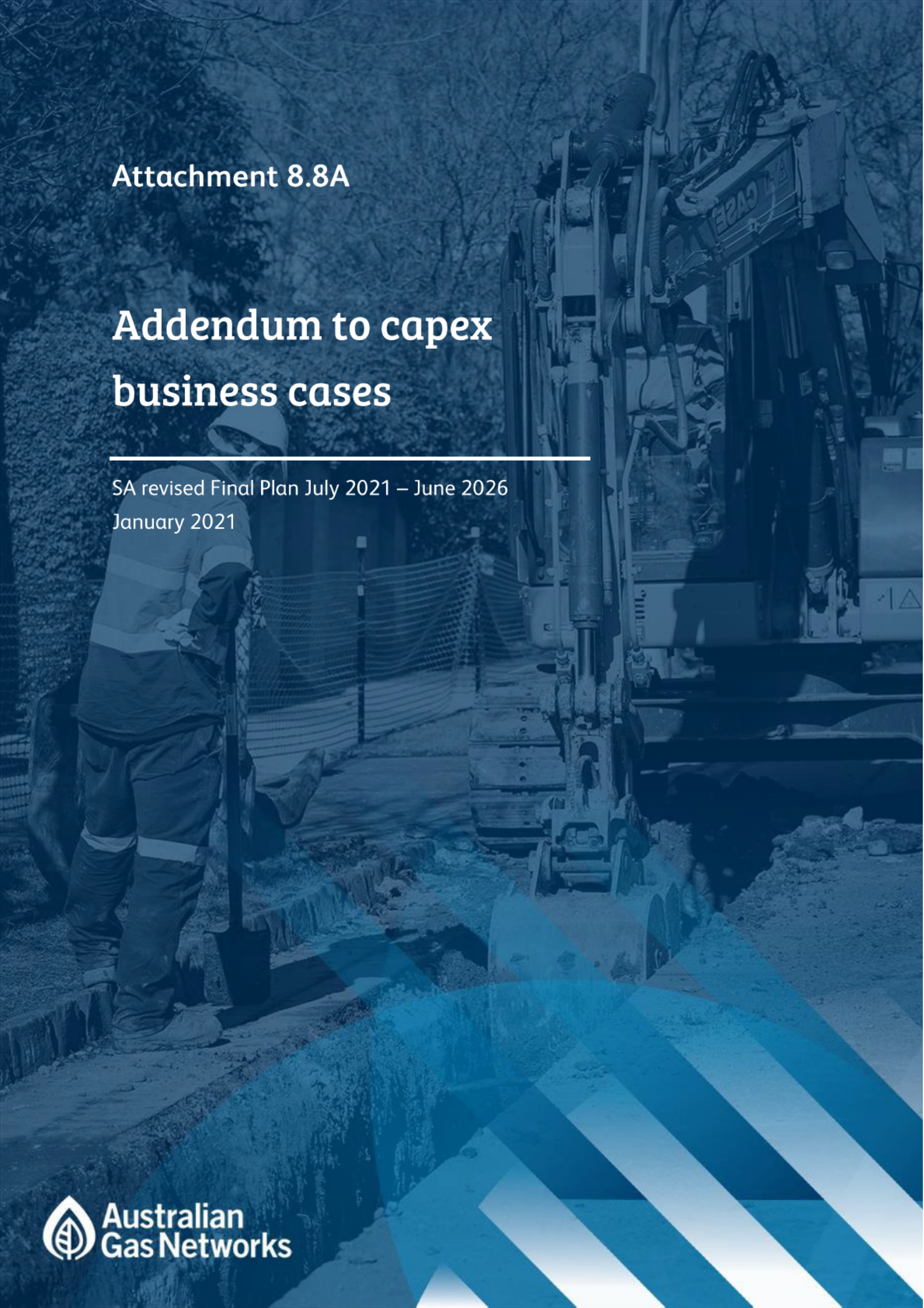

Attachment 8.8A

Addendum to capex business cases

SA revised Final Plan July 2021 – June 2026

January 2021

Australian Gas Networks

Contents

SA103 – Replacement of valves

Project Summary	
Project name	Replacement of valves
Treated Risk	As per APA risk matrix = **Low**
Budget category	Capital expenditure (Capex)
Amendments to original business case	We have amended our proposed replacement of valves in the next AA period to include the proactive replacement of 9 (compared to 16 in our Final Plan) previously leaked valves. This follows a more detailed review of the untreated risk associated with each of the previously leaked valves, including assessment of the risk consequence and, in particular, impact to customer services if each valve could not be operated or appropriately isolated in an emergency or planned maintenance event during the next AA period. This change results in a reduction of $0.7m compared to the original business case, and an increase of $1.5m compared to the AER's Draft Decision. We engaged GHD to independently review our capex programs. For our proposed valve replacements, GHD agreed with the AER that proactive replacement of all previously leaked valves is not prudent due to the minimal failure rate attributable to the previous repair of valves. However, GHD considered our revised approach to prioritise and proactively replace 9 valves (5 high risk and 4 moderate risk) based on the potential number and types of customers impacted if the valve were to fail is prudent and would be consistent with Rule 79 of the NGR.
Estimated cost	The forecast direct cost (excluding overhead) during the next five-year period (July 2021 to June 2026) is $4.3m.

$'000 real 2019/20	21/22	22/23	23/24	24/25	25/26	Total
Modified Option 1	624.2	1,013.2	1,453.1	845.9	295.1	**4,231.4**

Basis of cost estimates	All costs in this business case are expressed in real unescalated dollars at December 2019 unless otherwise stated.
Consistency with NGR	This project complies with the following National Gas Rules (NGR): **NGR 79(1)** – the proposed solution is consistent with good industry practice, several practicable options have been considered, and market rates have been tested to achieve the lowest sustainable cost of providing this service. **NGR 79(2)** – proposed capex is justifiable under NGR 79(2)(c)(ii), as it is necessary to maintain the integrity of services. **NGR 74** – the forecast costs are based on the latest market rate testing and project options consider the asset management requirements as per the Asset Management Strategy. The estimate has therefore been arrived at on a reasonable basis and represents the best estimate possible in the circumstances.
Project Approval	
Prepared by:	Nick Rubbo, Integrity Engineer, APA
Reviewed by:	Robin Gray, SA Operations Manager, APA
