

Draft Decision

AusNet Gas Services

Access Arrangement 2023 to 2028

(1 July 2023 to 30 June 2028)

Attachment 5 Capital expenditure

December 2022

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Note

This attachment forms part of the AER’s draft decision on the access arrangement that will apply to AusNet Gas Services (AusNet) for the 2023–28 access arrangement period. It should be read with all other parts of the draft decision.

The draft decision includes the following documents:

Overview

Attachment 1 – Services covered by the access arrangement

Attachment 2 – Capital base

Attachment 3 – Rate of return

Attachment 4 – Regulatory depreciation

Attachment 5 – Capital expenditure

Attachment 6 – Operating expenditure

Attachment 7 – Corporate income tax

Attachment 8 – Efficiency carryover mechanism

Attachment 9 – Reference tariff setting

Attachment 10 – Reference tariff variation mechanism

Attachment 11 – Non-tariff components

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Attachment 13 – Capital expenditure sharing scheme

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5 Capital expenditure

Capital expenditure (capex) refers to the capital costs and expenditure incurred in the provision of pipeline services.¹ This investment mostly relates to assets with long lives and these costs are recovered over several access arrangement periods.

In this attachment we outline our assessment of AusNet’s capex proposal. Our draft decision consists of two parts:

- whether capex spent in the six years before the 2023–28 access arrangement period should be added to the capital base² and
- whether AusNet’s forecast of capex for the 2023–28 access arrangement period meets the conforming capex criteria in the NGR.³

5.1 Draft decision

5.1.1 Conforming capex for the 2017 and 2018–21 period, estimates for 2022 and Half Year 2023

We approve the actual total net capex for AusNet for the years 2017 and 2018 to 2021 as conforming capex, made up of the following:

- 2017 capex – at the time of our last decision, actual expenditure for 2017 was not known, and an estimate was included in the capital base. We now have actual expenditure for that year and have updated the capital base accordingly⁴
- 2018-21 capex – actual expenditure is available for these years, and we have assessed whether this can be included in the capital base.⁵
- 2022 and the six-month extension period – actual capex is not available currently. We have included an estimate in the capital base. We will update this in the next access arrangement decision, when actual capex is available.⁶ We will assess whether AusNet’s actual capex for 2022 and the six-month extension period is conforming capex under the NGR in the subsequent (2028-32) access arrangement review and adjust for any differences between actual and estimated capex.⁷

¹ NGR, r. 69.

² NGR, r. 77 sets out the process for determining the opening capital base.

³ These criteria are set out in NGR, r. 79.

⁴ NGR, r. 79.

⁵ We assess whether actual capital expenditure is conforming capital expenditure under the capital expenditure criteria in NGR, r. 79.

⁶ This is consistent with our obligations under NGR, rr. 77(2)(b), 79.

⁷ This is consistent with our obligations under NGR, rr. 77(2)(b), 79.

5.1.2 Conforming capex for the 2023–28 period

We accept AusNet’s capex forecast of \$427.6 million (\$2022–23) total net capex for the 2023–28 access arrangement period as conforming capex under the NGR.⁸

Table 5.1 sets out our draft decision by regulatory year and capex category.

Table 5.1 AER’s draft decision on AusNet’s forecast capex by category over the 2023-28 access arrangement period (\$2022–23, million)

Category	2023-24	2024-25	2025-26	2026-27	2027-28	Total
Mains replacement	30.6	27.9	25.2	28.6	19.9	132.3
Meter replacement	6.3	7.4	8.0	6.4	5.7	33.7
Augmentation	4.9	6.5	3.6	2.1	2.6	19.8
Telemetry	1.2	1.2	0.3	0.2	0.3	3.2
IT	16.1	18.5	20.0	10.0	7.4	72.0
Customer connections	46.7	43.2	38.5	31.5	27.2	187.0
Other distribution assets	11.3	12.0	12.4	10.5	10.0	56.3
GROSS TOTAL	117.2	116.7	108.0	89.4	73.0	504.4
Customer contributions	-11.6	-14.3	-16.7	-17.3	-16.9	-76.8
NET TOTAL	105.7	102.4	91.3	72.1	56.1	427.6

Note: Totals may not sum due to rounding.

Source: AER analysis.

We assessed AusNet’s forecast capex against our alternative estimate of efficient capex, considering the available evidence, engineering advice from our consultants and submissions from stakeholders.

Overall, we found that most aspects of AusNet’s proposal were likely to be conforming capex. We determined an alternative forecast of \$426 million (\$2022–23) (\$1.6 million less than AusNet’s proposal) because we did not accept AusNet’s proposed cyber security uplift in information and communication technology (ICT). On balance, our alternative estimate is not materially different from AusNet’s forecast capex, and we accepted AusNet’s total capex proposal as prudent and efficient.

5.2 AusNet’s proposal

5.2.1 Actual and estimated capex over the 2018–22 period

AusNet has forecast net capex of \$502.4 million (\$2022–23) for the 2018–22 access arrangement period, with an estimate included for 2022. This is 1.4% lower than the \$509.6 million accepted in our final decision.⁹

