SA Power Networks

Supporting document 5.24

St Marys Business Case

2020-25 Revised Regulatory Proposal

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SA Power Networks

St Marys Business Case

Contents

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Executive Summary

St Marys is a 16,200m^2 metropolitan depot, purchased in 1986 by SA Power Networks but first established by SA Water in the early 1960's, which enables us to provide a range of services to our customers and manage our distribution network in the southern metropolitan region.

We have undertaken very little major refurbishment of the facilities at this site since its establishment.

Major refurbishment investment at this site is now justified based on reducing ongoing reactive repair and refurbishment costs and reducing safety, operational and customer service (including reliability performance) risk.

We have developed a **$4.1 million** (real June $2020) capital forecast to refurbish and upgrade the facilities at our St Marys property over the next regulatory control period, 2020/21 to 2024/25, which can be considered in terms of:

- major works component; and
- minor works component.

The costs and benefits of the proposed investment over the longer term of 40 years are summarised in the table[1] below:

St Marys – Capital cost			
	Major works	**Minor works**	**Total ($)**
Capital cost	$3.6 m	$0.5 m	$4.1 m

St Marys – Benefits (Major works)[2]		
Benefit type	**Description**	**Benefit ($)**
Customer service – PRICE Ie. Benefit in reduced/avoided SA Power Networks costs – capital expenditure (**capex**) and operating expenditure (**opex**)	• This increase in our costs is driven by the higher capital costs of the major replacements compared to capital costs of continuing with the business-as-usual approach, which is **$2.6 million higher**; but • This increase in capex should be offset by a modest reduction in our operating expenditure of approximately **$2.3 million** over the same period.	- $0.3 m
Customer service – QUALITY Ie. benefit in reduced/avoided economic cost of supply reliability	• Additionally, we estimate that the major works reduce risks to the supply reliability we provide to our customers. We have estimated the value of this small improvements to be worth approximately **$1.9 million** over the long term	+ $1.9 m
Safety risks Ie. benefit in reduced/avoided economic cost of deaths and injuries	• Our cost benefit analysis has shown that these works should improve existing safety risks associates with the current state of the relevant facilities at St Marys. We estimate that, in total, the **$3.6 million** investment in these facilities will provide long term benefits in reduced safety risks of approximately **$0.2 million** compared to a business-as-usual approach.	+ $0.2 m
	Total NET benefit (relative to BAU)	**$1.8 m**

[1] Note – Values quoted within table may contain rounding errors/issues when summing to 1 decimal place.

[2] Minor works have not been quantified as they are largely small reactive works that occur each year and in-line with historical levels - We consider it reasonable to assume that ongoing minor works will be at least at the level of recent history – refer to section 3 for further detail.

The major works component

Our forecast allows for the investment of $3.6 million to enable us to undertake the **major replacement** of the pavement at St Marys. The pavement covers a large area of approximately 13,300 m^2. The pavement is old and in poor condition, with extensive cracking and potholes, which we have been recently addressing through a piecemeal reactive repair strategy. It also has extensive tree uprooting around the external storage bays, which is also damaging the pavement and causing subsidence.

To develop the pavement forecast we have:

- assessed the current issues with the pavement
- quantified the cost and risk associated with the issues
- developed various options for managing these issues, including continuing with a business-as-usual approach[3]; and
- undertaken cost-benefit analysis to determine the options that maximises the net-benefit (in present value terms).

Our cost benefit analysis has shown that our proposed investment of $3.6 million for the replacement of the pavement is the best option, providing a net benefit of $1.8 million over the longer term compared to continuing with the business-as-usual approach. Our analysis also shows that this option is insensitive to reasonable changes in key assumptions, including the discount rate, capital cost, timing, and quantification of the issues.

The minor works component

Our forecast also allows for the investment of $0.5 million to enable us to continue with the **minor refurbishment and upgrade** of the remaining facilities at the site.

This component largely consists of the piecemeal reactive repair and upgrade of the other facilities, which is necessary to maintain the functionality of the site as it ages and our operations and technology evolve.

The remaining facilities are also aged and similarly suffer from a range of age-related issues, which drive the needs for the minor works component of our forecast, including:

- the poor condition
- advanced age and risk of major failure
- aged facilities and amenities within buildings that are well below current standards.

To develop this forecast we have:

- assessed the current issues with these facilities and developed and costed the likely remediation approach[4]; and
- undertaken top-down analysis to compare the aggregate estimate for this component against recent historical levels of expenditure for the similar minor works component.

Our top-down analysis has shown that our proposed investment of $0.48 million is only 20% above the level for the current period. We consider this amount is reasonable given the age of the site, the limited

[3] The assessment and costing were undertaken by an external quantity surveyor, as discussed in our Original Proposal. However, we have reassessed the issues for the Revised Proposal.

