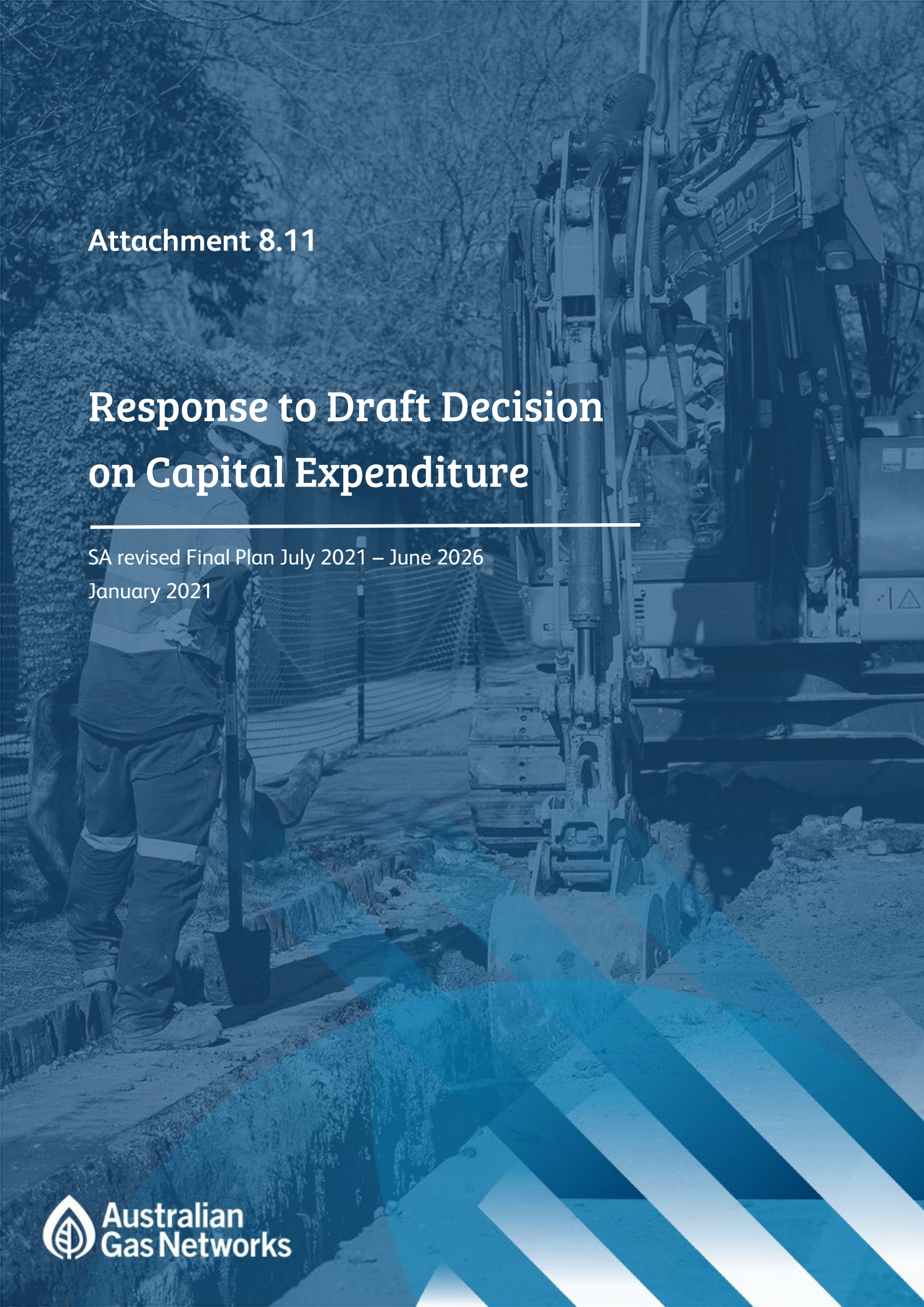

Attachment 8.11

Response to Draft Decision on Capital Expenditure

SA revised Final Plan July 2021 – June 2026

January 2021

Australian Gas Networks

1. Response to Draft Decision on Capital Expenditure

We are investing $529 million in our SA network in the next AA period. The capex we incur is required to ensure gas is supplied in a safe and reliable manner and to support ongoing network growth and customer service.

1.1. Overview

This attachment sets out our response to the AER's Draft Decision on capital expenditure (capex) for our SA gas distribution network over the next (2021/22 to 25/2026) Access Arrangement (AA) period. In the next AA period we propose to invest $529 million, which is $48 million (or 10%) higher than the AER's Draft Decision but $50 million (or 9%) lower than our Final Plan.

The AER in its Draft Decision accepted the majority of our capex forecast for the next AA period, but did reduce our capex on account of:

- Reducing the speed and scope of mains replacement capex compared to our Final Plan, where the AER considers $85 million or 29% of the proposed mains replacement capex could be prudently deferred into future AA periods;
- Reducing the scope of the proposed valve replacement and pipeline modification programs within other distribution system capex totalling $10 million or 16%; and
- Reducing labour costs within all areas of the proposed capex program reflecting the AER's Draft Decision on labour cost escalation for the next AA period (in line with its decision for the opex trend).