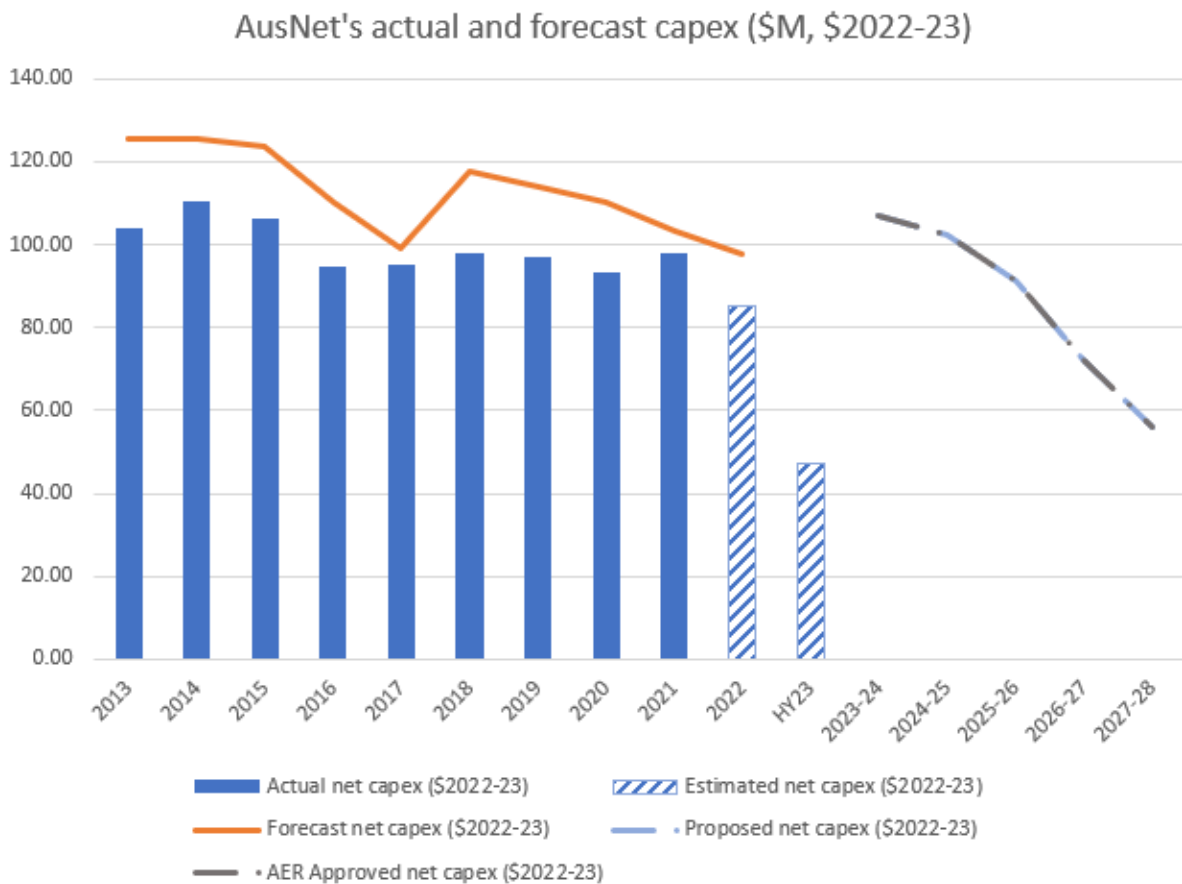
⁸ NGR, r. 79.

⁹ AER, *Final decision, AusNet Services gas access arrangement 2018–22 – Overview*, November 2017, pp. 32–33.

5.2.2 Forecast capex in the 2023–28 period

AusNet’s proposed forecast net capex of \$427.6 million (\$2022–23) for the 2023–28 access arrangement period is \$76.8 million (15%) lower than its actual and estimated net capex for the 2018–22 period.¹⁰ The major components of forecast gross total capex over the 2023–28 period are customer connections (44%), mains replacement (31%) and ICT (17%).

Figure 5.1 AER’s draft decision compared to AusNet’s past and proposed capex (\$million, 2022–23)



Source: AER analysis.

5.3 Assessment approach

We must make two decisions regarding AusNet’s capex. First, we are required to assess past capex and determine whether it is conforming capex that we should add to the opening capital base.¹¹

Second, we are required to assess AusNet’s forecast of required capex for the 2023–28 period to determine whether it is conforming capex. Capex will be ‘conforming’ if it meets the NGR’s new capex criteria.¹²

¹⁰ AusNet’s capex for both 2020-21 and 2022-23 are estimates only.

¹¹ Under NGR, r. 77(2)(b), we add capital expenditure to the capital base only if it is conforming capital expenditure.

¹² NGR, r. 79.

The following sections set out our approach and the tools and techniques we employ in forming a view on these two components. We also need to take into account timing issues associated with the lag between actual capex data being available in the last year of the 2018–22 period and the need to forecast the opening capital base for the 2023–28 period. We explain this in the next section.

5.3.1 Capex in the 2018–22 period

We reviewed AusNet’s submission and supporting material to assess its proposed capex for the 2018–22 access arrangement period. Where capex was higher than accepted in our 2018–22 final decision, we scrutinised AusNet’s reasons for the overspend. We also had regard to the presence of the capital expenditure sharing scheme (CESS), and the incentive this provides to deliver efficient capex.¹³ We used this information to identify whether capex over the 2018–22 period was conforming capex.

5.3.2 Capex in the 2023–28 period

Our draft decision is made on total forecast capex in accordance with the new capex criteria in the NGR.¹⁴

To arrive at this decision, we construct an alternative estimate of efficient capex, and compare it to AusNet’s proposal. If our alternative estimate is not materially different to AusNet’s proposal, we will accept AusNet’s proposal. On the other hand, if there is a material difference at the total capex level, we will not accept AusNet’s forecast, and substitute it with our alternative estimate.

We have assessed the key drivers of forecast capex to consider whether AusNet’s proposed capex complies with the new capex criteria. In doing so, we relied on the following information:

- AusNet’s access arrangement submission and access arrangement information, which outlines its capex program and the main drivers of those programs
- business cases that detail the expenditure requirements for specific projects
- AusNet’s RIN responses
- AusNet’s capex forecast model
- responses to information requests
- engineering advice we commissioned from our engineering consultants, Zincara on selected projects
- submissions from interested parties.

Our assessment was particularly focussed on the materiality of the capex categories, whether the expenditure was significantly higher than historical expenditure, if the capex

¹³ The capital expenditure sharing scheme (CESS) provides an incentive for a service provider to realise savings on its capex program by rewarding those service providers that spend less capex than forecast and penalising those that spend more than forecast. Further information can be found in the CESS section at attachment 13.

¹⁴ NGR, r. 79(1).

related to a new type of asset and if there was significant precedent value in our decision or where stakeholders have raised significant issues. We also take into consideration the interrelationships between the capex forecast and other components of our decision such that our decision is likely to contribute to the achievement of the National Gas Objective (NGO).¹⁵

Table 5.2 compares AusNet’s capex at a total and component level from the current access arrangement period with the 2023–28 access arrangement period (including % of total capex).