[4] The assessment and costing were undertaken by an external quantity surveyor, as discussed in our Original Proposal. However, we have reassessed the issues for the Revised Proposal.

level of major refurbishment we have undertaken at this site, and the number and extent of the issues at this site that we have currently identified.

Regulatory treatment

The Australian Energy Regulator's (**AER**) Draft Decision did not accept our forecast and made no allowance for any capex at this property, with its main concerns being that we had not sufficiently demonstrated the need for any property capital works to be undertaken and we did not provide rigorous option analysis and cost-benefit analysis to support the proposed expenditure.

We consider that we have addressed all the AER's concerns in developing the forecast contained on this business case. We have included $4.1 million in the capex forecast in our SA Power Networks 2020-25 Revised Regulatory Proposal (**Revised Proposal**) to the AER to allow for refurbishments and upgrades at our St Marys site. This forecast is lower than the equivalent forecast in our SA Power Networks 2020-25 Regulatory Proposal (**Original Proposal**), $4.8 million, due to various scope items that we have excluded from this forecast, based on our further analysis.

We believe that the AER can have confidence that this forecast is in accordance with the National Electricity Rules (**NER**), given the methodology we have applied to determine the need for this project and its scope and cost.

We are not proposing to include any adjustments to other incentive mechanisms because of the forecast at this site. We recognise that the forecast at St Marys represents an increase from recent historical levels at this site, which should result in localised benefits (eg reductions in operating costs). However, these benefits will not offset the aggregate effects of the overall ageing of all our properties, given the reduced overall property forecast in our Revised Proposal.

Stakeholder feedback

We have also engaged with our Customer Consultative Panel in developing our revised total property forecast, including providing them with a visit to some sites. While the Panel did not visit the St Marys property it did visit our Marleston North site which has facilities of a similar age and condition as Angle Park. The Panel was broadly supportive of the need to undertake major refurbishment and upgrade works, and the approach we have adopted to develop our revised forecast.

1. Introduction

Purpose statement

We have forecast the need for $4.1 million (real June $2020) in capex to refurbish and upgrade our St Marys property over the next regulatory period (ie 2020/21 to 2024/25).

The purpose of this document is to:

- set out our capex forecast of the refurbishment and upgrade works at our St Marys property;
- provide the justification for this forecast, including the needs it will address and the benefits it will provide; and
- explain how we consider this forecast should be treated in our Revised Proposal to the AER.

In addition to this document, the justification for the forecast capex at St Marys is also supported by the following:

- St Marys cost-benefit model, Supporting Document 5.24.1 - St Marys model, Revised Proposal (confidential), which is a spreadsheet model we have prepared to support our justification for the major project components at St Marys.
- The St Marys photographic evidence data pack, Supporting Document 5.24.2 - St Marys Photographs, Revised Proposal, which provides detailed high-quality photographic evidence of the major issues at St Marys that are driving the needs.
- "2020-25 Property Capex Forecast Regulatory Justification", which is Supporting Document 5.21 to our Revised Proposal and provides further justification for our overall property capex forecast.
- "Property Services Capital Expenditure 2020-2025", which was Supporting Document 5.31 - Property Services Capital Expenditure 2020-2025 to our Original Proposal and provides further information on our property strategy, including how we manage properties and external reviews and advice we sought to develop our property forecast.

Appreciation of AER concerns with Original Proposal

In our Original Proposal to the AER, we included $4.8 million in our capex forecast to undertake refurbishment and upgrade works at our St Marys property over the next regulatory control period. We also provided supporting documents setting out the scope of the works and justification for these works.

The AER's Draft Decision did not accept our forecast and made no allowance for any capex at this property. The key concerns of the AER are:

- we did not sufficiently demonstrate the need for any property capital works to be undertaken; and
- we did not provide rigorous option analysis and cost-benefit analysis to support the proposed expenditure.

We have reviewed our previous supporting documentation and accept that this was deficient in a number of areas. In general, we accept the AER criticisms. To address these matters, we have undertaken extensive further work to reassess the St Marys forecast and prepare improved supporting documentation, including this business case and cost-benefit analysis models.

Evidence of the need

The AER has raised the lack of evidence of the 'need' in our Original Proposal as a significant matter in its rejection of our forecast. Evidence of these 'needs' are contained in:

- The appendices of our Property Services Capital Expenditure documents prepared by Rider Levett Bucknall (**RLB**), which was a supporting document to our Original Proposal[5]. RLB developed their forecast based upon their expert opinion of the needs at each site, and the appendices provide photographic evidence of the main issues at each site that were determined by RLB during its site inspections.
- Appendix B of this business case where we have provided further photographic evidence of the main issues at St Marys.
- Supporting Document 5.24.2 - St Marys Photographs, which provides detailed high-quality photographic evidence of the needs.

In addition:

- The quantification of the need, which we have undertaken for the cost-benefit analysis provides a form of evidence of the materiality or scale of the needs.
- The overall need for our revised property capex forecast is evidenced through our top-down analysis, which is discussed in Supporting Document 5.21 - 2020-25 Property Capex Forecast Regulatory Justification.

