirement for it to act reasonably; and
  - to circumstances where the user has not used reasonable endeavours. The required wording is set out in paragraph 1051 of the ERA's Draft Decision.
- Amend clause 10.1(b) of the template service agreement to provide that the payment method or methods notified by the service provider must not be unduly onerous and where possible agreed with the user.
- Amend clause 14.5(a)(i) of the template service agreement to include the words "*and such consent must not be unreasonably withheld*" at the end of the clause.
- Delete clause 15.2(b) from the template service agreement and insert new clause 15.1(g) that reads: "*if a party is in default ("defaulting party") under any other agreement with the other party under which the <Service Provider> provides Reference Services to <User>, and the non-defaulting party reasonably considers that the default under the other agreement will materially impact the non-defaulting party's ability to comply with its obligations under this Service Agreement; or".* Current (AA4) clause 15.2(g) must be renumbered as new clause 15.2(h).
- Amend clauses 15.5(a) and 15.5(b) to include a time limit that is based on the remedy of the default by adding the words "*until such time as all defaults have been remedied*" at the end of each clause as follows.

  (a) refuse to accept delivery of Gas from a Related Shipper of <User> at a Receipt Point *until such time as all defaults have been remedied*;

  (b) wholly or partly Curtail Gas deliveries to the <User> at a Delivery Point *until such time as all defaults have been remedied*;
- Amend clause 16.1 of the template service agreement to insert the words "*acting as a reasonable and prudent network operator*" as follows.

  "<Service Provider>, acting as a reasonable and prudent network operator, may by written notice, from time to time under this clause 16.1 require …"

ATCO Response: Accept with modifications

The ERA has accepted the majority of ATCO's proposed changes to the template service agreement.

ATCO has:

- accepted 11 of the ERA's required amendments to the template service agreement;

- accepted, subject to proposed amendments from or clarification by ATCO, a further 4 of the ERA's required amendments to the template service agreement (21, 25, 27 and 30); and
- has not accepted 2 of the ERA's required amendments to the template service agreement (20 and 31).

ATCO accepts the required amendment to the template service agreement on the basis set out in the Draft Decision with no further comment for each of required amendments 19, 22, 23, 24, 26, 28, 29, 32, 33, 34 and 35.A summary of ATCO's response to the Draft Decision required amendments for the Template Service Agreement is provided in Table 20.2.

CHAPTER HIGHLIGHTS

1. We are proposing some limited changes to the template service agreement for AA5.

20.1 Introduction

The purpose of the template service agreement is to specify the terms and conditions for providing reference services (other than the reference tariffs, which are detailed in a schedule to the access arrangement). The template service agreement is typically adopted by retailers seeking access to the ATCO GDS and is an important part of our relationship as it governs the conditions (or terms) of access to our network.

Based on interactions with existing and new users (retailers) and legal and regulatory developments during AA4, some limited changes are proposed to the template service agreement.

20.2 Stakeholder engagement

In preparing this 2020-24 Revised Plan we have continued to engage with stakeholders, including through the submissions to the ERA on our 2020-24 Plan.

There were two stakeholder submissions that referred to the template service agreement proposed in our 2020-24 Plan (see Table 20.1).

Table 20.1: Consideration of Stakeholder Feedback on Template Service Agreement

STAKEHOLDER FEEDBACK ON THE 2020-24 PLAN	OUR RESPONSE TO FEEDBACK ON THE 2020-24 PLAN
AGL in their submission to the ERA provided detailed comments on clauses within the template service agreement.	**Changes from 2020-24 Plan:** ATCO has amended the following elements of the template service agreement that address AGL's feedback: • Clause 4.3: This clause has been amended. In addition, clause 4.3A has been added in response to required amendment 28. • Clause 4.4: This clause has been amended to clarify the time period in which a delivery point deregistration must occur in response to required amendment 29. • Clause 9.3: This clause has amended to include to include the concept of reasonableness in response to required amendment 30. • Clause 10.1: This clause has been amended to clarify the payment method in response to required amendment 31. • Clause 14.5: This clause has been amended to clarify that consent not be unreasonable withheld in response to required amendment 32. • Clause 15.2: This has been amended to include the concept of reasonableness in response to required amendment 33. These changes are discussed in the sections below, in the order of the ERA's required amendments.
Alinta Energy in their submission to the ERA provided comment on the liability clause and the special meter read clauses: *"Clause 17 Liability of Parties: We consider this clause is too broad and does not allocate liability where the risk is best controlled. All liability is placed on the User, whereas Alinta Energy considers the Service Provider is the party best able to control the risk.* *Schedules 3, 4 and 5 Special Meter Reading: Whilst the Service Provider is required to use reasonable endeavours to undertake a Special Meter Reading within 2 business days of receive a request from a User, it is not clear whether, if the Service Provider does not comply with the request, a Reference Tariff is payable. We consider that payment should not be made until the Special Meter Reading has been conducted, attempted to be conducted or cancelled by the user. That is, if the request is not complied with through the fault of the Service Provider, then payment should not be required by the User."*	**Changes from 2020-24 Plan:** ATCO has amended the template service agreement to address Alinta Energy's feedback on Schedules 3, 4 and 5 in relation to Special Meter Reading. ATCO has incorporated an additional clause (h) into each of the schedules to address the matter raised by Alinta Energy in response to required amendment 27 (discussed further in Section 20.4.4). ATCO has not made any changes to the liability clause (Clause 17) to address Alinta Energy's submission as we have no evidence before us to suggest that there is not a fair allocation of risk under the agreement. We also understand that the ERA considered similar feedback during the AA4 review and did not require an amendment in the AA5 Draft Decision.

20.3 Summary of the ERA's Draft Decision

The ERA has required a total of 17 amendments to the template service agreement, most of which are in response to submissions received from AGL and Alinta Energy. The ERA has also considered and rejected some further requested amendments to the template service agreement made by AGL and Alinta Energy.