Table 5.2 AusNet capital expenditure proposal vs current access arrangement actuals/estimates (\$million, 2022–23)

Category	2017-22	2023-28	Difference (\$)
Capex			
Mains Replacement	130.5	132.3 (30.9%)	1.8
Customer Connections	296.2	187.0 (43.7%)	-109.2
Meter Replacement	43.5	33.7 (7.9%)	-9.8
Augmentation	16.2	19.8 (4.6%)	3.6
SCADA	3.5	3.2 (0.7%)	-0.3
ICT	40.4	72.0 (16.8%)	31.6
Other	32.5	56.3 (13.2%)	23.8
Gross Total	562.8	504.4	-58.8
Customer connections	-60.4	-76.8 (-18%)	-16.4
Net Total	502.4	427.6	-74.8

Source: AER analysis.

5.3.3 Interrelationships

In assessing AusNet’s total forecast capex, we considered other components of its access arrangement proposal, including:

- possible trade-offs between capex and operating expenditure (opex)
- any differences between capitalisation policies applied in the 2018–22 and 2023–28 periods
- the growth in the price of labour for opex and capex.

5.4 Reasons for draft decision on 2018–22 period capex

AusNet’s actual and estimated capex for the current access arrangement is \$502.4 million, compared with the AER’s final decision estimate of \$509.6 million. During the 2018–22 period, AusNet incurred higher than forecast customer connections, which were largely offset by higher customer contributions.¹⁶ AusNet also incurred lower than forecast information and communication technology (ICT) expenditure, which was mainly experienced in the first three

¹⁵ We are required to do this under NGL, s. 28(1).

¹⁶ AusNet, *Access Arrangement Information 2024–28*, 1 July 2022, p. 106.

years due to organisational transformations, covid related project inefficiencies and reprioritisation for increased customer contributions.¹⁷

We consider AusNet’s approach to the reprioritisation of ICT and customer connections to be a prudent response to internal influences and factors impacting on the delivery of AusNet’s services. We are satisfied that AusNet’s actual and estimated capex of \$502.4 million for the current access arrangement is conforming capex.¹⁸

While we do review specific projects and the underlying costs, we do not determine which programs or projects AusNet should or should not undertake. This is consistent with our incentive-based regulatory framework, which includes the capital expenditure sharing scheme (CESS). Once the forecast is established, there is an incentive for AusNet to provide services at the lowest possible cost, because the actual costs of providing services will determine its returns in the short term. If it reduces its costs, the savings are shared with consumers in future regulatory control periods. This incentive-based framework recognises that AusNet should have the flexibility to prioritise its capex program given its circumstances in the access arrangement period and due to changes in information and technology over time.

5.5 Reasons for draft decision on 2023–28 period capex

Our analysis focuses on the main four drivers of AusNet’s capex proposal which make up almost 90% of AusNet’s forecast net capex, as outlined in table 5.3 below.

Table 5.3 AusNet’s main drivers of forecast net capex

Category	% of total net capex	Increase/decrease over current period estimate (\$million, 2022-23)
Connection assets	37.1	-109.2
Mains replacement	26.2	1.8
ICT	14.0	31.6
Other assets	11.0	23.8

Source: AusNet, ASG – GAAR 2024-28 – Capex Model, 6 July 2022.

5.5.1 Customer connections

A distribution business has a regulatory obligation to make a connection offer to residential and commercial/industrial customers making applications to connect to its distribution network.¹⁹

Connections capex is usually forecast by categorising connections into Tariff V (residential customers, and small commercial and industrial (I&C) customers) and Tariff D (large I&C customers). Residential customers can be disaggregated further into existing homes, new estates, and medium/high density (or multi-user) dwellings.

¹⁷ AusNet, ASG – GAAR – Appendix 9 – GAAR IT Strategy document, July 2022, pp.18–22.

¹⁸ NGR, r. 77(2)(b).

¹⁹ NGR, rr. 119J, 119K, 119S (1).

Connections capex covers mains along streets, services to homes and businesses, and meters to measure gas consumption for new:

- low density dwellings (new homes)
- medium density and high-rise housing
- electricity to gas conversions
- commercial sites
- industrial and large commercial sites.

5.5.1.1 AusNet’s proposal

AusNet forecast growth (new connections) expenditure of \$187 million (\$2022–23) over the 2022–28 period. In the current period (2018–22), AusNet expects to spend \$296.2 million. This is a reduction of 37% on the current period and represents 44% of the total proposed capex for 2023–28. AusNet reduced its connections capex in response to the Roadmap. Its initial proposal was \$237.9 million, which was a reduction of 20% from the current period.

In line with the Roadmap, the Victorian Government will change the rules for licensing and planning in Victoria to clarify that natural gas connections to new estates are not compulsory, and to implement a 7 star energy efficiency rating for new dwellings. This new standard will make the installation of gas appliances less attractive than electric alternatives, as new dwellings will need to meet a carbon emission “budget”.

The Roadmap does not prevent new gas connections, but it is likely to lower gas penetration rates in new dwellings. The impact is likely to be more acute in the latter half of the 2023–28 period, as approved dwellings and estates currently being developed are not subject to the changes. AusNet submits that less will be spent on customer connections if developers do not fully reticulate new estates or if customer preferences shift towards renewable options.²⁰

5.5.1.2 Our assessment

We have accepted AusNet’s new connections forecast which is a major driver of growth capex. We sought clarification on AusNet’s unit rates in an information request. AusNet’s connections unit rates are based on historical costs.²¹ The overall connections costs are similar to comparable distributors’ benchmarks which are significantly affected by supply chain constraints and labour shortages. We note that AusNet has forecast significant increases in capital contributions which offset the forecast capex.²² Across the network, approximately 9% of connections capex is recovered through capital contributions. AusNet’s modelling indicates that this will rise from 9.5% to 50% over the 2023–28 access arrangement period and capital contributions will be \$43 million.²³ This means the declining

²⁰ AusNet, *Gas Access Arrangement review 2024-28 – Addendum to proposal*, 2 September 2022, p. 30.