Further details of how we have addressed the AER and other stakeholder concerns are provided in Supporting Document 5.21 - 2020-25 Property Capex Forecast Regulatory Justification.

Importantly, our enhanced methodology has resulted in a change to the capex forecast for St Marys. This has resulted in a reduction in the capex forecast from $4.8 million in our Original Proposal to $4.1 million in this document and our Revised Proposal.

Classification of major and minor works components of our forecast

To aid in the explanation of our forecast, we have classified the forecast into two components:

- major capital works, which covers larger items of our forecast which address major issues with certain facilities at St Marys; and
- minor capital works, which covers the remainder of our forecast.

This has been required to aid in classifying the "major" matters, which we have then re-assessed using a more extensive evaluation and formal cost-benefit analysis.

Importantly, the minor capital works classified here is more general than works that are identified as minor works in our financial systems. Therefore, some caution is need when reconciling between this document and our financial system; the specific work orders defined as minor works in our financial system will only encompass a portion of the minor works discuss here.

Overview of St Marys

St Mary's is a 16,200m^2 metropolitan depot established by SA Water in the early 1960's and purchased by SA Power Networks in 1986. This property enables us to provide a range of services to our customers in

[5] Section 8.2, Attachment 2, Supporting document 5.31 - Property Services Capital Expenditure 2020-2025, SA Power Networks 2020-25 Regulatory Proposal, January 2019

the southern metropolitan region and manage our distribution network in that region, including responding to network outages.

The site includes:

- a large 13,300m^2 pavement area, including internal roadways, loading/unloading bays, external storage areas, and staff and fleet parking facilities
- three main staff buildings, providing office facilities and other amenities; and
- three main workshop and storage buildings.

Appendix A provide further relevant background information associated with the St Marys site and various facilities at this site, which are relevant to appreciating the significance of the issues at this property, the risks and costs driven by these issues, the range of credible options and the benefits of these options.

Regulatory obligations relevant to determining needs

There is a range of regulatory instruments we must have regard to when managing our property portfolio and determine needs. These obligations cover a range of matters associated with building and site design, layout, construction and operation. For existing facilities, where strict compliance is not obligated, we tend to apply a risk-based compliance method. For new constructions and developments (including refurbishments and upgrades), we will always ensure that these are strictly compliant with all current obligations.

We have attempted to develop our forecast in this document to align with this risk-based process. However, the key needs of the major works at St Marys, which are summarised in Section 2 and explained in more detail in Appendix B, are not compliance issues. That said, the preferred solution will allow us to opportunistically ensure compliance with current obligations. Similarly, we would expect that some of the works allowed for in the minor works component will allow us to address some of the more significant non-compliances in other facilities.

Further details of our property obligations and how we manage these are provided in Supporting Document 5.21 - 2020-25 Property Capex Forecast Regulatory Justification.

Structure of document

This document is structured as follows:

- In *Section 2 (Major capital works components)*, we discuss our evaluation of the major issue at the site, including our development of credible options and option costs, the effect of these options on existing costs and risks, and our formal cost-benefit analysis of these options.

- In *Section 3 (Minor capital works components)*, we discuss our analysis and reasoning for the minor capital works component of our forecast, explaining how we have prepared and validated this forecast.

- *In Section 4 (Our preferred capital program and expenditure forecast)* we bring the major and minor components together to summarise our overall preferred option for St Marys, including the main benefits that will be achieved by this investment.

- The document concludes in *Section 5 (Regulatory treatment)* by discussing how we believe the costs and consequences of this program should be treated in our Revised Proposal to the AER.

- In *Appendix* A *(Overview of St Marys)*, we provide relevant background information associated with the St Marys site and various facilities at this site, which are relevant to appreciating the significance of the issues at St Marys and the risks and costs driven by these issues.

- We then set out the specific issues at St Marys in *Appendix B (the needs at St Marys)*, including the facilities affected by the issues, the causes of the issues, and the costs and risks due to the issues. In this section, we also identify the issues we are classifying as major and so assess using formal cost-benefit analysis.

2. Major capital works components

We consider that the needs of the pavement (and associated external works) at the St Marys depot are sufficient to warrant consideration of a major replacement projects in the next regulatory period.

In this section, we focus on this pavement and evaluate various approaches to manage its issues moving forward. Importantly, we will:

- identify various credible options and the cost of implementing those options, include continuing with the current approach (ie the business-as-usual option) and alternatives that address the issues using different approaches and time frames
- discuss how each option affects the current costs and risks associated with the issues; and
- present the results of cost-benefit analysis that we have applied to these options.

We have used the cost-benefit analysis to determine whether the benefits of the options will exceed their costs (in present value terms and relative to the business-as-usual option), and to identify which option will provide the greatest net benefit. We have also used the cost-benefit analysis to test key assumptions, in order to understand the sensitivity of the finding to these key assumptions.