The focus of our response therefore relates to those few areas where we are not in alignment with the AER.

We have closely considered the AER's Draft Decision and the report of its technical consultant, Zincara, and have accepted:

- Deferral of 90 kilometres of proactive mains replacement of medium pressure HDPE 575 DN40 mains, noting that we will continue to prioritise 770 kilometres of proactive mains replacement in the next AA period based on the performance and condition of all at risk mains;
- A slightly lower unit rate to undertake mains replacement in North Adelaide based on a 3-year weighted average rather than most recent actual costs;
- Deferral of seven proactive valve replacements; and
- Deferral of two FEED studies on the modifications required to make two of our oldest and highest priority metropolitan transmission pipelines piggable.

However, based on more recent information on network pipeline material performance, we have not accepted all proposed amendments from the Draft Decision. In particular, key differences between our revised Final Plan and the AER's Draft Decision on capex relate to:

- Maintaining our Final Plan position to replace 520 kilometres of low pressure CI/UPS block replacement, thereby completing the replacement of these mains in the next AA period. This is because updated information on the performance and condition of the remaining cast iron

mains in our network does not support the deferral of 115 kilometres of these mains into the subsequent AA period;

- Maintaining our Final Plan position to replace 198 kilometres of high pressure HDPE 575 DN40 mains (focussing on those mains laid prior to 1993 and subject to older squeeze-off practices that have caused damage to these pipes making them susceptible to slow crack growth and sudden failure); and
- Not accepting a slightly lower unit rate to undertake non-annual mains replacement program (AMRP) service replacements as the most recent actual material/other costs are more reflective of the likely costs in the next AA period than a 3-year weighted average; and
- Modifying our Final Plan position to proactively replace 9 (rather than 16) previously leaked valves which have the potential to impact a large number of customers in an emergency or during planned maintenance should they become inoperable.

We have made the decision at this time not to proceed with the proposed extension and reticulation of the natural gas distribution network from Murray Bridge through to Mt Barker. This decision does not reflect our desire to provide reticulated gas to residential and business in the Mt Barker region, but rather the regulatory framework currently does not deliver sufficient returns on new investment to finance such a significant extension of the network. The capex associated with the proposed extension and reticulation has been removed in our revised Final Plan.

In terms of our IT capex, we have updated the timing for a couple of IT projects being delivered in the current AA period, with some cost which will now straddle the next AA period. This results in IT investment in the current AA period totalling $30 million and in the next AA period totalling $51 million, a net increase of $2 million from our Final Plan.

Table 1.1 provides an overview comparing our gross capex program forecast for the next AA period with the AER's Draft Decision.

Table 1.1: Comparison of our gross capex program forecast for the next AA period with the AER's Draft Decision ($ million, 2020/21)

	Final Plan	AER Draft Decision	Revised Final Plan
Mains Replacement	294.0	209.4	259.2
Meter Replacement	20.7	20.6	20.9
Augmentation	11.5	11.6	11.6
Telemetry	2.0	2.0	2.0
IT system	36.5	36.3	51.3
Growth	147.4	146.8	128.9
Other distribution system assets	61.5	51.6	50.1
Other non-distribution system assets	5.1	5.1	5.2
Gross Total	**578.8**	**481.4**	**529.2**

We have invested $436 million of capex during the current AA period up to June 2020 and are forecasting to invest a further $123 million, totalling $559 million by the end of the period.

Our projected spend of $559 million in the current AA period represents a reduction of $41 million compared to our Final Plan and $45 million compared to the AER's Draft Decision and relates to:

- updated 2019/20 actuals (-$11 million) reflecting lower mains replacement, augmentation and IT capex compared to our forecast, partially offset by higher growth and other distribution system capex;
- inclusion of HDPE camera inspections under mains replacement rather than other distribution system assets where they are captured in the RINs (nil impact);
- updated 2020/21 forecast which will see:
  - some IT spend on projects underway delayed to the next AA period (-$11 million);
  - growth that reflects that we will not be in a position to extend our network to Mt Barker in the current AA period (-$30 million); and
  - a small carryover of mains replacement not completed in 2019/20 (+$2 million).

Table 1.2 provides an overview comparing our gross capex program performance over the current AA period with the AER's Decision.

Table 1.2: Comparison of our gross capex program forecast for the current AA period with the AER's Draft Decision ($ million, 2020/21)

	Final Plan	AER Draft Decision	Revised Final Plan
Mains Replacement	300.4	307.1	301.6
Meter Replacement	24.7	25.4	25.2
Augmentation	12.6	12.7	10.1
Telemetry	1.1	1.1	1.1
IT system	41.6	41.9	31.2
Growth	163.3	164.2	137.0
Other distribution system assets	51.9	47.5	48.7
Other non-distribution system assets	3.7	3.7	3.9
Gross Total	**599.3**	**603.6**	**558.8**

1.2. Stakeholder and customer feedback

In preparing the revised Final Plan we have continued to engage with stakeholders, including our South Australian and Retailer Reference Groups and through further information provided to the AER on our Final Plan.