²¹ AusNet, *Information request response IR#003*, 8 September 2022 (Confidential).

²² AusNet, *Gas Access Arrangement review 2024-28 – Addendum to proposal*, 2 September 2022, p. 31.

²³ AusNet, *Gas Access Arrangement review 2024-28 – Addendum to proposal*, 2 September 2022, p. 32.

customer base will bear proportionally less of the cost of connections and new customers will bear more, which may further influence new customers choices to connect to gas.

We consider the proposed capex for connection assets to be prudent and efficient. Based on all the information before us, we are satisfied AusNet’s capex forecast of \$187 million (\$2022–23) for new connections is conforming capex.

5.5.2 Mains Replacement

Operators of gas networks typically replace mains that have significantly deteriorated due to age or other factors, or are at risk of deterioration.²⁴ Typically, a mains replacement program targets the worst performing pipes on a network (measured by gas leaks). AusNet’s proposed mains replacement plan consists of proactive and reactive replacement programs.

For the reasons set out below, we are satisfied that AusNet’s proposed forecast capex of \$132.3 million (\$2022–23) for its mains replacement program is conforming capex that complies with the NGR.²⁵

5.5.2.1 AusNet’s proposal

AusNet proposed expenditure of \$132.3 million on mains replacement which is 31% of the total capex. The expenditure compares with \$130.5 million actual/estimated expenditure for the current access arrangement period. The mains replacement program has increased due to higher unit rates, and increased volumes of medium pressure (MP) and high pressure (HP) mains replacement where fleets of materials are identified as being the highest risk and have unacceptable levels of performance.²⁶

AusNet submits it will complete the program in the next period and in doing so will fulfil its safety commitments made to Energy Safe Victoria (ESV) as part of the Gas Safety Case.²⁷ Under the *Gas Safety Act 1998 (Vic)* a distributor is required to submit a safety case to the ESV, outlining the risks to networks and intended activities to manage those risks. One of the key activities discussed in the safety case is the mains replacement program, particularly, the low pressure (LP) mains replacement program.

During the 2023–28 access arrangement period, AusNet intends to replace 273 km of LP mains, 94.5 km of MP mains and 35 km of HP mains.²⁸

5.5.2.2 Our assessment

AusNet is nearing completion of its mains replacement program. The program involves a replacement rate of 60-70 km per annum until completion in 2028.²⁹ Since the introduction of the program in 2003 AusNet has decommissioned over 1,455 km of low-pressure pipe.³⁰

²⁴ Mains are defined as low pressure (1.4-7 kpa), medium pressure (15-210 kpa), and high pressure (140-515 kpa) pipes which distribute gas from the transmission system to customers.

²⁵ NGR, r. 79(1).

²⁶ AusNet, *Access Arrangement Information 2024–28*, 1 July 2022, p. 95.

²⁷ AusNet, *Access Arrangement Information 2024–28*, 1 July 2022, p. 88.

²⁸ AusNet, *Access Arrangement Information 2024–28*, 1 July 2022, p. 100.

²⁹ AusNet, *ASG – GAAR – Appendix 8 – AMS 30-01*, 1 July 2022, p. 52.

³⁰ AusNet, *ASG – GAAR – Appendix 8 – AMS 30-01*, 1 July 2022, p. 50.

This indicates a replacement rate of 60-70 km per annum is sustainable. We consider the total remaining cost aligns with historical cost and comparable distributors' benchmarks.

We accept the mains replacement is justified on the grounds that it is necessary to maintain and improve the safety and integrity of services.³¹

Our draft decision is to accept AusNet's forecast of \$132.3 million (\$2022–23) for mains replacement capex over the 2023–28 access arrangement period.

5.5.3 Information and communication technology

We are not satisfied that AusNet's proposed \$72.0 million (\$2022–23) for ICT capex is conforming capex. Our decision is to include \$70.4 million (\$2022–23) for ICT in our alternative capex estimate of conforming capex. Our alternative estimate does not include AusNet's proposed cybersecurity uplift but includes all of AusNet's other ICT projects.

5.5.3.1 AusNet Proposal

AusNet's proposed 2023–28 ICT capex of \$72.0 million (\$2022–23) is \$29.4 million or 69% higher than the actual and estimated ICT capex in the current access arrangement period.

AusNet's gas ICT strategy consists of three workstreams and each workstream contains several programs of work that AusNet is proposing to implement in the 2023–28 access arrangement period:³²

- Gas Network Operations – improved capabilities in data and analytics, automation, visualisation, modelling and risk management including improvements to core systems such as metering, customer management, network operations, and field mobility
- Cyber Security – which focuses on protecting AusNet's technology systems and data from cyber threats and attacks through the uplift of cyber security (to comply with relevant standards and frameworks such as the AESCSF)
- Lifecycle (Business as Usual) – which includes the prudent lifecycle applications refresh, storage, enterprise servers, desktop and mobile fleet, and corporate network and communications control technology to maintain currency and ensure the appropriate level of vendor support is obtained to mitigate operational risk.

Table 5.4 sets out AusNet's forecast of ICT capex over the next access arrangement period in comparison to the current period (categorised as recurrent or non-recurrent expenditure in line with our Guidance Note on ICT, discussed further below).

³¹ This therefore constitutes conforming capex pursuant to NGR, rr. 79(1)(b), 79(2)(c)(i)(ii).

³² AusNet, *ASG – Appendix 9 – GAAR IT Strategy*, July 2022, p. 4.