Importantly, through this analysis we have found that the planned replacement of the pavement over the next regulatory period should provide the greatest net benefits, compared to other alternative options. Further, this result is generally insensitive to reasonable changes in the key assumptions.

Statement of the need

The pavement covers a large area (approximately 13,300 m^2), which is used for various functions associated with the depot operations and encompasses:

- carparking for site staff and visitors
- various parking locations for specialist crew vehicles, including EWPs
- various storage areas for networks assets, equipment and materials
- loading and unloading areas, associated with the various storage areas
- the internal roadways.

There are three main issues with this pavement area driving its needs:

- **The poor condition of the pavement** - The current pavement was original constructed in the early 1960's, prior to being purchased by SA Power Networks. Since that time the volume and weight of the heavy vehicles transporting materials to and from this site has increased. Because of the age of the pavement and its heavy use, there has been an increasing volume and severity of areas of the pavement with significantly degraded condition (eg significant cracking and potholes). We have been repairing the worst affected areas through a piecemeal reactive repair program.
- **The tree root uplift and subsidence** – Associated with the poor condition of the pavement, we also have extensive tree uprooting around the external storage bays, which is also damaging the pavement and causing subsidence.
- **Poor Stormwater Drainage** – There are many sections of the pavement that have subsided over time and as a result ponding of stormwater during rainfall events further exacerbates the degradation. This combined with street water run-off from the neighbouring roads up-hill of the property contribute to additional water entering the yard.

We have quantified the costs and risks due to these issues. These costs and risk are summarised in the table below (note, operating costs in this table do not include direct remediation costs, such as the preventative maintenance and reactive repair of the issues).

Table 1 Summary of pavement costs and risks due to the issues

Cost category	Expected annual value ($'000)
Operational cost	$88.5
Safety Cost	$6.3
Supply Reliability Cost	$78.6
Total (may not add up due to rounding)	**$173.5**

Further details and explanations of the issues and needs of the pavements and the quantification of the costs and risks are provided in Appendix B. This appendix also provides photographic evidence of the needs, and is further supported by Supporting Document 5.24.2 - St Marys Photographs.

Development of options

We currently implement a reactive "patched" repair approach to address these areas. We have developed three credible options for managing the issues with the pavement moving forward. The options range from continuing with the current approach to the full planned replacement of the pavement.

These options are summarized in the table below, which provides an overview of the scope of each option and qualitative overview its costs and its expected effect on current issues.

Table 2 Overview of pavement options

ID	Option	Scope of option	Comments on option
1	**Business-As-Usual (do nothing)**	Continue with current maintenance and operational regime (ie largely reactive patching of the pavement as required, with controls as necessary to manage risks associated with areas of poor condition and the patching approach).	Low maintenance and capex costs in the short term, but no improvement to existing issue risks and costs. Patching costs and/or issue risks and costs would likely worsen as the pavement ages further. This option is considered a short-term solution, requiring higher capex later to fully refurbish the pavement. Note, however, for cost-benefit analysis, we have not assumed that a replacement will occur.
2	**Piecemeal remediation (to defer the need for replacement)**	Continue with current maintenance regime, but undertake some additional piecemeal remediation and repair to maintain usage of current site, largely in current form.	Modest capex and ongoing opex, and small reduction in some issue costs and risks. This is assumed to be a short-term solution that will require higher capex later to fully replace the pavement. For modelling purposes, we have assumed that the pavement will be replaced in 10 years
3	**Replacement over next period**	Replacement of full pavement during next regulatory period.	High capex in short term, but reduced opex and removal of existing issue costs and risks.

During discussion with stakeholders, including the AER, they have raised other options as possible lower cost solutions associated with our pavement needs, including:

- using alternative forklift more suitable for the uneven surfaces of a degraded pavement; or
- lower cost solutions to repair areas of poor condition bitumen or concrete (eg resurfacing / releveling bitumen or concrete areas).

We do not consider that either of these options are credible options for St Marys.

With regard to alternative forklifts, we already use forklift types designed for outdoor use, and in many circumstances, they can deal with the types of uneven surfaces that will arise as pavements degrade. Forklift selection is predominantly based on the type of load it needs to carry safely and efficiently, given the arrangements of the facility. And far less on being able to drive on a degraded pavement. We do not believe there are credible alternative options that would provide significant improvement and would still be suitable for our operations at St Marys. Importantly, switching to an "all-terrain" tyre type would also contribute to significant accelerated degradation of the pavement as these tyres tend to grip into the surface when turning and if used on already degraded areas would exacerbate the problem further. Additionally, this would require us to make significant investment, that would need to be justified by allowing the pavement to degrade significantly (eg new all-terrain forklifts are typically between $10-$70k depending on size).

We do not believe this is a credible alternative: it would likely cause significant staff concerns that we would need to manage, introduce other safety risks to our operations, and more than likely, only provide some temporary deferment of the need to undertake a more significant replacement project.