Approved by:	Mark Beech, General Manager Network Operations, AGIG Craig Bonar, Head of Engineering and Planning, APA

Other Relevant Documents

This addendum should be read in conjunction with:

- the original business case 'SA103 – Replacement of valves' which was provided to the AER on 1 July 2020 as Attachment 8.8 to the AGN SA Final Plan; and
- GHD, Review of selected distribution capex programs, January 2021.

1.1 Original business case

Our original business case included $5.0 million to replace 32 valves that are either inoperable or have previously leaked.

Most of the valves in our network were installed in the 1970s and 1980s. We have identified 32 valves that are currently either inoperable or have had leaks repaired but are in a deteriorated state.

Inoperable valves mean sections of the network cannot be isolated during emergency repairs or planned maintenance. This increases the number of customers that may be impacted during a supply outage.

A valve that has leaked but since been repaired is usually a precursor to valve failure as the repaired valve will typically be weakened. A leaking valve can pose a health and safety risk if the leak is near a building.

The current risk control for inoperable and leaking valves is to repair them where practicable, only replacing upon failure. However, due to the age and ongoing deterioration of valves, repair is only a temporary measure and replacement is the only effective long-term solution.

Our original business case considered options to replace a number of valves that have been identified as inoperable, as well as commencing a proactive replacement program for previously leaked valves. In particular, we considered the following three options:

- Option 1 – Replace 32 valves. 16 inoperable valves (6 transmission and 10 distribution). Proactive replacement of 16 previously leaked valves (4 transmission and 12 distribution) ($4.8 million)
- Option 2 – Replace 16 inoperable valves only (6 transmission and 10 distribution). Do not replace previously leaked valves that do not represent a significant immediate safety hazard; ($2.7 million)
- Option 3 – Maintain status quo. Continue the scheduled maintenance program only. Do not commence a new replacement program for inoperable valves. Do not replace previously leaked valves that do not represent a significant immediate safety hazard (no additional upfront capital cost)

We recommended Option 1 because:

- it addresses security of supply risks associated with inoperable valves;
- it addresses the potential security of supply risks associated with previously leaked valves that are deteriorating towards inoperability;

- it is the most efficient cost option, as a proactive replacement program costs significantly less than a reactive program. Option 1 will also help reduce emergency repair costs over the long term.