A summary of the feedback provided on our capex is provided in Table 1.3 below.

Table 1.3 Summary of customer and stakeholder feedback

Customer and Stakeholder Feedback	Our Response
On our mains replacement program: • Business SA recognised there is a level of necessary mains replacement, but asks the AER to remain mindful of both the impact of aggregate capital spending, along with the relative merits of each individual capital proposal, given it will occur during an environment of falling gas consumption.[1]	• Our revised proactive mains replacement of 770km considers the feedback from customers, stakeholders, the AER and the OTR to balance safety and costs over the next AA period, given the current environment.

[1] Business SA, Submission on Australian Gas Infrastructure Group's 2021-26 Final Plan for South Australia's gas distribution network, August 2020, p. 3.

Customer and Stakeholder Feedback	Our Response
• CCP24 noted that consumer groups and the SARG have a good understanding of the merits of the mains replacement program and have been supportive of it for some time and continue to be positive about the merits of the program and the safety benefits, including reductions in unaccounted for gas through leaks from fragile mains.[2] • ECA advised the AER to conduct cost benefit analysis and risk assessment to inform whether it would be more prudent to continue with the mains replacement program or deferring some/all of the program until more is known in 2022 about hydrogen.[3] • EnergyAustralia observed upstream hydrogen investment and mains replacement to accommodate hydrogen may not be prudent in the context of absence of clarity on when or how (or whether) the recovery of long-term investment takes place over the next 5 or 6 access arrangement periods.[4] • SA Minister for Energy and Mining accepted mains replacement will continue to ensure the ongoing safety of the gas network and the success of the program to date but questions whether the volume of the accelerated program is still necessary where all extreme and a portion of high risk mains will have been removed from the network. The Minister observed that the OTR is yet to review the issue in detail and asked for further clarity on the amount of cast iron and unprotected steel and other material mains that still require replacement.[5] • SAFCA supported replacement of 860kms of old cast iron and other unreliable mains.[6] • SAFFRA supported mains and inlets replacement program for low pressure cast iron and HP HDPE while delivering a price cut to customers.[7]	• Our revised mains replacement will see completion of the cast iron and low pressure replacement program in the next AA period, but has deferred replacement of additional HDPE mains until subsequent AA periods. • We believe completion of the cast iron and low pressure replacement program is a key safety milestone that should be achieved in the next AA period and we have provided additional information in support of this timing to the AER.
On our IT expenditure: • The SA Minister for Energy and Mining welcomed the reduced capex in the next AA period but noted that the lower than expected capex spend in the current period for most IT projects casts doubt on our forecasting accuracy for IT investments. The Minister also advised the AER to clarify the cost allocations under our AGIG Strategy Roadmap.[8] • Both the SA Minister for Energy and Mining and ECA noted our capex cost allocation methodology needs to be reviewed by the AER in light of the AGIG merger in 2017, particularly with respect to the overheads capex and capex associated with IT projects such as the IT strategy and roadmap.[9]	• Our revised IT expenditure in the current and next AA period is consistent with the 10-year program presented in our Final Plan.

[2] CCP24 Advice to Australian Energy Regulator on Australian Gas Networks Final Plan, August 2020, p. 19.
[3] ECA, Response to AGNSA AA Proposal for 2021-26, August 2020 (ECA Submission), p. 12.
[4] Energy Australia, Submission to Australian Gas Networks South Australia (AGN) – Proposed Access arrangement 2021-26 – 1 July 2020, August 2020, pp. 4-5.
[5] Minister for Energy and Mining (SA), submission to Australian Gas Networks' Access Arrangement proposal for 2021-26, August 2020 (SA Minister for Energy and Mining Submission), p. 2.
[6] SAFCA, submission re Australian Gas Networks South Australia (AGN(SA)) gas access arrangement proposal for the period 1 July 2021 to 30 June 2026, August 2020, p. 2.
[7] SAFFRA, Submission to AGN South Australia 2021 -26 Gas Access Arrangement (AA) Review, August 2020, p. 3.
[8] SA Minister for Energy and Mining Submission, pp. 1-2.
[9] SA Minister for Energy and Mining Submission, pp. 1-2. ECA Submission, p. 12.

Customer and Stakeholder Feedback	Our Response
	• We have updated capex across the two periods to reflect some carryover of spend from projects already underway, and a small uplift in costs related to recent tender outcomes for our GIS Upgrade and to comply with life support and other recent rule changes.
On our growth capex: • ECA noted there appears to be an inconsistency in our Final Plan as to the total forecast growth related expenditure.[10] • Origin noted our capex forecasting process appears reasonable, but there is also a need for the AER to be cognisant of uncertainty including potential asset stranding risk.[11]	• Our revised growth capex reflects the latest HIA information to forecast new connections over the next AA period.
On our other distribution system assets capex: • ECA expects the AER to make further inquiries as to why integrity dig ups are required to the same extent as in the 2016 Plan if in line integrity systems are being implemented during the 2021 Plan.[12]	• We have reduced the number of proactive replacements of previously leaked valves proposed to focus on those with the potential to impact a large number of customers and/or high risk sites if they were to become inoperable. • We have accepted the AER's Draft Decision to defer the FEED studies on two pipelines we plan to modify for ILI in the subsequent AA period. We will use the $28 million approved for the M12/M84 pipelines to make a substantial start on the modification of our transmission pipelines to allow for ILI in line with good industry practice.
On capitalisation: • Origin Energy requested the AER adopt a more principled approach to cost allocation to ensure compliance with accepted cost allocation principles as it noted the ease with which costs are migrated between expensing and capitalising and vice versa seemingly with little reference to cost causation.[13]	• Our capitalisation remains unchanged from our Final Plan and is consistent with that applied in previous AA periods.