With regard to the lower cost repair solutions, we fully acknowledge these are reasonable solutions to raise. But in many respects, these are the solutions we currently apply to manage the degradation of our pavements (and internal concrete floors). Our business-as-usual option allow for these types of repair to patches of pavement as an option for consideration in our cost-benefit analysis. It is important to stress that these options are effectively repair options. That is, the pavement areas need to degrade (driving the cost and risks noted above), before these solutions are worthwhile applying. Furthermore, they are not usually long-term solutions.

We have allowed for an enhanced remediation options, which allows us to address some of the significant external issues and apply a greater level of pavement repair, which will allow for more of these approaches to a limited degree. However, we do not consider that an option that allows for some form of resurfacing or releveling of a significant portion of the pavement above what will be allowed for in our options is a credible option.

Options capital cost estimates

To develop our capital cost estimate for each option, we have:

- assumed the business-as-usual reactive repair cost would be on average $34,038 per annum, based on the average actual and planned capitalized pavement repair costs this period, 2015/16 to 2019/20
- used the cost estimates prepared by RLB and detailed in our Original Proposal to the AER as the basis of planned replacement and piecemeal remediation cost estimate.

Further details of the methodology and assumptions are provided in the pavement cost-benefit analysis model in Supporting Document 5.24.1 - St Marys model (confidential).

Table 3 Pavement option capital cost estimates

ID	Option	Capex ($'000)			
		Next regulatory period		Following regulatory periods	
		Reactive	Planned	Reactive	Planned
1	**Business-As-Usual (do nothing)**	$174	-	$182[a]	-
2	**Piecemeal remediation**	$130	$350[b]	$136	$3,328
3	**Replacement over next period**	-	$3,578		

a – for this option reactive costs will continue beyond this regulatory period

b – for this option, we assume a $100,000 uplift in costs allow for the increased cost for the full replacement (see further discussion in cost-benefit model)

Impact of options on existing issues and new issues

We have estimated how each option will impact the costs and risks caused by the major issues (Table 4). Key points to note here are:

- for the business-as-usual option, we have assumed that these costs and risks will not increase significantly with time; rather, we are assuming that reactive repair activity will increase and this will maintain these costs and risks around current level; and
- for the piecemeal remediation option, we are assuming that works in the initial stage can be targeted to remove a greater portion of the cost and risks (see assumptions in the table below).

Table 4 - Summary of impact of options on costs and risks

		Existing issues			
ID	Option	Operational inefficiency	Safety risk	Operational risk	Supply reliability
1	**Business-As-Usual (do nothing)**	Unchanged / worsening	Unchanged / worsening	Unchanged / worsening	Unchanged / worsening
2	**Piecemeal remediation**	Improved (30%)	Improved (20%)	Improved (30%)	Improved (30%)
3	**Replacement over next period**	Avoided	Avoided	Avoided	Avoided

Cost-benefit analysis of options

We have conducted cost-benefit analysis of the three options discussed above. Further details of the cost-benefit analysis model and assumptions are provided in the St Marys pavement cost-benefit model in Supporting Document 5.24.1 - St Marys model (confidential).

The key results of this analysis are summarised in Table 5 below. These results indicate that that full replacement of the pavement in the next period should provide the greatest net benefit. Importantly, implementing that option should realise a net benefit of $1.8 million over continuing in the longer term with a business-as-usual approach of reactive patch repairs of the pavement.

Table 5 Summary of results of the cost benefit analysis of the pavement options

		Present value ($ million)[a]		
ID	Option	Option costs	Issue costs and risks	Net benefit
1	**Business-As-Usual (do nothing)**	*1.1*	*4.3*	-
2	**Piecemeal remediation**	3.1	1.2	1.1
3	**Replacement over next period**	**3.6**	**0.0**	**1.8**

a – discounting assumes our proposed pre-tax real WACC of 2.63%

Other important points to note from these results are as follows:

- The net benefit is driven by the avoided costs and risks due to the issues with the pavement area. As such, the majority of the benefit relates to avoiding the operational and customer supply costs and risk, which constitute 51% and 45% of these costs respectively.
- All options have higher option costs in the long term than the business-as-usual option. These higher costs reduce the overall net-benefit of these options. However, a business-as-usual approach over the long term is most likely an unrealistic solution, given the age and condition of the pavement. Therefore, the costs of this option are likely to be higher if one of the other solutions was required in say 10 to 20 years time (which itself is probably an optimistic estimate).