20.4 ATCO's response to the Draft Decision

The ERA has accepted the majority of ATCO's proposed changes to the template service agreement.

ATCO has:

1. accepted 11 of the ERA's required amendments to the template service agreement;
2. accepted, subject to proposed amendments from or clarification by ATCO, a further 4 of the ERA's required amendments to the template service agreement (21, 25, 27 and 30); and
3. has not accepted 2 of the ERA's required amendments to the template service agreement (20 and 31).

ATCO accepts the required amendment to the template service agreement on the basis set out in the Draft Decision with no further comment for each of required amendments 19, 22, 23, 24, 26, 28, 29, 32, 33, 34 and 35.

ATCO also requests that the following 2 minor corrections are made:

1. Clause 4.3(a)(ii)A – "Services" should be "Service"; and
2. Schedule 1 9(f), Schedule 2 9(f), Schedule 3 8(f), Schedule 4 7(f), Schedule 5, 7(f) – "reference tariff" should be "Reference Tariff".

Set out below are ATCO's detailed responses to each of the remaining required amendments to the template service agreement.

20.4.1 Required amendment 20:

ATCO must amend clause 10.3(a) of the template service agreement to retain the 10 business day timeframe for a user to raise a payment dispute, or to provide that a payment dispute must be raised prior to the due date of the payment claim.

20.4.1.1 ATCO Response: Required amendment 20

ATCO does not accept the required amendment and sets out its detailed response below.

The reduction of the time period from 10 to 3 Business Days does reflect current actual arrangements with retailers in Western Australia. We cannot comment on the arrangements in other retail markets in Australia and note that the submission made by AGL does not draw any comparisons to arrangements in other retail markets in Australia in which it operates.

To elaborate, the actual arrangements in place in Western Australia are as follows:

1. Invoices and requests for payment are raised twice per calendar month (i.e. approximately every 10 Business Days) by ATCO with each retailer;
2. Each retailer has 3 Business Days in which to check the request for payment and raise any dispute;
3. ATCO has 5 Business Days in which to investigate the dispute and respond accepting or rejecting the dispute; and
4. Payment is then due within a further 2 Business Days if no acknowledgement of ATCO's response under paragraph 3 above is received from the retailer.

The reason for having the process set out above is to ensure as far as possible that all disputes are dealt with within each payment cycle to avoid inefficiencies for retailers and ATCO by having disputed amounts carried into multiple payment periods.

If the time period to raise a dispute is extended to 10 Business Days, the dispute process will run into the following payment period.

By way of further clarity, in the calendar years 2017 and 2018, a total of 1291 payment disputes were received from all retailers, of which 60 were accepted and 1231 were rejected.

We have prepared guidelines for the retailers to explain the operational procedures and practices between retailers and ATCO, including the dispute process [see Attachment 21.100: ATCO Guide to Procedures & Practices as a Retailer 201704]. As set out in our response to required amendment 31 below, retailers as participants in the Western Australian retail gas market, have the option to seek changes to the Retail Market Procedures through the procedure (rule) change process to seek clarification or confirmation of market related processes such as payment and invoicing.

ATCO submits that it is consistent with the National Gas Objective to have in place unified processes, including disputes and payment processes for all market participants to ensure we can provide uniform and efficient services to those participants, rather than inefficient multiple tailored (and potentially preferential) processes.

ATCO does not accept that it is the case that a shortened timeframe may be unreasonable for retailers with substantial numbers of customers. We repeat that the proposed reduction from 10 to 3 Business Days does reflect current actual arrangements with retailers in Western Australia and that the arrangements work efficiently and symmetrically for all market participants. The suggested increase in time will introduce additional administration for retailers and ATCO in having to manage disputes across multiple billing periods with no benefit for end use customers.

The confirmation or substantiation of the current arrangements can be made by the ERA directly seeking responses from current Western Australian retailers.

20.4.2 Required amendment 21:

ATCO must amend clause 15.2(a) of the template service agreement to retain the current (AA4) drafting.

ATCO must also amend clauses 15.1(d) and 15.2(a) to make the clauses expressly subject to the ipso facto regime by adding the words (at the beginning of each clause) "subject to the Ipso Facto Regime,".

ATCO must insert a definition of "Ipso Facto Regime" in clause 23.1 as follows: Ipso Facto Regime means the amendments made to the Corporations Act 2001 (Cth) by Part 2 of the Treasury Laws Amendment (2017 Enterprise Incentives No. 2) Act 2017 (Cth).

20.4.2.1 ATCO Response: Required amendment 21

ATCO accepts the required amendments as proposed by the ERA subject to ATCO clarifying the basis of the proposed changes it has made and the ERA accepting proposed alternative wording to deal with the issues raised by the ERA.

Our drafting of the proposed changes was not made to broaden the scope of the clause, only to reflect the way in which the *ipso facto* regime is to be triggered.

Having considered the ERA's drafting changes, ATCO accepts that the drafting provides clarification of the legal position, save that clauses 15.1(d) and 15.2 should not be subject to the *ipso facto* regime. These events should still be defaults and the *ipso facto* regime should not prevent this. What the *ipso facto* regime prevents is terminating consequent upon the default, and instead, clause 15.4 should be subject to the *ipso facto* regime. The relevant drafting amendments proposed by ATCO are as shown in the amended Template Service Agreement provided with this document.

20.4.3 Required amendment 25:

ATCO must amend the definition of "insolvency event" in clause 23.1 of the template service agreement to delete paragraphs (g) and (h) from the definition.

20.4.3.1 ATCO Response: Required amendment 25

ATCO accepts the required amendment subject to clarifying the basis of our proposed change. Our drafting of the proposed changes was made to remedy the omission of "Insolvency Event" as a defined term, and to reflect the requirements of the *ipso facto* regime.