1.2 Feedback on our proposal

In preparing this revised proposal we have continued to engage with stakeholders, including our South Australian and Retailer Reference Groups, through submissions to the AER on our Final Plan and ongoing engagement with the South Australian Office of the Technical Regulator. We did not receive any specific feedback on our revised valve replacement program.

1.3 AER Draft Decision

In its Draft Decision, the AER did not approve the proactive replacement of the 16 previously leaked valves. The AER stated:

> *While we agree from a safety perspective that valves should be replaced when they are inoperable (or frozen), we also consider that AGN's valve maintenance program should be able to monitor the operation of leaking valves that have been repaired.*
>
> *Therefore our preferred approach is Option 2, which is to only replace the 16 inoperable valves, and to continue to monitor the other 16 valves. Our revised capex proposal for this program is $2.8 million ($2020–21).*[1]

1.4 Our response

In response to the AER's Draft Decision we have undertaken a more detailed risk assessment of the 16 previously leaked valves, including consideration of the consequence of a supply risk event occurring. Following our review, we are proposing to:

- Proactively replace 9 previously leaked valves in the next AA period which consist of:
  - 2 transmission valves and 3 distribution valves that have been assessed and rated as having a 'high' risk to operations as they have the potential to cause supply interruption to more than 10,000, multiple large volume customers or multiple high risk sites;
  - 1 transmission valve and 3 distribution valves that have been assessed and rated as having a 'moderate' risk to operations as they have the potential to cause supply interruption to over 1,000 but less than 10,000 customers; and
- Accept the AER's Draft Decision to defer the replacement of the remainder of the previously leaked valves (1 transmission valve and 6 distribution valves) that have been assessed and rated as having a 'low' risk to operations as they only have the potential to cause a supply interruption to a smaller number of customers and no high risk sites.

We engaged GHD to independently review our proposed replacement of valves. GHD agreed with the AER that proactive replacement of all 16 previously leaked valves is not prudent due to the

[1] AER, Draft decision – Australian Gas Networks (SA) Access Arrangement 2021-26, Attachment 5: Capital expenditure, p. 38.

minimal failure rate attributable to the previous repair of valves. However, GHD supports our revised approach to prioritise and proactively replace an additional three previously leaked transmission valves and six previously leaked distribution values on top of the 16 inoperable valves that were approved for replacement in the AER's Draft Decision.[2]

1.4.1 Risk assessment for previously leaked valves

We undertook a more detailed risk-based assessment of the criticality of each of the individual 16 previously leaked valves proposed for replacement. In particular, we considered the risk to operations in terms of the supply interruption. The risk to supply arises if there is a need to isolate the network and there is an inoperable valve in the section to be isolated, meaning the smallest section of the network cannot be isolated and instead a larger section must be isolated. Experience shows that a repaired valve will typically be weaker than a new valve and is more prone to leak again or become inoperable in the future.

We evaluated the risks to supply based on the incremental number of customers affected if an isolation valve was inoperable, and we had to use the adjacent upstream isolation valve. The calculation established the incremental number of customers affected by the valve operable compared to if it was inoperable. Depending on whether the valve is transmission or distribution and the location of the valve in the network, the number of customers affected can vary significantly.

Applying the operations consequence category under our Risk Assessment Framework (provided as Attachment 8.10 to our Final Plan in January 2020), with the established likelihood of 'Unlikely', valves that have previously leaked:

- are rated as a high risk and should be replaced if the risk to supply:
  - incrementally affects more than 10,000 customers; or
  - affects a demand customer (>10 TJ pa) with customer loss of revenue; or
  - affect multiple high-risk sites without alternative supply options.
- are rated as a moderate risk and an ALARP assessment is to be undertaken if the risk to supply:
  - affects or likely to affect more than 1,000 customers (but less than 10,000); or
  - affects a single high risk site without alternate supply options.
- are rated as a low risk if the risk to supply:
  - affects less than 1,000 customers; and
  - does not affect any high risk sites.