Table 5.4 AusNet’s forecast of current and next access arrangement period ICT capex – recurrent and non-recurrent (\$million, 2022–23)

	2018–22 Actual/Estimate	2023–28 Proposed
Recurrent		
Workforce Collaboration	0.7	4.9
Gas DMS	2.9	7.6
Information management	1.5	8.9
Corporate Communications	1.3	5.0
Metering Services	1.5	1.8
Corporate Enablement	2.3	4.4
Network Management	0.1	-
TAM – Applications	6.0	3.0
TAM – Infrastructure	15.0	7.5
Customer Information Services	0.7	0.6
Cyber Security	4.1	3.9
<u>Total recurrent</u>	<u>36.1</u>	<u>47.6</u>
Non-recurrent		
Workforce Collaboration	0.2	2.1
Gas DMS	0.7	6.8
Information management	2.7	5.3
Metering Services	1.1	1.1
Corporate Enablement	0.8	1.9
Customer Information Services	0.5	2.5
Cyber Security	0.5	4.7
<u>Total non-recurrent</u>	<u>6.6</u>	<u>24.4</u>
Total capex	42.6	72.0

Note: Totals may not sum due to rounding.

Source: AER analysis, *ASG Capex Model*, AER, *Information Request #16*, 9 September 2022.

5.5.3.2 Our assessment

Our assessment approach to ICT capex is outlined in our Guidance Note on Non-network ICT capex assessment approach (Guidance Note).³³ We require the businesses to allocate its ICT expenditure into two categories, ‘recurrent’ ICT and ‘non-recurrent’ ICT. Recurrent ICT is expenditure that is related to maintaining existing IT services, functionalities, capability and/or market benefits, and occurs at least once every five years.³⁴ Non-recurrent ICT is any ICT expenditure that is not ‘recurrent’ and generally includes major upgrades or major version transitions, complying with new obligations and new or expanded ICT functionality.³⁵

³³ AER, *Non-network ICT capex assessment approach*, November 2019.

³⁴ AER, *Non-network ICT capex assessment approach*, November 2019, p. 8.

³⁵ AER, *Non-network ICT capex assessment approach*, November 2019, pp. 8–9.

We are satisfied that AusNet has accurately classified its recurrent and non-recurrent ICT expenditure in accordance with the Guidance Note.

In assessing AusNet’s proposed ICT capex for the 2023–28 access arrangement period, we have analysed the information provided in AusNet’s proposal, including business cases, additional material provided in response to information requests,³⁶ and RIN data.

Having reviewed the cost estimates, business cases and relevant models, we consider AusNet’s proposed ICT capex has been largely derived on a reasonable basis. The exception is AusNet’s cyber security uplift which we consider is not required for gas distribution businesses.

AusNet has developed its ICT strategy for both its electricity and gas distribution and electricity transmission networks.³⁷ We previously approved this ICT strategy in AusNet’s electricity distribution and transmission determinations.³⁸

We received one submission from the Brotherhood of St. Laurence (consultants, TRAC Partners) concerning AusNet’s IT expenditure proposal.³⁹ The Brotherhood of St. Laurence (consultants, TRAC Partners) submitted that there was little information provided to determine the appropriateness of the quantum of each initiative and the appropriateness of the apportionment of the capex between electricity and gas businesses.⁴⁰ The submission also questioned why 100% of the costs of the ‘technology asset management, applications and infrastructure projects, and corporate communications’ ICT capex in the access arrangement information are being allocated to the gas business and not shared amongst the electricity businesses.

We consider the allocations across AusNet’s businesses are consistent with AusNet’s electricity determinations and have been derived on a reasonable basis. In response to the Brotherhood of St. Laurence (consultants, TRAC Partners) regarding the 100% allocation of the three projects in the access arrangement information (table 6.14)⁴¹, we note the total cost is the proportion of the total cost of the program across AusNet’s businesses and not the full cost. AusNet apportions 21% of these total business costs to its gas business.⁴²

AusNet’s recurrent projects are consistent with its strategy of refreshing its operating systems and includes:⁴³

³⁶ AER, *Information Request #16*, 9 September 2022.

³⁷ AusNet, *Access Arrangement Information, Gas Access Arrangement Review 2023–28*, July 2022, p. 109.

³⁸ AER, *Draft Decision, AusNet Services transmission determination 2022–27 - Attachment 5: Capital expenditure*, June 2021, pp. 26–28; AER, *Draft Decision, AusNet Services distribution determination 2021–26 - Attachment 5: Capital expenditure*, September 2020, pp. 27–28.

³⁹ TRAC Partners for Brotherhood of St. Laurence, *Response to 2023-28 access arrangement proposals*, September 2022, pp. 59–60.

⁴⁰ TRAC Partners for Brotherhood of St. Laurence, *Response to 2023-28 access arrangement proposals*, September 2022, p. 60.

⁴¹ AusNet, *Access Arrangement Information, Gas Access Arrangement Review 2023–28*, July 2022, pp. 110–111.

⁴² The cost allocation of these programs is apportioned across electricity distribution (49%), electricity transmission (30%) and gas distribution (21%). See: AusNet, *ASG – GAAR – ICT Project brief – TAM Applications*, July 2022, p. 4, AusNet, *ASG – GAAR – ICT Project brief – TAM Infrastructure*, July 2022, p. 4 and AusNet, *ASG – GAAR – ICT Project brief – Corporate Communication*, July 2022, p. 4.

⁴³ AusNet, *ASG – Appendix 9 - GAAR – IT Strategy Document*, July 2022, p. 3

- the Gas Distribution Management System, which is specific to the gas network and aims to replace end-of-life systems to avoid system downtime, and mitigate risks created by sustaining end-of-life core network operation systems, which cannot apply further security patches or receive vendor support
- information management, which enables access to timely, accurate data across all core systems, assets, and processes, to support better decision making across the gas business
- corporate communications, to enable operational efficiency, reliability, safety, and growth by connecting employees, customers and applications with a secured communications network.

AusNet's proposed non-recurrent ICT expenditure is also being driven by the Gas Distribution Management System replacement and information management upgrades and includes a cyber security uplift.

The information management and corporate communications project costs are applied across AusNet as a whole and were approved by us in our recent electricity determinations for AusNet.⁴⁴

Our assessment of these projects is that they largely constitute conforming capex. However, we consider AusNet's proposed cyber security uplift is not prudent and efficient and does not constitute conforming capex for the reasons outlined below.