Having considered the ERA's revised drafting together with the revised drafting proposed by the ERA in respect of required amendment 21, Required Amendment 25 is acceptable as clarification of the legal position.

20.4.4 Required amendment 27:

ATCO must amend the template service agreement to delete proposed clause 9(c) of Schedule 3 and clause 12(c) in each of Schedules 4 and 5.

ATCO must also amend proposed clause 9 of Schedule 3 and proposed clause 12 in each of Schedules 4 and 5 to provide that the user is not required to pay the reference tariff if the service provider fails to undertake the meter reading as a result of an event or circumstance within its reasonable control, which the service provider could have prevented or overcome.

ATCO must further amend clause 9 in each of Schedules 1 and 2, clause 8 in Schedule 3 and clause 7 in each of Schedules 4 and 5 in the same manner as ATCO is required to amend the provisions relating to payments for special meter readings (refer to requirement immediately above).

20.4.4.1 ATCO Response: Required amendment 27

ATCO accepts the required amendments subject to ERA accepting our further proposed revised drafting changes described below. We do not accept the proposed deletion of clauses 9(c) of Schedule 3 and 12 (c) of Schedules 4 and 5.

ATCO proposes amendment of clauses 9(c) of Schedule 3 and 12(c) of Schedules 4 and 5 with minor consequential amendments to clauses 9(f) and an additional clause (h)of Schedule 3 and 12(f) and an additional clause (h) of Schedules 4 and 5 that will deal with the issues outlined by the ERA.

We have also proposed amendments to clause 9 in each of Schedules 1 and 2, clause 8 in Schedule 3 and clause 7 in each of Schedules 4 and 5 consistent with its approach to amendment of clauses 9(c) of Schedule 3 and 12(c) of Schedules 4 and 5.

ATCO accepts the propositions set out in the Draft Decision (paragraph 1021) that:

"… if the service provider does not undertake the special meter reading in accordance with the user's request, the user should not be required to pay the reference tariff as a result of an event or circumstance within the service provider's control. If, however, the service provider did not undertake the user's request because of an event or circumstance outside the service provider's control, the user should pay the reference tariff."

ATCO does not accept that clause 9(c) of schedule 3 and proposed clauses 12(c) in each of schedules 4 and 5 should be deleted to address the propositions above.

ATCO points out that the same wording in clause 9(c) of schedule 3 and proposed clauses 12(c) in each of schedules 4 and 5 has been approved by the ERA in clauses 9(c) (removing a meter lock), 10(c) (disconnecting a delivery point) and 11(c) (reconnecting a delivery point) of schedules 4 and 5 for AA4, amended from a previous version approved by the ERA and in place in AA3.

It is unclear whether the ERA considers that there is any distinction between these groups of clauses. We propose that a more consistent approach would be to amend those clauses and to include consequential amendments to each of clauses 9(e) of schedule 3 and proposed clauses 12(e) in each of schedules 4 and 5 as shown in the amended Template Service Agreement provided with this document.

Consistent with the above approach, we propose amendments to clause 9 in each of Schedules 1 and 2, clause 8 in Schedule 3 and clause 7 in each of Schedules 4 and 5 as shown in the amended Template Service Agreement provided with this document.

ATCO has also considered the requirement to amend the relevant clauses of the Template Service Agreement dealing with payment obligations for the deregistration of a delivery point service and proposes amendments to clauses 9(e) and (f) of Schedules 1 and 2; clauses 8(e) and (f) of Schedule 3; and clauses 7(e) and (f) of Schedules 4 and 5 as shown in the amended Template Service Agreement provided with this document.

20.4.5 Required amendment 30:

ATCO must amend clause 9.3(c) of the template service agreement to limit the service provider's discretion to require the user to pay an amount to cover its costs:

- *by a requirement for it to act reasonably; and*
- *to circumstances where the user has not used reasonable endeavours.*

The required wording is set out in paragraph 1051 of this draft decision.

20.4.5.1 ATCO Response: Required amendment 30

ATCO accepts the required amendment, but subject to clarifying the basis of the amendment, particularly to clarify some of the points made by AGL referred to by the ERA in its Draft Decision at paragraphs 1049 as follows:

> *AGL said that both the user and service provider should have responsibilities to ensure access to relevant land and premises. AGL submitted the following in support of its position.*
>
> *This clause places the onus of providing and ensuring access to ATCOs equipment (e.g. customer meters) on the retailer, who has no field staff, no responsibility for the connection or regular visits to the customer site.*
>
> *ATCO has prepared a safety case which details their processes and responsibilities. The ATCO Gas safety case specifically lays out the assets which are ATCOs responsibility, including the service inlet, meter control valve, regulator and meter.*
>
> *These assets are included as part of ATCO's Asset Base and Asset Management Strategy. As such, AGL does not accept that ATCO can exclude itself from providing services if ATCO does not have 'unfettered access to the land and premises'. AGL strongly believes that as the asset owner, and the party with the safety responsibilities for these assets, that ATCO needs to take responsibility when access is denied by customers.*
>
> *Examples of this would be to ensure that requirements for gas meter connections include clear access or other methods of access – such as key safes or industry locks.*

AGL accepts that within the WA Market, ATCO has no direct relationship with the end customer; nevertheless, AGL does not believe that the network can absolve itself from its responsibility. AGL believes that this clause should be modified to include clearly defined responsibilities on both parties in these situations.

ATCO points out, and AGL acknowledges, that we do not have any contract with end use customers through which we can require access to undertake meter readings, disconnections, de-registrations and other activities relating to our meter assets on end use customers' premises. It is the retailer who has a contract with the end use customer and the terms of each standard form retail contract includes express and detailed provisions relating to access – for example, clause 4 of AGL's current standard form contract includes express contractual access obligations enforceable by AGL.