Table 1 below summarises the Operational Capacity Consequence Ratings of Significant and Major, which have led to a total of five previously leaked valves to be ranked as high risk and a further four to be ranked as moderate risk.

[2] GHD, Review of selected distribution capex programs, January 2021, p. 28.

Table 1: AGN's Operational Capacity Consequence Ratings

Consequence Category	Significant	Major
Operational Capacity	Unplanned loss of service to greater than • >1,000 customers • multiple demand customers (>10TJ pa) • to a single high risk site, without alternate supply options, (hospital, nursing home, home on life support)	Unplanned loss of service to: • a regional area or greater than >10,000 customers • a demand customer (>10TJ pa) with customer loss of revenue or infrastructure damage • to multiple high risk sites without alternate supply options (hospitals, nursing homes, homes on life support) • extensive property damage
Risk Rating when combined with an Unlikely Likelihood	**Moderate**	**High**

1.4.1.1 Previously leaked transmission valves

Table 2 below summarises our assessment of the four previously leaked transmission valves. More detail can be found in Appendix A.

Table 2: Assessment of previously leaked transmission valves

Valve Number	Customers affected if operable	Customers affected if inoperable	Incremental customers impacted	Risk rating	Proactive replacement proposed
285	0	67,750	67,750	High	Y
570	19,063	19,063	0	Low	N
1693	15,970	19,546	3,576	Moderate	Y
298	3,510	11,085	7,575 (multiple large volume customers)	High	Y

Under our Risk Management Framework it is appropriate to replace valves 285 and 298 which are high risk. Valve 1693 is moderate risk. This valve has a defect in the body of the valve that provided a gas leak path. However, the nature of the repair on the valve body, and the type of defect in the valve body, means it is prudent to replace this valve rather than continue managing risks of a valve with an in-situ repair for long-term service.

1.4.1.2 Previously leaked distribution valves

Table 3 below summarises our assessment of the 12 previously leaked distribution valves. More detail can be found in Appendix A.

Table 3: Assessment of previously leaked distribution valves

Valve Number	Incremental customers impacted	Risk rating	Proactive replacement proposed
965	17,624	High	Y
435	2 I&C	Low	N
728	Multiple high risk sites	High	Y
765	952 (growth area with mains extensions underway – expected to be >1,000 during period)	Moderate	Y
1033	696 (growth area – expected to be >1,000 during period)	Moderate	Y
612	Multiple high risk sites	High	Y
168	304	Low	N
743	1,000-2,000	Moderate	Y
5836424	<100	Low	N
5838269	<100	Low	N
5836706	<100	Low	N
5856017	<100	Low	N

Under our Risk Management Framework it is appropriate to replace valves 965, 728 and 612 which are high risk. Valves 765, 1033 and 743 are moderate risk. Given the relatively low cost of replacement per valve, and the risk reduction achieved through replacement, it is prudent to proactively replace these valves in the next AA period.

1.5 Summary

We have assessed additional information for each of the 16 previously leaked valves and determined that 9 of these valves (3 transmission and 6 distribution) should be proactively replaced in the next AA period. The replacements are based on the risk consequence of the potential customer impact if the valves were to become inoperable, and the relative cost of replacement for those which were ranked as a moderate risk rather than a high risk.

GHD is supportive of our revised approach for the replacement of previously leaked valves. In its review of the additional information:

> *GHD recommends the additional replacement of two leaking transmission valves (valve numbers 285 and 298) and three leaking distribution valves (valve numbers 965,*

728, and 612) is prudent during this access period to reduce the risk of a high risk loss of supply event occurring.[3]

In relation to the further three previously leaked distribution valves that are identified as moderate risk, GHD agrees:

Proactively replacing valves that are a higher supply risk demonstrates prudence in reducing the maximum potential customer impact for a given cost. Replacement of these additional distribution valves that were installed in 1979, 1992 and 1996 is likely to be prudent given the risk reduction versus the costs [redacted] per valve), and the fact that these valves are located in demand growth areas.[4]

On the third previously leaked transmission valve that is identified as moderate risk, GHD notes "the nature of the temporary repair on the valve, which was on the cavity, means it is prudent to replace this valve rather than continue managing risks via further temporary replacements."[5]

1.5.1 Estimating efficient costs

The following outlines the updated scope and cost of the replacement of valves in the next AA period.