Cyber security

AusNet proposed \$8.6 million (\$2022–23) to cover the proportion of its gas distribution business cyber security capabilities across its electricity network (distribution and transmission) and gas distribution business.⁴⁵ The proposed expenditure includes technology solutions and project implementation to uplift the capabilities to Maturity Indicator Level 3 (MIL-3) / Security Protection Level 3 (SP 3) across all its networks.⁴⁶

The Brotherhood of St. Laurence (consultants, TRAC Partners) submitted that it is not clear how much is forecast to be spent on improving cyber security capabilities in light of new requirements and increasing threats and it is important that the AER review cyber security requirements.⁴⁷ We acknowledge the majority of the information provided on AusNet's cyber security is confidential on security grounds and we have assessed the underlining need for AusNet's uplift, in light of cyber security requirements across the gas and electricity industry.

While we recognise MIL-3 / SP 3 is an appropriate standard for AusNet's electricity transmission business under the *Security Legislation Amendment (Critical Infrastructure Protection) Act 2022* (Act), there is currently no obligation for AusNet to achieve the

⁴⁴ AER, *Draft Decision, AusNet Services transmission determination 2022–27 - Attachment 5: Capital expenditure*, June 2021, pp. 26–28; AER, *Draft Decision, AusNet Services distribution determination 2021–26 - Attachment 5: Capital expenditure*, September 2020, pp. 27–28.

⁴⁵ AusNet Services' cybersecurity costs are allocated across AusNet Services' gas and electricity networks – gas distribution 12%, electricity distribution 24% and electricity transmission 64%. See AusNet, *ASG – GAAR – ICT Program Brief – Cybersecurity*, July 2022, p. 4.

⁴⁶ AusNet, *ASG – GAAR – ICT Program Brief – Cybersecurity*, July 2022, p. 19.

⁴⁷ TRAC Partners for Brotherhood of St. Laurence, *Response to 2023-28 access arrangement proposals*, September 2022, p. 59.

capabilities of a maturity level MIL-3/SP 3, for its gas distribution business. We consider the proposal to achieve MIL-3/SP 3 capabilities for the gas distribution network is higher than the efficient investment required to meet the likely security capabilities under the Act.

We have not included the proportion of expenditure AusNet proposed to uplift its gas distribution business to MIL-3 / SP 3. Our alternative forecast for cyber security expenditure is \$7 million (\$2022–23).⁴⁸

5.5.4 Other capital expenditure

AusNet proposes \$56.3 million (\$2022–23) other capital expenditure in the 2023–28 access arrangement period, compared to the estimated \$32.5 million in the current period.

The other capex category includes \$24.3 million for regulators and \$2.1 million for cathodic protection. Four alterations programs are proposed totalling \$16.4 million which are customer proposed (typically by government authorities) and are offset by customer contributions. Other items include in line inspections of \$5.9 million, general capex (such as valves) of \$5.3 million, and non-network elements such as fences and building security of \$2.9 million.

5.5.4.1 Our assessment

We are satisfied AusNet’s capex forecast for other capex is conforming capex that complies with rule 79. Our assessment of AusNet’s proposed other capital expenditure by category is outlined below:

Regulators

AusNet’s proposed \$24.3 million (\$2022–23) for regulators is split into two components – \$10.3 million for network regulators and \$14.1 million for consumer regulators. The network regulator expenditure program involves replacement of 9 city gate regulators, 5 city gate heater replacements, 13 field regulators and 26 actuator sites.⁴⁹ This expenditure is consistent with the current access arrangement forecast and the unit rates are based upon historical contract prices for similar works. The consumer regulators program is a safety and compliance obligation and requires proactive replacement in response to the increase in meter leaks over time. Customer regulators are replaced at the same time as a customer meter is replaced.⁵⁰

Based on the available information,⁵¹ we are satisfied that this project is justified on the grounds of maintaining the safety and integrity of services.⁵² Obsolete industrial and commercial regulators need to be replaced because spares are no longer available. High risk industrial and commercial regulators present high risk failure modes where large amounts of gas may be released on failure. Older regulators present high risk of failure and are no

⁴⁸ A reduction of \$1.6 million (\$2022–23). We have not accepted AusNet’s recommended option (option 2) but rather option 1. See AusNet, *ASG – GAAR – ICT Program Brief – Cybersecurity*, July 2022, p. 15.

⁴⁹ AusNet, *Access Arrangement Information 2024-28*, 1 July 2022, p. 102.

⁵⁰ AusNet, *Access Arrangement Information 2024–28*, 1 July 2022, p. 102.

⁵¹ AusNet, *ASG – GAAR – Appendix 8 – AMS 30-01*, 1 July 2022, p. 43.

⁵² NGR, r. 79(c)(i)(ii).

longer supported by manufacturers.⁵³ We accept AusNet’s analysis on the regulators for the other capex category and consider the proposed strategy as prudent and efficient.

Based on all the information before us, and for the reasons above, we are satisfied AusNet’s capex forecast of \$24.3 million (\$2022–23) for regulators is conforming capex.

Cathodic protection

AusNet proposed \$2.1 million (\$2022–23) for cathodic protection upgrades, relating to corrosion protection and surge protection. AusNet submitted further details of its proposed works program in its Corrosion Protection Strategy.⁵⁴ This is a routine activity, and we are satisfied it is justified on the grounds of maintaining the safety and integrity of services and constitutes conforming capex.⁵⁵ We accept AusNet’s proposed cathodic protection capex as it aligns with our analysis of other distributors’ cathodic protection strategies in scope and approach.

Other categories

Our assessment of the remaining other capital expenditure categories was informed by analysis of other capital by our engineering consultant, Zincara, submissions from stakeholders, and our own review of the proposal. In this section we provide an overview. Detailed information of the other capital expenditure category can be found in the Zincara report.⁵⁶

Alteration projects

From time to time, there are projects from third parties (typically local government and construction projects) that require distributors to relocate or install new infrastructure. In such cases, the third parties often pay the costs of the relocation or installation. From a capex perspective, the net effect on the capital base is largely offset by the customers’ contribution.