The purpose of clause 9.3 of the Template Service Agreement is to set out the obligations of the User in respect of providing such access and the rights of the Service Provider.

We are not seeking to "absolve ourselves from our responsibility" but to ensure that the User provides the necessary contractual link to enable us to have the access we require to provide the services under the Service Agreement.

20.4.6 Required amendment 31:

ATCO must amend clause 10.1(b) of the template service agreement to provide that the payment method or methods notified by the service provider must not be unduly onerous and where possible agreed with the user.

20.4.6.1 ATCO Response: Required amendment 31

ATCO does not accept the required amendment and proposes alternative drafting to deal with the issue that has been raised.

ATCO accepts the proposition that payment methods must not be unduly onerous and understands the concern that retailers may have in respect of potentially adverse payment methods being "imposed" by ATCO.

In the Western Australian market over the last 5 years and in particular the last 2 to 3 years, there has been a significant expansion in the number of retailers operating in the market, including the entry of established retailers operating in east coast markets.

ATCO's practice has been to request the adoption by new entrants of the payment methods in place at the time of their entry into the market. We have prepared guidelines for the retailers to explain the operational procedures and practices between retailers and ATCO, including the payment methods see [Attachment 21.100: ATCO Guide to Procedures & Practices as a Retailer 201704].

The reasons for this approach are to minimise the number of different payment methods that we must manage in order to efficiently provide our metering services and to ensure that there is symmetry in the market so that no retailer is advantaged or disadvantaged through bespoke arrangements.

In addition, and as set out in our response to Required Amendment 20 above, retailers as participants in the Western Australian retail gas market, have the option to seek changes to the Retail Market Procedures through the procedure (rule) change process to seek clarification or confirmation of market related processes such as payment and invoicing. Our comments in respect of consistency with the National Gas Objective and market efficiencies set out in our response to Required Amendment 20 above apply equally in respect of this issue.

ATCO also considers that a clause in the Template Service Agreement that provides for agreement of subsequent items between the parties is at risk of being unenforceable as an "agreement to agree". As the ERA stated in its Amended Final Decision for AA4[281] (paragraph 2490):

> *The template service agreement is effectively a regulated standing offer, which provides a basis on which users can negotiate a contract.*

We therefore propose drafting amendments that provide for payment methods to be either as prescribed by a Regulatory Instrument, in this case most likely the Retail Market Procedures if a retailer or retailers sought a relevant procedure (rule) change, or if not prescribed by a Regulatory Instrument, the Payment Method or Methods in place between ATCO as Service Provider and other Users as at the date of the new entrant executing the Service Agreement. ATCO submits that these provisions provide sufficient certainty and symmetry between the parties and remove the uncertainty of a provision that is an "agreement to agree".

The proposed amendments are as shown in the amended Template Service Agreement provided with this document.

Table 20.2: ATCO's response to ERA's Draft Decision on the Template Service Agreement

#	REQUIRED AMENDMENT	ATCO RESPONSE SUMMARY:
19	ATCO must amend clause 10.1(a) of the template service agreement to correct the reference to clause "10.1(a)". The reference should be a reference to clause "10.1(c)".	Accept – correction of incorrect reference
20	ATCO must amend clause 10.3(a) of the template service agreement to retain the 10 business day timeframe for a user to raise a payment dispute, or to provide that a payment dispute must be raised prior to the due date of the payment claim.	Not accepted - ATCO has suggested an alternative drafting proposal
21	ATCO must amend clause 15.2(a) of the template service agreement to retain the current (AA4) drafting. ATCO must also amend clauses 15.1(d) and 15.2(a) to make the clauses expressly subject to the ipso facto regime by adding the words (at the beginning of each clause) "subject to the Ipso Facto Regime,". ATCO must insert a definition of "Ipso Facto Regime" in clause 23.1 as follows: Ipso Facto Regime means the amendments made to the Corporations Act 2001 (Cth) by Part 2 of the Treasury Laws Amendment (2017 Enterprise Incentives No. 2) Act 2017 (Cth).	Accepted with modification - *ipso facto* amendments proposed by ERA are acceptable as clarification, subject to revised wording proposed by ATCO.
22	ATCO must amend clause 16.2(k) of the template service agreement to read: If the Approved Security is to be provided by way of bank guarantee, the bank guarantee must be in the form set out in Annexure B (or such other form as is acceptable to).	Accept – amendments provide clarification
23	ATCO must amend the time period in clause 19.3(d) of the template service agreement from 14 to 15 business days.	Accept – amendments provide clarification
24	ATCO must amend clause 17.1(b) of the template service agreement to replace the words "persons for whom the indemnity is held on trust" (as they appear at the end of the clause) with the words "each Indemnified Person". ATCO must also amend clause 17.1(a) of the template service agreement to replace the reference to clause "17.1(b)" with a reference to clause "17.1(c)".	Accept – amendments provide clarification and consistency

[281] Amended Final Decision on Proposed Revisions to the Access Arrangement for the Mid-West and South-West Gas Distributions Systems, 10 September, 2015