[10] ECA Submission, p. 12.
[11] Origin, Submission to AGN (SA) access arrangement proposal, August 2020 (Origin Submission), pp. 2-3.
[12] ECA Submission, p. 12.
[13] Origin Submission, pp. 2-3.

1.3. AER Draft Decision

1.3.1. Actual and forecast capex in the current AA period

The AER has accepted in full as conforming capex our capex program over the current AA period but note that our 2019/20 and 2020/21 expenditures are considered to be placeholders. The AER will undertake an assessment of capex in these years in the final decision (for 2019/20) and at the next AA (2026/27 – 2030/31) review for 2020/21.

1.3.2. Forecast capex for the next AA period

The AER has approved conforming net capex of $478.8 million ($2020/21) which is a reduction of $97.8 million or 17% compared to our Final Plan. In particular, the AER's Draft Decision provides an alternative view of conforming capex by:

- Reducing the speed and scope of mains replacement capex compared to our Final Plan, where the AER considers $85 million or 29% of the proposed mains replacement capex could be prudently deferred into future AA periods;
- Reducing the scope of the proposed valve replacement and pipeline modification programs within other distribution system capex by $10 million or 16%; and
- Reducing labour costs within all areas of the proposed capex program reflecting the AER's alternative view of real labour cost escalation for the next AA period (in line with its decision for the opex trend).

The AER's Draft Decision in respect of our capex forecast over the next AA period is summarised in Table 1.4 below.

Table 1.4: Summary of the AER's Draft Decision on our forecast capex proposal for next AA period

	AER Draft Decision	AER Comment
Mains Replacement	**Modify**	Accepted that mains replacement is justified on the grounds that it is necessary to maintain and improve the safety of services and to maintain the integrity of services. However, the AER has reduced the program spending by $5 million due to:[14] • deferring 115km of our proposed 520km of block replacement of low pressure CI/UPS mains and modifying the unit rate proposed for the North Adelaide mains replacement program; • deferring 48km of our proposed 198km high pressure HDPE 575 DN40 mains by insertion to prioritise replacement of mains laid prior to 1991; • deferring the whole program to replace HDPE 575 DN40 MP mains by direct burial until the 2026-31 AA period, as the data does not suggest an ongoing or recurrent problem with respect to squeeze off failure in this category. The AER has also modified the unit rate proposed by applying a 10% discount to the schedule of rates; and • modifying our proposed unit rate for the non-AMRP service replacement.
Meter Replacement	**Accept**	Accepted our proposed meter replacement program as our approach is typical of good industry practice and our replacement volumes and unit rates are considered reasonable.[15]
Augmentation	**Accept**	Accepted our proposed augmentation projects over the next AA period on the basis that the cost estimates for the projects is consistent with good industry practice.[16]
Telemetry	**Accept**	Accepted our forecast capex relating to our ongoing telemetry program over the next AA period.[17]
IT	**Accept**	Accepted our proposed IT projects over the next AA period, commenting that the volume of the proposed works, and the approaches in determining cost is considered to be a reasonable approach.[18]
Growth	**Accept**	Accepted our growth capex forecast for the next AA period subject to:[19] • updating connections volumes to reflect any COVID-19 impacts; and

[14] AER, Draft Decision, Attachment 5, pp. 13-18.
[15] AER, Draft Decision, Attachment 5, pp. 33-35.
[16] AER, Draft Decision, Attachment 5, pp. 33-35.
[17] AER, Draft Decision, Attachment 5, pp. 33-34.
[18] AER, Draft Decision, Attachment 5, pp. 33-34.
[19] AER, Draft Decision, Attachment 5, p. 23-36.

	AER Draft Decision	AER Comment
		• confirmation on whether the Mount Barker project is proceeding.
Other distribution system assets	**Modify**	Reduced our forecast capex for other distribution system by $11.7 million due to:[20] • only accepting the replacement of 16 valves that are currently inoperable and deferring the replacement of the proposed 16 valves that have had leaks repaired but are in deteriorated state, from the total of 32 valves we proposed to replace; and • not accepting our proposal to undertake FEED studies for two high priority transmission pipelines that are not being modified in the next AA period.
Other non-distribution system assets	**Accept**	Accepted a range of other projects to be delivered over the next AA period, which includes the ongoing replacement and repairs to plant and equipment and vehicle replacements.[21]
Capitalised overheads	**Accept**	Accepted our approach to forecasting overhead costs which was principally consistent with the AER's previous decisions, but with a different fixed and variable component.[22]
Escalation	**Modify**	Changed its approach to forecasting real cost escalation by only using Deloitte forecast Wage Price Index as it reflects the only available forecast accounting for COVID-19 impact at the time of the Draft Decision and would provide the best possible forecast of labour price, consistent with the AER's Draft Decision in relation to our opex forecast.[23] Noted it will be seeking further information from us on the labour weighting we use for our capex forecast as well as the split of internal and external labour.