AusNet proposed \$16.4 million (\$2022–23) in specific alternations projects.

In addition to Zincara’s analysis, we made further information requests to AusNet.⁵⁷ Having considered Zincara’s analysis and material provided by AusNet in response to our information requests we consider the proposed alteration projects by AusNet are prudent and efficient.

Alteration projects can be considered prudent because they are customer-initiated. The work only commences after the customer has accepted the quote for the project and agrees to pay the cost. As the customer can scrutinise the cost before accepting, we consider the individual

⁵³ AusNet, *ASG – GAAR – Appendix 8 – AMS 30-01*, 1 July 2022, p. 47

⁵⁴ AusNet, *ASG – GAAR – Appendix 8 – AMS 30-01*, 1 July 2022, p. 57.

⁵⁵ NGR, r. 79(c)(ii).

⁵⁶ Zincara, *Access Arrangement Review AusNet Services*, 24 November 2022, p. 5.

⁵⁷ AusNet, *Response to AER information request IR#012*, 9 September 2022 (Confidential).

project cost to be efficient. We note that these projects are associated with large public works where customers are capable of reviewing and negotiating costs.

Security Fences and other security upgrades

AusNet proposed \$2.9 million (\$2022–23) in security fencing and other security upgrades.

AusNet has assessed the city gate sites to ensure that it is complying with the *Security Legislation Amendment (Critical Infrastructure Protection) Act 2022* and has identified nine sites which require anti-climb fences. The project relating to the security of the city gate is a compliance issue and as such, we consider it prudent to upgrade the fences for the nine city gates.

Regarding the installation of other security upgrades on four of the city gates, we also consider it prudent to carry out these installations. These city gates are single sources of supply to major towns and any intrusion, including vandalism could result in very high consequences in terms of the security and integrity of pipeline services to customers.⁵⁸

We engaged Zincara to review these works and we consider them to be prudent and efficient. The bottom-up approach and historical unit rates used to estimate costs are reasonable.

Transmission Pigging

AusNet proposed \$5.9 million (\$2022–23) in transmission pigging.

Under Australian Standard, AS2885, the pipeline operator is required to maintain the integrity of the pipeline and the industry standard is to carry out intelligent inline inspection to assess the condition of the pipeline. As such, Zincara advises that modifying the pipeline to be able to carry out such operation is considered prudent.^{59 60}

We received further material in response to our information request regarding AusNet's transmission pigging.⁶¹ AusNet has undertaken a competitive tender for a contractor to develop the scope and cost for the works. Given the competitive tender process that AusNet has adopted to estimate its proposal and having reviewed these estimates, we consider the cost to be efficient.

General Capex

AusNet proposed \$5.3 million (\$2022–23) in general capex to ensure that its buildings and equipment remain fit for purpose.

⁵⁸ NGR 79 (c)(i) and (ii).

⁵⁹ Zincara, *Access Arrangement Review AusNet Services*, 24 November 2022, p. 8.

⁶⁰ NGR 79 (c)(ii).

⁶¹ AusNet, *Response to information request #023* (Other capex - follow up on IR#012 and IR#019), 4 November 2022.

In addition to Zincara’s analysis, we made further information requests to AusNet.⁶² Having considered Zincara’s analysis and material in response to our information requests, we acknowledge there needs to be a provision for ensuring buildings are fit for purpose.⁶³ We consider AusNet’s bottom-up estimate to determine total cost and its proportional allocation of capex across the gas distribution business are appropriate.⁶⁴ We consider the proposed general capex proposed by AusNet is prudent and efficient.

5.5.5 Meter Replacement

Meter replacement is an ongoing capex activity that covers all metering types that require replacement either as part of a planned program or when found to be defective. AusNet has regulatory obligations to manage the integrity of meters and ensure they operate within the prescribed tolerance band for metering accuracy.

AusNet’s forecast metering expenditure of \$33.7 million (\$2022–23) to replace more than 137,000 meters over the 2023–28 period is 8% of its proposed capex.⁶⁵ This is a 22.5% decrease over the current period (2018–22) forecast of \$43.5 million.

5.5.5.1 Our assessment

The unit rates for domestic and I&C meters are based on contracted cost, and equipment and contract cost to install, respectively.⁶⁶

We accept the volume forecast for reactive and proactive meter replacements as this is consistent with AusNet’s past meter replacements and known failure rates of the metering population in AusNet’s gas network. We also considered the unit rates in detail and found that the rates were comparable to benchmarks unit rates used by gas distribution businesses. We also accept that supply chain constraints and labour shortages have had an impact on the installation component of the meter replacement unit rates. The reactive replacement unit rates are higher than proactive replacement rates because the proactive replacements can be scheduled, allowing the bundling of work and aggregating labour deployment.

Based on all the information before us, we are satisfied AusNet’s capex forecast of \$33.7 million (\$2022–23) for meter replacement is conforming capex.

5.5.6 Augmentation

Under the Gas Distribution System Code of Practice,⁶⁷ distributors are required to maintain minimum pressure in the gas distribution network and ensure it remains above prescribed levels to the extent to which it is within AusNet’s power. One reason for this obligation is to

⁶² AusNet, *Response to AER information request IR#012*, 9 September 2022 (Confidential); AusNet, *Response to information request #023 (Other capex - follow up on IR#012 and IR#019)*, 4 November 2022.

⁶³ Zincara, *Access Arrangement Review AusNet Services*, 24 November 2022, p. 8.

⁶⁴ Details of the cost are set out in AusNet, *Response to information request #023 (Other capex - follow up on IR#012 and IR#019)*, 4 November 2022.

⁶⁵ AusNet, *Gas Access Arrangement review 2024–28*, 1 July 2022, p. 104.

⁶⁶ AusNet, *Information request response IR#003*, 8 September 2022 (Confidential).

⁶⁷ Clause 2.1(b), Gas Distribution System Code of Practice (Vic).

minimise loss of supply to customers on cold winter days (peak demand). To continue to meet this obligation, AusNet is required to augment the network.