As shown in Table 4, these have been allocated evenly across the forthcoming access arrangement period, with inoperable valves prioritised for the first three years. We also note that TP valves have a long delivery lead time.

Table 4: Volumes – Modified Option 1

	2021/22	2022/23	2023/24	2024/25	2025/26	Total
TP procure	[redacted]		[redacted]			[redacted]
TP replace inoperable		[redacted]	[redacted]			[redacted]
TP replace leaking				[redacted]	[redacted]	[redacted]
DP procure & replace inoperable	[redacted]	[redacted]	[redacted]			[redacted]
DP procure & replace leaking			[redacted]	[redacted]		[redacted]

Unit rates for valve replacements are consistent with those proposed in our original Business Case.

The outcome of applying the weighted average cost to the updated forecast volumes is an estimated capital cost of replacing the 25 valves of $4.2 million, as shown in Table 5 below.

[3] GHD, Review of selected distribution capex programs, January 2021, p. 25
[4] GHD, Review of selected distribution capex programs, January 2021, p. 25
[5] GHD, Review of selected distribution capex programs, January 2021, p. 5

Table 5: Cost estimate – Modified Option 1, $ real 2019

Modified Option 1	2021/22	2022/23	2023/24	2024/25	2025/26	Total
TP						
Labour	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Materials	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution						
Labour	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Materials	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total	**624.2**	**1,013.2**	**1,453.1**	**845.9**	**295.1**	**4,231.4**

Tables may not sum due to rounding

The following table shows the direct escalated costs in real 2020/21 dollars.

Table 6: Escalated replacement of valves cost estimate ($'000 real 2020/21)

	2021/22	2022/23	2023/24	2024/25	2025/26	Total
Total unescalated ($ Dec 19)	624.2	1,013.2	1,453.1	845.9	295.1	4,231.4
Escalation	24.1	37.8	54.4	34.0	13.3	163.6
Total escalated ($ Jun 20)	**648.3**	**1,051.0**	**1,507.4**	**879.8**	**308.4**	**4,395.0**

Tables may not sum due to rounding

1.5.2 Consistency with the National Gas Rules

In developing these forecasts, we have had regard to Rule 79 and Rule 74 of the NGR. With regard to all projects, and as a prudent asset manager, we give careful consideration to whether capex is conforming from a number of perspectives before committing to capital investment.

NGR 79(1)

The proposed solution is prudent, efficient, consistent with accepted and good industry practice and will achieve the lowest sustainable cost of delivering pipeline services:

- **Prudent** – The expenditure is necessary in order to ensure that TP and distribution valves are operable for emergency isolation and pressure control. Failure to address the inoperable valves could result in isolation of a larger than necessary section of pipeline or network in an emergency situation, therefore increasing the number of customers cut off from supply. The proposed expenditure is therefore consistent with that which would be incurred by a prudent service provider. GHD found that proactively replacing valves that are a higher supply risk demonstrates prudence in reducing the maximum potential customer impact for a given cost.[6]

[6] GHD, Review of selected distribution capex programs, January 2021, p. 19.

- **Efficient** – Replacement of these valves is the only practical and cost-effective option. Costs have been based on recent similar valve replacement projects. Where contractors are engaged, this will be based on a competitive tender process. The expenditure is therefore consistent with what a prudent service provider acting efficiently would incur.

- **Consistent with accepted and good industry practice** – Maintaining critical isolation valves for emergency control is consistent with Australian Standard AS 2885.3 Pipelines - Gas and Liquid Petroleum, Part 3: Pipeline Integrity Management and AS/NZS 4645 distribution. Reducing the risks posed by inoperable valves in a manner that balances costs and risks is also consistent with these standards. We therefore consider the proposed capital expenditure is in accordance with accepted good industry practice.

- To **achieve the lowest sustainable cost of delivering pipeline services** – The valve replacement works are necessary to maintain the long term integrity of the pipelines. Failure to do so could result in additional expenditure (reactive response to a safety critical valve failure). The project is therefore consistent with the objective of achieving the lowest sustainable cost of delivering services.