Note: In this 'traffic light' table, green shading represents the AER's acceptance of our Final Plan, orange represents the AER's modification of our Final Plan and red shading represents the AER's rejection of our Final Plan.

1.4. Our Response to the Draft Decision

In the next AA period we propose to invest $529 million, which is $48 million (or 10%) higher than the AER's Draft Decision but $50 million (or 9%) lower than our Final Plan.

A summary of our response to the AER's Draft Decision on our forecast capex proposal for the next AA period is found in Table 1.5 below.

[20] AER, Draft Decision, Attachment 5, p. 23-36.
[21] AER, Draft Decision, Attachment 5, p. 41-43.
[22] AER, Draft Decision, Attachment 5, p. 43-44.
[23] AER, Draft Decision, Attachment 5, p. 45.

Table 1.5: Summary of our response to the AER's Draft Decision on our forecast capex proposal for the next AA period

	AER Draft Decision	Our response	Our comment
Mains Replacement	**Modify**	**Modify**	We have modified our mains replacement proposal in the next AA period to 770km of proactive replacement. More information can be found below and in Attachment 8.3A.
Meter Replacement	**Accept**	**Accept**	No changes to the AER's Draft Decision.
Augmentation	**Accept**	**Accept**	No changes to the AER's Draft Decision.
Telemetry	**Accept**	**Accept**	No changes to the AER's Draft Decision.
IT	**Accept**	**Accept**	We have updated the timing for a couple of projects being delivered in the current AA period, with some cost which will now straddle the next AA period. More information can be found below and in Attachment 8.6A.
Growth	**Accept**	**Modify**	We have modified our growth capex in the next AA period to reflect: • more recent information on forecast new housing starts; and • our decision not to extend our network to Mt Barker. More information can be found below and in Attachments 12.1A and 12.2A.
Other distribution system assets	**Modify**	**Modify**	We have modified our other distribution system capex in the next AA period to: • reduce the number of proactive valve replacements to 9 compared to 16 in our Final Plan; and • accept the AER's deferral of two pipeline FEED studies into the subsequent AA period. More information can be found below and in Attachment 8.8A.
Other non-distribution system assets	**Accept**	**Accept**	No changes to the AER's Draft Decision.
Capitalised overheads	**Accept**	**Accept**	No changes to the AER's Draft Decision.

	AER Draft Decision	Our response	Our comment
Escalation	**Modify**	**Modify**	We have updated real labour cost escalation in line with advice from BIS Oxford Economics and consistent with the expectation of the AER in the Draft Decision. This is discussed in greater detail in our response on operating expenditure in Attachment 7.5, with advice from BIS Oxford available in Attachments 7.8A and 7.8.1.A.

Note: In this 'traffic light' table, green shading represents the acceptance, orange represents a modification and red shading represents a rejection

1.4.1. Mains Replacement Program

In our revised Final Plan we propose to invest $259 million (gross, $2020/21), which is an increase of $50 million (or 24%) from the Draft Decision but a reduction of $36 million (or 12%) from the $294 million proposed in our Final Plan.

Our investment will allow us to undertake:

- 770 kilometres of proactive mains replacement (a reduction of 90 kilometres from our Final Plan);
- 10 kilometres of reactive (or piecemeal) mains replacement (no change from our Final Plan);
- 457 service replacements at multi user service (MUS) sites (no change from our Final Plan);
- 316 kilometres of inline camera inspections and reinforcement of mains (no change from our Final Plan);
- 2,450 reactive service replacements that are forecast to be required separate to the annual mains replacement program (non-AMRP service replacement – no change from our Final Plan); and
- Continued monitoring of the condition and performance of all other mains to determine the need for replacement into the future.

We have modified our proposed replacement of HDPE 575 DN40 MP mains, accepting the AER's Draft Decision to defer 90 kilometres of replacement to future periods. While we have accepted this position, we note these mains are subject to the same squeeze off damage as the HP mains, they remain an intermediate risk of failure and their replacement is the only risk mitigation measure available. As is usual practice, we will continue to monitor the condition and performance of these and other at-risk mains. During this process, some of these mains may be reprioritised for replacement during the next AA period in accordance with our mains risk reduction prioritisation approach.

We engaged GHD to provide technical advice on whether our revised mains replacement program complies with the National Gas Rules. GHD's review included an independent assessment of the scope and timing of our proposed mains replacement for the next AA period. GHD's report is provided as Attachment 8.12 to our revised Final Plan.