#	REQUIRED AMENDMENT	ATCO RESPONSE SUMMARY:
25	ATCO must amend the definition of "insolvency event" in clause 23.1 of the template service agreement to delete paragraphs (g) and (h) from the definition.	Accept – consequential / linked to *ipso facto* amendments proposed by ERA are acceptable as clarification
26	ATCO must amend clause 23.1 of the template service agreement to amend the definition of: • "payment method" to replace the words "the Template Service Agreement" with the words "this Service Agreement", and • "reference service terms and conditions" to replace the reference to clause "22.3" with a reference to clause "22.3(d)".	Accept – amendments provide clarification
27	ATCO must amend the template service agreement to delete proposed clause 9(c) of Schedule 3 and clause 12(c) in each of Schedules 4 and 5. ATCO must also amend proposed clause 9 of Schedule 3 and proposed clause 12 in each of Schedules 4 and 5 to provide that the user is not required to pay the reference tariff if the service provider fails to undertake the meter reading as a result of an event or circumstance within its reasonable control, which the service provider could have prevented or overcome. ATCO must further amend clause 9 in each of Schedules 1 and 2, clause 8 in Schedule 3 and clause 7 in each of Schedules 4 and 5 in the same manner as ATCO is required to amend the provisions relating to payments for special meter readings (refer to requirement immediately above).	Accept subject to amendment – ATCO does not accept proposed deletion of clauses 9(c) of Schedule 3 and 12(c) of Schedules 4 and 5. ATCO proposes amendment of clauses 9(c) of Schedule 3 and 12(c) of Schedules 4 and 5 with minor consequential amendments to clauses 9(e) of Schedule 3 and 12(e) of Schedules 4 and 5. ATCO has amended clause 9 in each of Schedules 1 and 2, clause 8 in Schedule 3 and clause 7 in each of Schedules 4 and 5 consistent with its approach to amendment of clauses 9(c) of Schedule 3 and 12(c) of Schedules 4 and 5.
28	ATCO must amend clause 4.3 of the template service agreement to insert the words "Subject to clause 4.3A," (at the beginning of the clause). ATCO must insert a new clause 4.3A as follows: For the avoidance of doubt, <User> is not required to pay any applicable Charges and other amounts payable under this Service Agreement in accordance with clause 4.1 if an event or circumstance within the control of <Service Provider> prevented <Service Provider> from providing, undertaking or completing the Service. ATCO must also redraft clause 4.3(a)(ii) of the agreement to make clear the intended effect of the clause.	Accept subject to amendment - ATCO has adopted the proposed amendments with some minor revised drafting changes
29	ATCO must amend clause 4.4(a) of the template service agreement to read as follows to clarify the time period in which a delivery point deregistration must occur. <User> must pay all Charges and other amounts payable under this Service Agreement in respect of the Delivery Point, until such time as the Delivery Point is Deregistered, which time must not exceed the timeframe specified in clause 127 of the Retail Market Procedures;	Accept – amendments provide clarification
30	ATCO must amend clause 9.3(c) of the template service agreement to limit the service provider's discretion to require the user to pay an amount to cover its costs: • by a requirement for it to act reasonably; and	Accept subject to amendment – ATCO has adopted the proposed amendments with some minor revised drafting changes

#	REQUIRED AMENDMENT	ATCO RESPONSE SUMMARY:
	• to circumstances where the user has not used reasonable endeavours. The required wording is set out in paragraph 1051 of this draft decision.	
31	ATCO must amend clause 10.1(b) of the template service agreement to provide that the payment method or methods notified by the service provider must not be unduly onerous and where possible agreed with the user.	Not accepted – ATCO has suggested an alternative drafting proposal
32	ATCO must amend clause 14.5(a)(i) of the template service agreement to include the words "and such consent must not be unreasonably withheld" at the end of the clause.	Accept – amendments provide clarification
33	ATCO must delete clause 15.2(b) from the template service agreement and insert new clause 15.1(g) that reads: if a party is in default ("defaulting party") under any other agreement with the other party under which the provides Reference Services to , and the non-defaulting party reasonably considers that the default under the other agreement will materially impact the non-defaulting party's ability to comply with its obligations under this Service Agreement; or Current (AA4) clause 15.2(g) must be renumbered as new clause 15.2(h).	Accept – amendments provide consistency / clarification
34	ATCO must amend clauses 15.5(a) and 15.5(b) to include a time limit that is based on the remedy of the default by adding the words "until such time as all defaults have been remedied" at the end of each clause as follows. (a) refuse to accept delivery of Gas from a Related Shipper of at a Receipt Point until such time as all defaults have been remedied; (b) wholly or partly Curtail Gas deliveries to the at a Delivery Point until such time as all defaults have been remedied;	Accept – amendments provide clarification
35	ATCO must amend clause 16.1 of the template service agreement to insert the words "acting as a reasonable and prudent network operator" as follows. <Service Provider>, acting as a reasonable and prudent network operator, may by written notice, from time to time under this clause 16.1 require …	Accept – amendments provide clarification

21. Policies and non-tariff components

ERA required amendment 37:

ATCO must delete section 7.5 (Development Rebate Scheme) from the proposed revised access arrangement.

ATCO Response: Do not accept and propose a revised position

- ATCO has amended the Development Rebate Scheme to address the matters raised in the Draft Decision
- In particular, ATCO has clarified the role of the ERA in approving the rebate amounts that can be recovered through reference tariffs

CHAPTER HIGHLIGHTS

1. We are proposing to amend the application procedure to implement the requirements of the updated NGR 112.
2. We are proposing to introduce a development rebate scheme to facilitate gas reticulation in new commercial subdivisions.
3. We are proposing a five-year period for AA5, with the AA6 period commencing on 1 January 2025.

21.1 Introduction

The purpose of this chapter is to detail matters that are not directly related to the reference tariffs but must form part of our access arrangement submission to the ERA. These include:

- The application procedure.
- Capacity trading requirements.
- Extension and expansion requirements.
- Changing receipt and delivery points.
- Review Submission and Revision Commencement Dates.

21.2 Stakeholder engagement

In preparing this 2020-24 Revised Plan we have continued to engage with stakeholders, including through the submissions to the ERA on our 2020-24 Plan.

There were 3 stakeholder submissions that referred to the development rebate scheme proposed in our 2020-24 Plan (see Table 21.1).