NGR 79(2)

The proposed capex is justifiable under 79(2)(c)(ii), as it is necessary to maintain the integrity of services. Allowing the number of inoperable and leaking valves to continue to grow will lead to an increasing number of customers at risk of supply in an emergency isolation situation.

NGR 74

The forecast costs are based on the latest market rate testing and project options consider asset management requirements as per the Asset Management Strategy. The estimate has therefore been arrived at on a reasonable basis and represents the best estimate possible in the circumstances.

Appendix A – Risk Assessment of previously leaked valves

Table 6: Assessment of previously leaked valves

Valve #	Year installed	Condition	Incremental customer impact		Untreated Risk							Risk Rating	Treatment
					H&S	Environment	Operational	People	Compliance	Reputation	Financial		
Transmission pressure valves													
285	1970	Ageing valve. 1 Leak already reported and repaired.	Inoperability of valve will result in a total loss of supply to Wynn Valve TP main affecting approx. 68,000 customers	Likelihood	UL	UL	UL	UL	UL	UL	UL	High	Recommend replacement
				Consequence	Minor	Minimal	Major	Minor	Significant	Significant	Minor		
				Risk Level	Low	Negligible	High	Low	Moderate	Moderate	Low		
570	1975	Ageing valve. 1 Leak already reported and repaired.	Inoperability of valve would not change the number of customers impacted	Likelihood	UL	UL	UL	UL	UL	UL	UL	Low	Defer replacement
				Consequence	Minor	Minimal	Minor	Minor	Minor	Minor	Minor		
				Risk Level	Low	Negligible	Low	Low	Low	Low	Low		
1693	2011	Leak reported on valve cavity. Not feasible to continue with temporary repairs.	Inoperability of valve will result in a supply interruption to approx. 4,000 customers	Likelihood	UL	UL	UL	UL	UL	UL	UL	Moderate	Recommend replacement
				Consequence	Minor	Minimal	Significant	Minor	Significant	Significant	Minor		
				Risk Level	Low	Negligible	Moderate	Low	Moderate	Moderate	Low		
298	1968	Ageing valve. 1 Leak already reported and repaired.	Inoperability of valve will result in a loss of supply to approx. 8,000 customers including multiple large volume customers in North Haven, Semaphore and Osborne.	Likelihood	UL	UL	UL	UL	UL	UL	UL	High	Recommend replacement
				Consequence	Minor	Minimal	Major	Minor	Significant	Significant	Minor		
				Risk Level	Low	Negligible	High	Low	Moderate	Moderate	Low		

Valve #	Year installed	Condition	Incremental customer impact		Untreated Risk							Risk Rating	Treatment
					H&S	Environment	Operational	People	Compliance	Reputation	Financial		
Distribution networks valves													
965	1984	Ageing valve at risk. Previous leak repaired.	Failure of valve will result in a supply interruption to approx. 18,000 customers.	Likelihood	UL	UL	UL	UL	UL	UL	UL	High	Recommend replacement
				Consequence	Minor	Minimal	Major	Minor	Significant	Significant	Minor		
				Risk Level	Low	Negligible	High	Low	Moderate	Moderate	Low		
435	1975	Ageing valve at risk. Previous leak repaired.	Failure of valve with result in a supply interruption to 2 customers (a hotel and a TAFE).	Likelihood	UL	UL	UL	UL	UL	UL	UL	Low	Defer replacement
				Consequence	Minor	Minimal	Minimal	Minor	Minor	Minor	Minor		
				Risk Level	Low	Negligible	Negligible	Low	Low	Low	Low		
728	1979	Ageing valve at risk. Previous leak repaired.	Risk of supply impacts a multiple high risk sites (including a hospital) without alternate supply option. Importance of trunk increases with new Gawler Gate (will use this trunk as main feed into network).	Likelihood	UL	UL	UL	UL	UL	UL	UL	High	Recommend replacement
				Consequence	Minor	Minimal	Major	Minor	Significant	Significant	Minor		
				Risk Level	Low	Negligible	High	Low	Moderate	Moderate	Low		
765	1979	Ageing valve at risk. Previous leak repaired.	Risk of supply impact expected to exceed 1,000 customers over the next AA period as this is a high growth area with multiple mains extensions under construction.	Likelihood	UL	UL	UL	UL	UL	UL	UL	Moderate	Recommend replacement
				Consequence	Minor	Minimal	Significant	Minor	Significant	Significant	Minor		
				Risk Level	Low	Negligible	Moderate	Low	Moderate	Moderate	Low		