In summary, GHD agreed that, as a prudent operator in the next AA period, we would seek to replace:

- All remaining low pressure mains including cast iron and unprotected steel mains in our network (and that we had clearly demonstrated a capability to undertake the proposed 520 kilometres of block replacement volumes proposed in our Final Plan); and
- 198 kilometres of HDPE 575 DN40 high pressure mains laid up to 1993.[24]

GHD concluded it would not be appropriate to defer the replacement of CI/UPS mains into the subsequent AA period as more recent failure data (up to November 2020) shows the condition of these mains continues to deteriorate.

GHD reviewed the same squeeze off failure data for HDPE 575 mains as the AER and Zincara. In addition, we provided GHD with an internal memo from August 1991 which proposed the investigation of using mechanical stops to reduce squeeze off damage caused by squeeze off practices that existed at the time. GHD considered it was likely the practice causing the increased failure rates in the HDPE 575 may have taken some time to change and it is possible that mains installed up to 1993 were affected by the practice. GHD concluded it would be appropriate to replace HDPE 575 DN40 high pressure mains laid up to 1993 as proposed. GHD considered that:

> *In terms of the risk of failure of the HDPE 575, a prudent operator would consider the uncertainty inherent in relying on the small amount of data available and adopt a conservative position based on an ALARP approach. This would be to replace the mains, because the known consequence is at least a major or catastrophic impact, rather than to rely on increased surveillance through leak surveys and the analysis of leak reports. The latter are administrative controls, susceptible to human error, and system failures, which may lead to mains failures not being detected and responded to in a timely manner. According to the ALARP Principle, an effective control (mains replacement) can only be discounted when its cost is grossly disproportionate to the risk benefit it provides. This does not appear to be the case for the HDPE 575 HP mains replacement.*[25]

In reference to HDPE 575 DN40 medium pressure mains laid up to 1993, GHD concluded that:

> *The current (untreated) risk rating is intermediate for the DN40 MP, rather than high as is the case for the DN40 HP. Both programs replace mains made of the same material (HPDE 575) and were subject to the same squeeze off procedures prior to 1993. The same slow-crack growth and subsequent failures may be occurring across the mains where that material was used, and the squeeze off procedure applied. We suggest the differing failure rates in the DN50 data compared with the DN40 is likely explained by the lower operating stresses in the DN40 resulting in a longer time to failure.*
>
> *In terms of the risk of failure of the HDPE 575, a prudent operator would consider the uncertainty inherent in relying on the small amount of data available and adopt a conservative position based on an ALARP approach. This would be to replace the mains, because the (known) consequence is at least a major or catastrophic impact, rather than to rely on increased surveillance through leak surveys and the analysis of leak reports. The latter are administrative controls, susceptible to human error, and system failures, which may lead to failures not being detected and responded to in a timely manner. According to the ALARP Principle, an effective control (mains*

[24] GHD, Review of selected distribution capex programs for Australian Gas Networks (SA), January 2021 (GHD Review), p. 4.
[25] GHD Review, p. 13.

replacement) can only be discounted when its cost is grossly disproportionate to the risk benefit it provides.[26]

GHD recommends an assessment be undertaken to address the questions of whether the costs associated with replacement are disproportionate to the risk benefit from this risk treatment.[27] In the absence of this analysis, GHD concluded we "should continue to monitor these mains for signs of an increase in failure rate as has been seen in other HDPE 575 mains and re-evaluate the current risk level and mains replacement program if this is to occur."[28]

With respect to the North Adelaide and non-AMRP service replacement unit rates we have:

- Accepted a slightly lower unit rate for the replacement of CI/UPS mains in North Adelaide based on a 3-year weighted average, plus a premium for the CBD as included in the AER's Draft Decision. However, we maintain that most recent actuals are likely to better reflect the forecast costs of these works in the next AA period; and
- Maintained our Final Plan unit rate for non-AMRP service replacement. The primary driver of the increase in the material/other component of the unit rate for non-AMRP service replacements in 2019/20 is payroll & vehicle costs. This increase is due to a recent change in the accounting treatment of motor vehicle leasing costs that more accurately allocates these costs to the capital projects and programs in which they are incurred. Therefore, the most recent actual material/other costs are a better reflection of the forecast costs likely to be incurred in the next AA period.

More information, including further support for our proposed replacement of CI/UPS Block, HDPE 575 DN40 HP, and the non-AMRP unit rate can be found in Attachment 8.3A Response on Mains Replacement.

Table 1.6 provides an overview of our Final Plan mains replacement forecast, the AER's Draft Decision and our revised Final Plan forecast for the next AA period.

[26] GHD, Review, p iii.
[27] GHD, Review, p iii.
[28] GHD, Review, p iii.

Table 1.6: Comparison of our mains replacement program forecast with the AER's Draft Decision

	Final Plan	AER Draft Decision	Revised Final Plan
CI/UPS - block[29]	520km	405km	520km
CI/UPS North Adelaide	38km	38km	38km[30]
HDPE 250 remaining	14km	14km	14km
HDPE 575 DN50 - inspection	316km	316km	316km
HDPE 575 DN40 – HP (insertion)	198km	150km	198km
HDPE 575 DN40 MP – (direct)	90km	0km	0km
MUS - Priority group 1	457 sites	457 sites	457 sites
Piecemeal replacement	10km	10km	10km
Non-AMRP service replacement	2,450 sites	2,450 sites	2,450 sites
Total cost including escalation and overheads ($million, 2020/21)	**$294.0**	**$209.4**	**$259.2**

1.4.2. IT Capex

Our revised Final Plan has updated the timing for a couple of projects being delivered in the current AA period, with some cost which will now straddle the next AA period. This results in IT investment in the current AA period totalling $30 million and in the next AA period totalling $51 million, a net increase of $2 million from our Final Plan.