The main finding that the replacement of the pavement over the next period provides the greatest net benefit tends to be insensitive to key assumptions in the model. Of most note here:

- This result is largely insensitive to increases in the discount rate from the proposed WACC of 2.63% (noting, higher discount rates tend to favour deferring capex). The discount rate would need to increase to approximately 5.4% before the piecemeal remediation option would be a more economic option, and increase to 5.9% before the business-as-usual option was more economic.
- This result also has a low sensitivity to the replacement cost. This cost would need to need to increase by more than 50% (ie increasing to $5.4 million) before the business-as usual option would be a more economic option. Obviously, this insensitivity is related to the discount rate. However, even with a discount rate of 3.5%, the replacement cost would need to increase by more than 30%, to approximately $4.7 million, before the business-as usual option would be a more economic option.
- Related to the above result on option cost insensitivity, this result is also insensitive to the timing of the replacement (ie there is not a greater net benefit in delaying the replacement by say one year). In this regard, the current issue costs and risks are valued at $173,475 on average per annum (with the current reactive repair costs a further $34,038). The benefit of a one-year delay in the capital costs of the replacement would be approximately $136,552[6], which is significantly less than the benefits of removing the issues (and avoiding the reactive repair costs).
- Similarly, our estimate of the ongoing reactive repair costs and issue costs and risks could reduce by approximately 40% before there would not be a net benefit in avoiding these costs and risks by the replacement of the pavement.

Based on the above, we consider it reasonable to conclude that the option to replace the pavement over the next period should maximise the net benefits over reasonable ranges for the key assumptions.

[6] Assuming the life of the new pavement is at least 45 year.

3. Minor capital works components

In the previous section, we discussed our development and evaluation of the major components of the capital works forecast for St Marys. In this section, we focus on the remaining portion of the capital works forecast, which we are classifying as minor capital works in this business case.

Minor capital works in this context covers the largely smaller reactive works that occur each year to address specific issues found at the site. This remediation work covers the larger refurbishment and upgrade items that will be capitalized due to their financial scale and life.

In this section, we will explain how we have:

- developed the minor capital works forecast via a bottom-up methodology; and
- validated this forecast using a top-down methodology.

We will show that our minor works forecast is broadly in line with recent historical levels of the equivalent types of work at this site, excluding the work items that would be addressed through the major capital works component.

Given the age of the facilities at the site, and the limited level of major refurbishment and upgrade that has occurred at this site, we consider it reasonable to assume that ongoing minor works will be at least at the level of recent history.

Developing the forecast for the minor capital works components

Minor capital works forecasting methodology

We have used a detailed bottom-up methodology to develop the forecast of the capital minor works component. This methodology has involved the following:

- Consideration of site issues and needs
    - We have reviewed all the current issues that we have identified across the site to determine which of these we are likely to address through the minor works component over the next regulatory period.
    - In this process, we have excluded issues that will be addressed through the major works component and other issues that we considered are unlikely to be significant enough to warrant addressing in the next period.
- Development of solution and cost estimate
    - We engaged RLB to assess the set of existing site issues and advise on the high-level scope of likely best solution.
    - RLB developed the costs estimate based on this scope and their view of costs, including on-costs and professional fees (ie the costs we would need to pay to contractors and our own project managers to apply those solution).

The cost estimation process applied by RLB is the process described in our Original Proposal to the AER. The key difference is that we have reconsidered the issues and the interaction with the major component and removed the works components that we consider are unlikely to be addressed or we have already addressed in this period.

Based on this further review, we have excluded a portion of the workshop/shed refurbishments, which we included in our Original Proposal). As discussed further in Appendix B, we have three separate workshop/shed buildings at St Marys that have significant issues, we consider it is unlikely that we will rebuild all three in the next period. Instead, we will most likely rebuild one of the workshops and undertake some refurbishments aimed at addressing the most pressing needs. These decisions will be

based on further investigations and analysis. For forecasting purpose, we have assumed that the most likely costs in the next period will be 30% of the full rebuild costs, prepared by RLB.

It is also important to note that this forecast methodology, particularly the reconsideration of the issues resulting the exclusions above, has been an iterative process with the top-down validation methodology, which is discussed later.

Statement of needs

The needs driving our minor works forecast for St Marys are specific to the scope items in the forecast, but broadly relate to issues due to the age of the facilities, including:

- the poor condition
- advanced age and risk of major failure
- aged facilities and amenities within buildings that are well below current standards.

As with the major works components, these issues impose various costs and risks on our ongoing operations.

Minor capital works forecast

Based on the methodology described above, we consider that $477,527 is a reasonable estimate of our minor capital works forecast for the next regulatory period.

The table below summarises the more significant items included in this forecast (items with a cost greater than $20,000).

Table 6 Summary of significant items in our minor capital works forecast (items >$20,000)

Facility	Component	Item Description	Total cost ($'000)[a]
Workshops	All	Rebuild and other refurbishments	$194.7
Staff buildings	Main office	toilet refurbishment/fit-out	$66.6
		Replace carpet floor finish	$41.6
		Patch and paint existing walls and doors	$22.7
	Toilet block	Replace existing fixtures to amenities	$37.9
		Replace suspended grid ceiling	$20.5
	Linesmen office	Replace carpet floor finish	$35.2
Grand Total (may not add up due to rounding)			**$419.1**

a – includes on costs and professional fees, but excludes corporate overheads

Validation of our minor capital works forecast

To validate our minor capital works forecast, we have compared it (in aggregate) to the recent historical level of capex at St Marys. In this regard, we consider it reasonable to assume that to maintain the safety, reliability and security of these facilities, the minor capital works component in the next period will need to be at similar to levels in the current period.