5.5.6.1 AusNet’s proposal

AusNet’s forecast capital expenditure for augmentation is \$19.8 million (\$2022–23) in the 2023–28 access arrangement. This compares to \$16.2 million in the current period. This represents a 22% increase and is largely driven by two new city gates in Werribee and Craigieburn.⁶⁸ AusNet has identified 11 sites that require augmentation to meet the gas pressures under the Gas Distribution System Code of Practice in developing areas.⁶⁹

AusNet identifies strong population growth in Melbourne localities such as Hume, Melton and Wyndham and in regional areas such as Bendigo, Ballarat and Geelong. Overall customer growth is forecast to increase by an average of 2.1% to 2028, requiring augmentation activities to maintain supply through the winter peak.⁷⁰

5.5.6.2 Our assessment

We sought further information from AusNet on its augmentation program including project justifications and unit rates.⁷¹

We assessed the two city gates projects and 11 sites requiring augmentation. Augmentation is driven by customer demand⁷² and the need to retain the required gas pressures on the network. AusNet’s network augmentation is targeted at the high growth areas of its network such as Werribee, Craigieburn, Ballarat and Sunbury.⁷³ AusNet has demonstrated the need to undertake these works given the projected demand for services on its network and the scope of work is an appropriate response to this. We consider the approach to and justification of these programs to be prudent and efficient. We accept AusNet’s unit rates for the city gate, and the mains and regulators for the 11 sites are reasonable as they are based on historical costs and third party works of similar nature.⁷⁴

Based on all the information before us, we are satisfied AusNet’s capex forecast of \$19.8 million (\$2022–23) for augmentation is conforming capex.

5.5.7 Telemetry

Telemetry systems are used by distribution businesses to monitor network conditions in real time and, in some cases, for the remote control of gas flows and pressures to optimise system performance and maximise safety. Improvements in these systems will reduce the

⁶⁸ AusNet, *Access Arrangement Information 2024–28*, 1 July 2022, p. 106.

⁶⁹ AusNet, *Access Arrangement Information 2024–28*, 1 July 2022, p. 107.

⁷⁰ AusNet, *ASG – GAAR – Appendix 8 – AMS 30-01*, 1 July 2022, p. 3.

⁷¹ AusNet, *Information request response IR#003 (capex unit rates and customer contributions)*, 8 September 2022; AusNet, *Information request response IR#003 (capex unit rates)*, 12 September 2022 (Confidential).

⁷² Our draft decision accepts AusNet’s proposed demand forecasts, as set out in attachment 12.

⁷³ AusNet provided detailed network modelling of each of the key network augmentations. Each business case including a number of options to address the capacity limitations. The supporting documentation has been published on our website - ‘supporting information – other’: <https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/ausnet-services-access-arrangement-2023%E2%80%9328/proposal>

⁷⁴ AusNet, *Information request response IR#003 (capex unit rates)*, 12 September 2022 (Confidential).

risk of major supply interruption (NGR, rule 79(2)(c)(i)) and provide more accurate, reliable and timely pressure data to better inform network capacity models (NGR, rule 79(2)(c)(ii)).

AusNet has proposed \$3.2 million (\$2022–23) for telemetry in the next period. This compares with \$3.5 million (\$2022–23) forecast for the current period.

5.5.7.1 Our assessment

AusNet presented a telemetry overview demonstrating that the average age of assets is 20 years and submitted that almost 50% of its high-pressure networks are operating under automatic control, and it is progressively automating its medium and low-pressure networks to enable dynamic control of pressure to minimise leaks and unaccounted for gas (UAFG).⁷⁵ We accept that the progressive replacement of aging telemetry systems with contemporary technology presents safety and optimisation benefits, and AusNet’s proposal is supported by risk assessments and costings which we consider reasonable.

We consider AusNet’s proposed telemetry capex expenditure of \$3.2 million (\$2022–23) is reasonably likely to reflect prudent and efficient costs for the following reasons:

- the majority of AusNet’s telemetry capex projects are driven by compliance requirements which we consider is consistent with good industry practice
- forecast telemetry capex is consistent with AusNet’s telemetry capex for the current period
- AusNet’s forecast telemetry capex is consistent with telemetry capex in other networks in Victoria.

Based on all the information before us, and for the reasons above, we are satisfied AusNet’s capex forecast of \$3.2 million (\$2022–23) for telemetry is conforming capex.

5.5.8 Capitalised overheads

Overheads are costs that are not directly attributable to the output of distribution businesses but are necessary to support its operations. Examples of overhead costs include network planning, procurement and human resources.

According to the RIN, AusNet only capitalises network overheads and disaggregates its capitalised overheads into the following subcategories/functions:

- operations and maintenance
- planning and system design
- procurement and fleet
- technical assurance
- network engineering
- general support.

⁷⁵ AusNet, ASG – GAAR – Appendix 8 – AMS 30-01, 1 July 2022, p. 59.

In the 2018–22 period, AusNet estimates it will spend \$16.9 million (\$2022–23) of capitalised overheads.

AusNet’s proposed forecast methodology for capitalised overheads is principally consistent with our previous decisions⁷⁶ and has come down in line with the reduced capital program.

We accept the forecast capitalised overheads of \$13.3 million as conforming capex.⁷⁷

⁷⁶ AER, *Draft decision, AusNet Services gas access arrangement 2018–22 – attachment 6; capital expenditure*, July 2017, pp. 35–36.

⁷⁷ NGR, r.79(1).

Glossary

Term	Definition
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
capex	Capital expenditure
CESS	Capital expenditure sharing scheme
CI	Cast iron
ESV	Energy Safe Victoria
HDPE	High density polyethylene
HP	High pressure
I&C	Industrial and commercial
ICT	Information and communication technology
LP	Low pressure
MIL-3	Maturity Indicator Level 3
MP	Medium Pressure
NGL	National Gas Law
NGO	National Gas Objective
NGR	National Gas Rules
opex	Operating expenditure
RIN	Regulatory Information Notice
SP 3	Security Protection Level 3
SCADA	Supervisory Control And Data Acquisition
UAFG	Unaccounted for gas
Zincara	Zincara Pty Ltd