Table 21.1: Consideration of Stakeholder Feedback on Policies and Non-Tariff Components

STAKEHOLDER FEEDBACK ON THE 2020-24 PLAN	OUR RESPONSE TO FEEDBACK ON THE 2020-24 PLAN
Alinta Energy in their submission to the ERA supported the proposed development rebate scheme: *"Alinta Energy supports the proposed development rebate scheme whereby developers who have provided capital funding in excess of $50,000 to reticulate gas in commercial subdivisions will be eligible for a rebate from ATCO."* **The Urban Development Institute of Australia** *(UDIA) WA* in their submission to the ERA supported the proposed development rebate scheme: *"ATCO recently advised the Institute of its proposal to introduce a new development rebate scheme to form part of the extension and expansion requirements. UDIA strongly supports this scheme as it will help overcome some of the cost barriers to providing reticulated gas, connected to the GDS in commercial subdivisions. This will also help ensure the long term viability of commercial areas as the commercial and industrial operators with those areas evolve over time."*	**Minor changes from 2020-24 Plan:** ATCO has retained the development rebate scheme in this 2020-24 Revised Plan. ATCO has made refinements to the development rebate scheme to address the ERA's reasons for requiring its removal in the Draft Decision.
Synergy in their submission to the ERA did not support the proposed development rebate scheme: *"Synergy considers ATCO should use its existing general marketing and business development expenditure allocation to support developers if ATCO considers it valuable and consistent with the NGO. Synergy therefore does not support the program being funded from tariffs or being enshrined as a fixed principle in the access arrangement."*	**More information provided**: Synergy appear to have misunderstood the intended operation of the development rebate scheme. An important feature of the scheme is that it does not impose costs on existing network users. In order to assist our stakeholders fully understand the scheme ATCO has provided some additional information in Section 21.6 below.

21.3 Regulatory framework

NGR 48 provides that a full access arrangement must specify certain matters, including those matters identified in NGR 48(1)(f), (1)(g), (1)(h) and (1)(i).

NGR 112 specifies the requirements of, and the framework for, our access application procedure.

21.4 Application procedure

21.4.1 Summary of the ERA's Draft Decision

The Draft Decision concluded that ATCO's proposed amendments to the application procedure were consistent with the NGO and the requirements of NGR 112.

21.4.2 ATCO's response to the Draft Decision

The application procedure set out in the access arrangement details the process that will be followed when a prospective user, wishing to obtain access to a pipeline service, submits an application to ATCO.

The AEMC modified NGR 112 on 21 March 2019.[282] We have proposed further changes to the application procedure as a consequence of the modifications to NGR 112.

[282] National Gas Amendment (Regulation of covered pipelines) Rule 2019 No. 1

We have amended the application procedure, specified in our access arrangement, to incorporate the modified requirements of NGR 112. We have sought to amend the application procedure in the access arrangement to ensure that prospective users have access to the necessary information to make an application for access.

Our amended application procedure and updated response times for submitting an application are summarised in Figure 21.1.

Figure 21.1: ATCO's application procedure

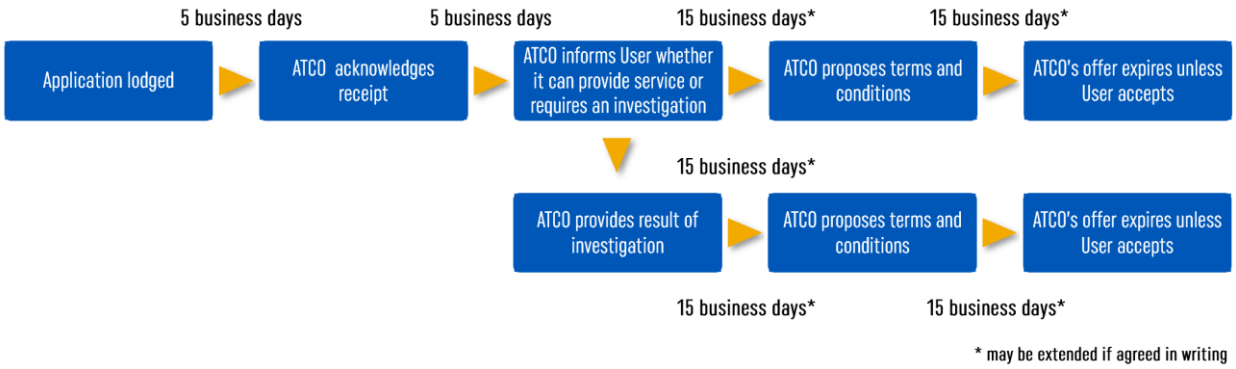


Table 21.2 details the changes that we have made to the application procedure to address the modified requirements of NGR 112:

Table 21.2: Application procedure amendments and updates summary

CLAUSE REFERENCE	DESCRIPTION	COMMENT
5.3 (a)	References to NGR 112 have been incorporated	This is to adopt the new NGR 112 provisions that came into force in March 2019
5.3 (b) to (g)	Deleted and replaced with new clauses 5.3(b) to (j)	The replacement clauses adopt the wording of NGR 112
5.3(k)	Amended	This is for consistency with other amendments to clause 5.3
Appendix G, section 2	Amended	The amended clauses adopt the wording of NGR 112

21.5 Capacity trading requirements

The capacity trading requirements provide for the transfer of capacity to a third-party. The capacity trading requirements are specified in our access arrangement and the template service agreement and are required by NGR 48(1)(f).

21.5.1 Summary of the ERA's Draft Decision

The Draft Decision concluded that the capacity trading requirements meet the requirements of the NGR.

21.5.2 ATCO's response to the Draft Decision

The capacity trading requirements continue to remain unchanged from the current requirements in the fourth access arrangement period (AA4).

21.6 Extension and expansion requirements

The purpose of the extension and expansion requirements is to specify whether the access arrangement will apply to incremental services to be provided as a result of a particular extension to, or expansion of the capacity of, the pipeline and deal with the effect of the extension or expansion on tariffs. These requirements are specified in the access arrangement and are required by NGR 48(1)(g).