The $11 million reduction in the current AA period is driven by delays in spending for the GIS Upgrade, Business Intelligence and Mobility projects already underway. These delays see the carryover of some costs from these projects into the early years of the next AA period. This carryover contributed $11 million of the $13 million increased investment in the next AA period. The further $2 million increase in the next AA period is driven by:

- a small increase in costs for the GIS Upgrade project related to additional data cleansing requirements and recently negotiated costs ($1.1 million); and
- confirmation of two further rule changes (relating to managing customer data transactions and New Job Enquiry Codes to improve customer related activity in addition to rule changes relating to life support) that require us to make system changes to maintain compliance ($0.6 million).

For all other projects the forecast spend for the next AA period is unchanged from our initial Final Plan and that approved by the AER in its Draft Decision. This results in a 10-year IT program that is consistent with that proposed in our Final Plan. More information, including further information

[29] Other LP materials such as HDPE 250, HDPE 575 and New PE are included in addition to CI & UPS as part of the block renewal programs.
[30] We have accepted a slightly lower unit rate as per the AER's Draft Decision.

on the updates outlined above, can be found in Attachment 8.6A Addendum to IT Investment Plan.

1.4.3. Growth Capex

Our revised Final Plan proposes growth capex of $129 million. This is $18 million lower than our Final Plan and the AER's Draft Decision. The reduction is driven by our decision not to extend our network to Mt Barker (-$28 million), offset by an increase to forecast new housing starts over the period, (+$9 million) and our revised proposal on escalation, factoring in the impacts of COVID-19 (+$1 million).

We see a real opportunity in Mt Barker for new residential and business developments, which was backed up by engagement with customers and stakeholders in the area. However, we have made the decision at this time not to proceed with the proposed extension and reticulation of the natural gas distribution network from Murray Bridge through to Mt Barker.

This decision does not reflect our desire to provide reticulated gas to residential and business in the Mt Barker region, but rather the regulatory framework currently does not deliver sufficient returns on new investment to finance such a significant extension of the network. The marginal returns on capital expenditure are extremely low, and as a result discretionary capex has a negative effect on our balance sheet. This is still the case following the AER's recent review of inflation.

We acknowledge that this will be disappointing for customers and stakeholders who would have benefited from the extension of the network. We are communicating this decision with relevant stakeholders and we acknowledge the key role our stakeholders have played throughout the development of this important project. More information on forecast new connections can be found in Attachment 12.4 Response to Draft Decision on Demand.

1.4.4. Other distribution system assets

Our revised Final Plan proposes other distribution system capex of $50 million. This is $1.5 million (3%) higher than the AER's Draft Decision but $11.4 million (22%) lower than our Final Plan. The small increase compared to the AER's Draft Decision is driven by:

- our modified valve replacement proposal (+$1.4 million);
- acceptance of the AER's Draft Decision to defer FEED studies on the modifications required to make two of our oldest and highest priority metropolitan transmission pipelines piggable;
- removal of costs for SA104 TP M53 Replacement which is no longer required (-$1.6 million); and
- our updates to escalation (+$1.7 million).

We have accepted the AER's Draft Decision to approve the replacement of 16 inoperable valves and have modified our proposal to proactively replace 9 of the 16 previously leaked valves we had proposed in our Final Plan in the next AA period. This provides for the replacement of valves in our transmission and distribution networks that would impact a large number of customers, and/or high risk customers, in an emergency or during planned maintenance should the valve become inoperable. More information can be found in Attachment 8.8A Addendum to Capex Business Cases.

The AER has approved the FEED study, modification and inline inspection of the M12/M84 pipelines. The AER did not approve two further FEED studies we proposed to undertake in the

next AA period to provide more certainty on the modifications required to make a further two of our oldest and highest priority metropolitan transmission pipelines piggable. The AER reasoned that these could be deferred until the subsequent AA period when modifications and inline inspections are planned.

Undertaking the proposed FEED studies concurrently in the next AA period would have resulted in a small cost saving in project delivery and more certain cost estimates for the work required in the subsequent AA period to undertake modifications and inline inspection for the M101 and M42 pipelines. However, we can make a good start on the program to modify our higher-pressure transmission mains with the approval of M12/M84 and therefore we have accepted the AER's Draft Decision to defer $8 million into the subsequent AA period.

1.4.5. Escalation

Our revised Final Plan proposes real cost escalation of $5 million. This is $5 million lower than our Final Plan and $5 million higher than the AER's Draft Decision due to the inclusion of updated labour cost forecasts received from BIS Oxford in the calculation of real labour cost growth over the next AA period. More information on our revised proposal on escalation can be found in Attachment 7.10 Response to Draft Decision on Opex.