We consider that this assumption is reasonable, given:

- the old age of the facilities at this site
- the limited significant refurbishment and upgrade of these facilities since their construction
- the range of issues that we know still exist at this site (as discussed above and in Appendix B).

To produce the appropriate capex for comparison purposes, we have excluded the works items that relate to the major capital work component of our forecast (ie we have excluded the reactive repair works that have been undertaken on the pavement).

The figure below shows the comparison of our equivalent historical capex against the average annual minor works forecast amount of $95,505. Since 2015/16, our equivalent minor works capex has ranged between

zero in 2018/19 (as this was all pavement repair works) to $284,000 in 2019/20 (including the planned amount in 2019/20). The larger amount in 2019/20 is due to the planned works to repair pavements and install a wider driveway and dual entry/exit gates as a result of the DPTI overpass and major road works out the front of the site. This need however reflects the type of larger items that could be addressed through this minor works component.

This chart shows that our forecast average annual amount is in accordance with equivalent recent historical levels, excluding the major pavement repairs, with the average annual forecast level of $95,505 only 21% above the equivalent historical annual level of $78,889.

Given the rationale above, we consider that this increase is reasonable.

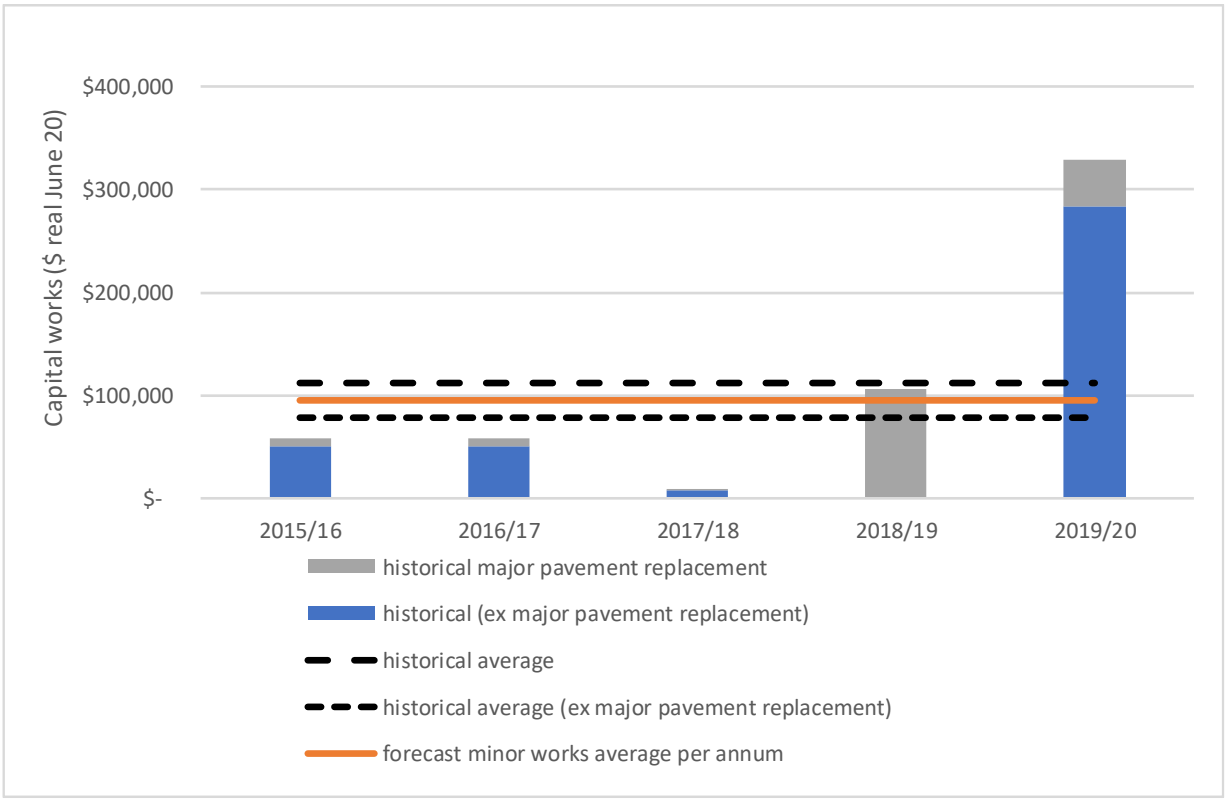

Figure 1 Comparison of minor capital works forecast to the equivalent historical expenditure

4. Our preferred capital program and expenditure forecast

In the two previous sections, we have explained how we have developed and evaluated our major and minor capital works programs for the next regulatory period. In this section, we bring these two components together to summarise our overall preferred option for this location.