Valve #	Year installed	Condition	Incremental customer impact		Untreated Risk							Risk Rating	Treatment
					H&S	Environment	Operational	People	Compliance	Reputation	Financial		
1033	1992	Ageing valve at risk. Previous leak repaired.	Risk of supply impact expected to exceed 1,000 customers over the next AA period as this is a significant growth area.	Likelihood	UL	UL	UL	UL	UL	UL	UL	Moderate	Recommend replacement
				Consequence	Minor	Minimal	Significant	Minor	Significant	Significant	Minor		
				Risk Level	Low	Negligible	Moderate	Low	Moderate	Moderate	Low		
612	1981	Ageing valve at risk. Previous leak repaired.	Risk of supply impacts multiple high risk sites (in residential age care home) without alternative supply.	Likelihood	UL	UL	UL	UL	UL	UL	UL	High	Recommend replacement
				Consequence	Minor	Minimal	Major	Minor	Significant	Significant	Minor		
				Risk Level	Low	Negligible	High	Low	Moderate	Moderate	Low		
168	1975	Ageing valve at risk. Previous leak repaired.	Failure of valve will result in a supply interruption to <1,000 customers with no high risk sites currently identified.	Likelihood	UL	UL	UL	UL	UL	UL	UL	Low	Defer replacement
				Consequence	Minor	Minimal	Minor	Minor	Minor	Minor	Minor		
				Risk Level	Low	Negligible	Low	Low	Low	Low	Low		
743	1996	Ageing valve at risk. Previous leak repaired.	Failure of valve will result in a supply interruption to approx. >1,000 customers.	Likelihood	UL	UL	UL	UL	UL	UL	UL	Moderate	Propose replacement
				Consequence	Minor	Minimal	Significant	Minor	Significant	Significant	Minor		
				Risk Level	Low	Negligible	Moderate	Low	Moderate	Moderate	Low		
5836424	1995	Previous leak repaired.	Failure of valve will result in a supply interruption to approx. 1,000-2,000 customers but no high risk sites currently identified.	Likelihood	UL	UL	UL	UL	UL	UL	UL	Low	Defer replacement
				Consequence	Minor	Minimal	Minor	Minor	Minor	Minor	Minor		
				Risk Level	Low	Negligible	Low	Low	Low	Low	Low		

Valve #	Year installed	Condition	Incremental customer impact		Untreated Risk							Risk Rating	Treatment
					H&S	Environment	Operational	People	Compliance	Reputation	Financial		
5838269	1986	Ageing valve at risk. Previous leak repaired.	Failure of valve will result in a supply interruption to <1,000 customers with no high risk sites currently identified.	Likelihood	UL	UL	UL	UL	UL	UL	UL	Low	Defer replacement
				Consequence	Minor	Minimal	Minor	Minor	Minor	Minor	Minor		
				Risk Level	Low	Negligible	Low	Low	Low	Low	Low		
5836706	1986	Ageing valve at risk. Previous leak repaired.	Failure of valve will result in a supply interruption to <1,000 customers with no high risk sites currently identified.	Likelihood	UL	UL	UL	UL	UL	UL	UL	Low	Defer replacement
				Consequence	Minor	Minimal	Minor	Minor	Minor	Minor	Minor		
				Risk Level	Low	Negligible	Low	Low	Low	Low	Low		
5856017	1986	Ageing valve at risk. Previous leak repaired.	Failure of valve will result in a supply interruption to <1,000 customers with no high risk sites currently identified.	Likelihood	UL	UL	UL	UL	UL	UL	UL	Low	Defer replacement
				Consequence	Minor	Minimal	Minor	Minor	Minor	Minor	Minor		
				Risk Level	Low	Negligible	Low	Low	Low	Low	Low		