We also considered the labour weighting we apply to our forecast capex, as well as the proportion of internal and external labour, including the application of WPI forecasts for the construction industry (prepared by BIS Oxford) for some programs. Refining the labour escalation for these factors does not materially impact our forecast capex over the next AA period and therefore we have not proposed to change our approach from that applied in previous periods and reviews. We will however continue to engage with the AER on this issue post submission of this revised Final Plan.

1.4.6. Customer contributions

Our revised Final Plan proposes annual customer contributions of $0.1 million over the next AA period. This reflects the three-year average of actual customer contributions for the period 2017/18 to 2019/20, excluding mains alterations and I&C Contract contributions as our gross capex forecast does not include any forecast capex in the next AA period for these two contributed items.

1.5. Summary

1.5.1. Our performance in the current AA period

We have invested $436 million of capex during the current AA period up to June 2020 and are forecasting to invest a further $123 million, totalling $559 million by the end of the period.

A summary of our current AA period capex is provided in Table 1.7.

Table 1.7: Revised Final Plan current AA period capex summary ($ million, 2020/21)

	2016/17	2017/18	2018/19	2019/20	2020/21 FC	Total
Mains Replacement	52.6	60.6	62.9	61.9	63.6	301.6

	2016/17	2017/18	2018/19	2019/20	2020/21 FC	Total
Meter Replacement	6.3	5.3	6.2	3.6	3.7	25.2
Augmentation	0.8	3.2	4.2	0.3	1.7	10.1
Telemetry	0.2	0.0	0.2	0.1	0.5	1.1
IT system	0.8	3.6	5.3	5.1	16.4	31.2
Growth	29.8	29.2	28.1	27.0	23.0	137.0
Other distribution system assets	14.6	9.0	6.4	5.8	12.9	48.7
Other non-distribution system assets	0.8	0.7	0.4	1.1	0.9	3.9
Total gross capex	**105.9**	**111.7**	**113.6**	**104.9**	**122.7**	**558.8**
Customer contributions	**-9.9**	**-6.8**	**-4.4**	**-4.2**	**-3.4**	**-28.6**

1.5.2. Capex in the next AA period

Our revised Final Plan capex forecast is $529 million over the next AA period, which is a reduction of $50 million compared to our Final Plan and an increase of $48 million compared to the AER's Draft Decision. It reflects that we:

- Propose 770 kilometres of proactive mains replacement, which includes:
  - Maintaining our Final Plan position to replace 520 kilometres of low pressure CI/UPS block replacement, thereby completing the replacement of these mains in the next AA period. This is because more recent performance and condition information for the remaining cast iron mains in our network does not support the deferral of 115 kilometres of these mains into the subsequent AA period;
  - Maintaining our Final Plan position to replace 198 kilometres of high pressure HDPE 575 DN40 mains (focussing on those mains laid prior to 1993 and subject to older squeeze-off practices that have caused damage to these pipes making them susceptible to slow crack growth and sudden failure); and
  - Accepting the AER's Draft Decision to defer 90 kilometres of medium pressure HDPE 575 DN40 mains to the subsequent AA period, noting we will continue to monitor the condition and performance of these mains during the next AA period and reprioritise their replacement if it is warranted;

- Accept a slightly lower unit rate for the replacement of CI/UPS mains in North Adelaide based on a 3-year weighted average, although we maintain most recent actuals are likely to better reflect the forecast costs of these works in the next AA period;
- Do not accept a slightly lower unit rate to undertake non-AMRP service replacements as the most recent actual material/other costs are more reflective of the likely costs in the next AA period than a 3-year weighted average;
- Have updated the timing for a couple of IT projects being delivered in the current AA period, with some costs now straddling into the next AA period;
- Have modified our Final Plan position to proactively replace 9 (rather than 16) previously leaked valves, which have the potential to impact a large number of customers in an emergency or during planned maintenance should they become inoperable; and
- Accept the AER's Draft Decision to undertake the FEED, modifications and ILI on the M12/M84 pipelines and defer the proposed FEED studies for the M42 and M101 pipelines into the subsequent AA period to coincide with when we plan to undertake modifications and ILI on those pipelines.

Our revised Final Plan capex for the next AA period is summarised in Table 1.8 below.

Table 1.8: Revised Final Plan next AA period capex forecast summary ($ million, 2020/21)

	2021/22	2022/23	2023/24	2024/25	2025/26	Total
Mains Replacement	54.7	54.8	53.8	52.4	43.5	259.2
Meter Replacement	3.5	3.4	4.9	4.1	4.9	20.9
Augmentation	5.6	6.0	-	-	-	11.6
Telemetry	0.6	0.4	0.4	0.4	0.3	2.0
IT system	12.2	8.1	11.3	13.5	6.1	51.3
Growth	28.1	25.1	24.3	25.1	26.3	128.9
Other distribution system assets	5.9	9.1	10.3	12.8	12.0	50.1
Other non-distribution system assets	1.2	1.2	0.9	0.9	1.0	5.2
Total gross capex	**111.9**	**108.2**	**105.8**	**109.2**	**94.1**	**529.2**
Customer contributions	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.5**