21.6.1 Summary of the ERA's Draft Decision: Extension and expansion requirements (required amendment 37)

The Draft Decision accepted ATCO's proposal to amend the definition of the pressure threshold for high pressure pipelines, from 1,920kPa to 1,900kPa and to amend the annual reporting timeframe from 20 to 40 business days.

The Draft Decision did not accept that ATCO's proposed development rebate scheme was consistent with the NGO and the requirements of the NGR because:

- it should be considered that any effect on tariffs would still need to comply with the national gas objective and the relevant rules, particularly NGR 79 and the assessment of whether the extension or expansion could be added to the capital base.
- NGR 79 or other rules do not contemplate the addition of previous capital contributions into the regulatory asset base in the form of rebates.
- the inclusion of assets as conforming assets under NGR 79 requires an assessment and approval by the ERA.

21.6.2 ATCO's response: Extension and expansion requirements

ATCO considers that the development rebate scheme (as amended) is consistent with the NGO and the requirements of the NGR.

21.6.2.1 Development Rebate Scheme overview

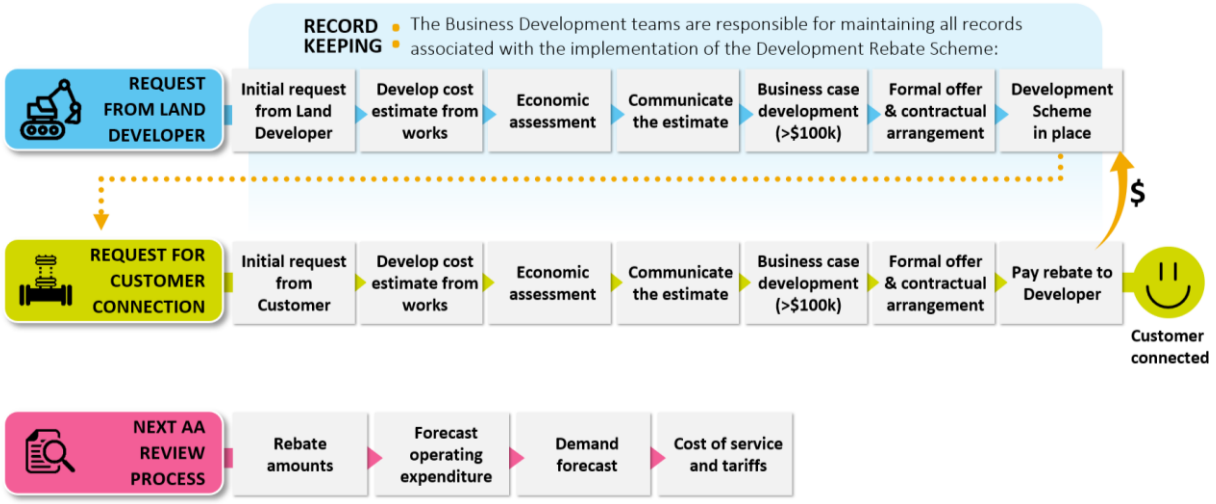
The Scheme reduces the barriers that land developers face when connecting commercial subdivisions to ATCO's network. The Scheme sets out a framework for a rebate mechanism that allows for land developers to receive a rebate for some, or all, of the upfront costs that they incur to reticulate gas in the subdivision and extend the network to the subdivision. The rebate will be paid *following the connection of end users* in the subdivision to the gas network.

The aim of the scheme is to maximise the opportunity for land developers and commercial consumers to connect to ATCO's natural gas network safely, reliably and economically. In summary the scheme aims to:

- maximise viable economic network expansion in commercial subdivisions;
- maximise the number of user connections in a safe, reliable and efficient manner;
- prudently minimise barriers to growth in connections, throughput and demand;
- ensure regulatory recovery of efficient costs for all types of network expansion;
- prevent existing customers from underwriting the upfront investment in connecting the commercial subdivisions to the gas distribution network; and
- reduce the prices payable by all customers as new commercial customers connect creating additional connections and demand.

Figure 21.2 summarises the operation of the scheme:

Figure 21.2: Development Rebate Scheme process



The operation of the Development Rebate Scheme will rely on an agreement between ATCO and the land developer. It is expected that the agreement will cover, as a minimum, the following matters:

- the period over which rebates will be available;
- the rebate criteria;
- the method and timing of rebate payment;
- allocation of liabilities for tax costs;
- any compliance or reporting requirements; and
- dispute resolution arrangements.

ATCO considers that it is not necessary for the ERA to have oversight of the specific arrangements between ATCO and the developer for the following reasons:

- Balanced negotiating power: the land developers that will be seeking access to Development Rebate Scheme are sophisticated parties that are used to negotiating commercial contracts. ATCO considers that it will be in both parties' interests to negotiate in good faith.
- Flexibility: allowing for a negotiated outcome between ATCO and the land developer will allow for the Development Rebate Scheme to meet the particular characteristics of the subdivision and the land developer, the timing of the release of the subdivision, the likely timing of new connections within the subdivision and the period that the Scheme will operate, amongst other things.

ATCO recognises that the Access Arrangement includes provisions for a speculative capital expenditure account that could be applied to the portion of capital expenditure costs associated with reticulating the commercial subdivision that do not satisfy NGR 79. ATCO does not consider that the use of the speculative capital expenditure account provides any incentive for ATCO to reticulate commercial subdivisions because ATCO is not able to control how the subdivisions are marketed or have any influence as to the ultimate purchasers of the lots in the subdivisions. Given the low risk margins in the rate of return, it is highly unlikely that ATCO would seek to take on the risk of recovering the capital by using the speculative capital expenditure account to reticulate commercial subdivisions. ATCO is proposing the Development Rebate Scheme as it considers that land developers are best placed to manage the risks associated with recovering the reticulation costs from future gas users.

21.6.2.2 National gas objective and NGR 79

ATCO agrees with the ERA's position in the Draft Decision that any effect on tariffs arising from the development rebate scheme will still need to comply with the national gas objective, the intent of NGR 79 and NGR 104.

ATCO recognises that due to the nature of commercial development, predicting gas demand for future *unknown* customers is challenging. In these circumstances where ATCO is unable to demonstrate future demand *at the time of development*, ATCO requests the land developer to contribute capital for the portion that does not satisfy NGR 79. This cost is incurred by the developer regardless of whether *sufficient future demand is eventually realised* on the subdivision, i.e. costs cannot be recovered *retrospectively*.

By including the Scheme in the Access Arrangement, it provides an incentive to the developer to reticulate the subdivision by allowing for the associated costs to be rebated to the developer. The Scheme ensures that the developer can recoup the costs of reticulation (through a rebate) should demand eventuate in the future and provides a greater opportunity for efficient network expansion for ATCO.

ATCO recognises that there is a need for the rebate amount recovered through reference tariffs to comply with the national gas objective and the intent of NGR 79. As such, the Scheme requires that the amount of the rebate will reflect the amount that would be consistent with Conforming Capital Expenditure. Conforming Capital Expenditure is a defined term that refers to the NGR and, through the definitions in NGR 69, picks up NGR 79.[283]

In order to address the position in the ERA's Draft Decision that the scheme enabled ATCO to determine capital expenditure to be conforming, we have amended the Access Arrangement to:

- Existing sections 7.5(a)(iv) and 7.5(b) – amend the drafting to state that ATCO will 'estimate' rather than 'determine' the amount of that would be conforming capital expenditure under NGR 79.
- New sections 7.5(f) and 7.5(g) – amend the drafting to include an approval role for the ERA at the next access arrangement review within the extension and expansion requirements. This ensures that it is the ERA that determines the efficiency and prudency of the costs that are recovered through reference tariffs within an existing process that is assessing the efficiency and prudency of costs.

ATCO considers that these amendments together address the ERA's concerns detailed in the Draft Decision.

21.6.2.3 Addition of capital contributions into the regulatory asset base

Under the scheme ATCO is not seeking to incorporate previous capital contributions into the regulatory asset base, to do so would result in the double recovery of costs.

The effect of the scheme is to allow ATCO to charge through reference tariffs effectively the return on and return of the amounts rebated to land developers in future access arrangement periods over the life of the asset. However, whilst this is the effect of the scheme, it is important to understand that ATCO is not seeking for the rebate amounts to be classified as capex. Rather, ATCO is seeking for the rebate amounts to be treated consistently with the intent of NGR 79 and with Conforming Capital Expenditure. ATCO will not be rolling the rebate amounts into the regulatory asset base, instead, the proposed fixed principle provides for an amount to be included in the Total Revenue until the amounts are fully depreciated.

ATCO has amended the scheme to ensure that it will recover these costs through reference tariffs in future access arrangement periods only following the approval of the costs by the ERA. We will not be able to

[283] Section 7.5 (b) of the propose Access Arrangement (31 August 2018)

recover the amounts that have not been rebated to the developer. This ensures that there is no double recovery by ATCO.

To put this beyond doubt, we have added a new section 7.5(h) to confirm that reference tariffs in the next and following access arrangement periods will not be affected by the amounts of the extension that have been funded in whole or part by a third-party that are not related to rebate amounts approved by the ERA.

21.6.2.4 Assessment and approval by the ERA

ATCO has added new sections 7.5(f) and 7.5(g) to the development rebate scheme to include an assessment and approval role for the ERA in the extensions and expansions requirements. This is consistent with the scope of NGR 104 that extensions and expansions requirements "must…deal with the effect of the extension [or expansion] on tariffs". In particular NGR 104(4)(b) requires that the access arrangement "deal with the effect of the extension on tariffs" and that this can include an approval role for the ERA to assess that the rebate amounts being recovered through reference tariffs reflect the amount that meets the intent of the conforming capital expenditure test set out in NGR 79.

ATCO is seeking for the ERA to approve the efficiency and prudency of the costs that are recovered through reference tariffs under the scheme as part of the access arrangement revisions process. This is an existing process that already incorporates the assessment of the efficiency and prudency of costs. Incorporating the assessment of costs under the scheme into this existing process is the most efficient method to assess the costs. ATCO considers that it is unlikely to increase the time or costs associated with the access arrangement revisions process for either the ERA or ATCO.

ATCO has maintained the Development Rebate Scheme being available for subdivisions where the capital funding provided by the developer is in excess of $50,000. We have continued to adopt this threshold to minimise the administration costs of the scheme both to ATCO, and the ERA, at the next access arrangement review process.

21.7 Changing receipt and delivery points

The changing receipt and delivery point provisions provide for a user to change a receipt or delivery point subject to certain conditions. These provisions are specified in our access arrangement and the template service agreement and are mandated by NGR 48(1)(h).

21.7.1 Summary of the ERA's Draft Decision

The Draft Decision concluded that the terms and conditions for changing receipt and delivery points meet the requirements of the NGR.

21.7.2 ATCO's response to the Draft Decision

The terms and conditions for changing receipt and delivery points continue to remain unchanged from the current requirements in the fourth access arrangement period (AA4).

21.8 Review Submission and Revision Commencement Dates

ATCO is continuing to propose that the duration of AA5 will be five years.

21.8.1 Summary of the ERA's Draft Decision

The Draft Decision approved ATCO's proposed review submission date of 1 September 2023 and proposed revision commencement date of 1 January 2025.

21.8.2 ATCO's response to the Draft Decision

ATCO has made no changes to the review submission or the revision commencement dates.