This section explains:

- our rationale for selecting the preferred options
- its overall scope and cost estimate; and
- the main benefits we expect to achieve through implementing this option.

Rationale for selecting the preferred program of capital works for St Marys

As set out in Section 2, for the major work components, we have undertaken cost-benefit analysis of a range of short and long-term options, including continuing with our current business as usual practices. For the preferred option summarise here, we have selected the option that provided the greatest positive net benefit. We have also shown in Section 2 that these options are relatively insensitive to reasonable changes in key assumptions.

Our preferred option also includes the components we are classifying here as minor works. As set out in Section 3, we have developed a bottom-up forecast for these components based on identified issues. In developing this forecast, we have only included issues that we consider are significant enough to likely warrant attention over the next period. We have validated the scale of this program of works by ensuring it is broadly in line with recent historical levels of expenditure at the site.

We consider that this is a reasonable approach to estimate the forecast for the minor works component, given the old age of the site and the limited amount of major refurbishment and upgrade we have undertaken at this site. It is reasonable to assume that this level of expenditure is required to maintain the reliability, safety and security of the facilities at St Marys covered by this forecast, given the further ageing we can expect.

It is also important to note that, given the small scale of expenditure in the minor component and the range of unrelated issues it is addressing, we consider it would be unfeasible to undertake formal cost-benefit analysis across the items in the minor works program.

The preferred option scope and cost

Based on the above, we have estimated that the forecast capex at St Marys will be $4.06 million over the next regulatory period. The breakdown of this expenditure to the various facilities at that site is shown in Table 7 below, which also indicates the key scope items covered by this forecast.

Table 7 Summary of capex forecast for St Marys

Component	Facility	Key scope items	Cost ($ millions)
Major works	Pavement areas	Full pavement replacement, washbay, undercover EWP parking, security service upgrades, fencing, plus other works	$3.58
Minor works	Main office	Toilet refurbishment, flooring, plus other works	$0.14
	Toilet block	Replace fixtures, plus other works	$0.07
	Linesmen office	Replace floor finishes, plus other works	$0.07
	Workshops/storage	Rebuild and/or refurbishment	$0.19
Total (may not add up due to rounding)			**$4.06**

The benefits achieved by the preferred option

A key purpose of the capital works in our preferred option is to ensure that the reliability, security and safety of the site does not deteriorate significantly, as the facilities continue to age. If this was to occur, then this would increase operational costs associated with the facility and in turn customer prices. Significant disruptions to the facilities (eg due to a major unexpected issue arising that significantly constrained operations) could also affect the timely delivery of some services (eg connection services) and the reliability of supply to our customer in the southern metropolitan region.

That said, the major works components in this forecast involves a significant investment at this site, which should provide significant benefits, providing longer term improvements to the operations and risks associated with this property.

We estimate that in total, the $3.6 million investment in the pavement (and associated external works) will provide an economic benefit in the order of $1.8 million over the next over the longer term (40 years).

Benefit summary

The costs and benefits of the proposed investment over the longer term of 40 years are summarised in the table[7] below:

St Marys – Capital cost			
	Major works	**Minor works**	**Total ($)**
Capital cost	$3.6 m	$0.5 m	$4.1 m
St Marys – Benefits (Major works)[8]			
Benefit type	**Description**		**Benefit ($)**
Customer service – PRICE Ie. Benefit in reduced/avoided SA Power N costs - capex and opex	• This increase in our costs is driven by the higher capital costs of the major replacements compared to capital costs of continuing with the business-as-usual approach, which is **$2.6 million <u>higher</u>**; but • This increase in capex should be offset by a modest reduction in our operating expenditure of approximately **$2.3 million** over the same period.		- $0.3 m
Customer service – QUALITY Ie. benefit in reduced/avoided economic cost of supply reliability	• Additionally, we estimate that the major works reduce risks to the supply reliability we provide to our customers. We have estimated the value of this small improvements to be worth approximately **$1.9 million** over the long term		+ $1.9 m
Safety risks Ie. benefit in reduced/avoided economic cost of deaths and injuries	• Our cost benefit analysis has shown that these works should improve existing safety risks associates with the current state of the relevant facilities at St Marys. We estimate that, in total, the **$3.6 million** investment in these facilities will provide long term benefits in reduced safety risks of approximately **$0.2 million** compared to a business-as-usual approach.		+ $0.2 m
		Total NET benefit (relative to BAU)	**$1.8 m**

[7] Note – Values quoted within table may contain rounding errors/issues when summing to 1 decimal place.

[8] Minor works have not been quantified as they are largely small reactive works that occur each year and in-line with historical levels - We consider it reasonable to assume that ongoing minor works will be at least at the level of recent history – refer to section 3 for further detail.

The customer service benefits

Regarding the price of our services, the program should ensure we can continue to provide services that reflect prudent and efficient costs.

Our cost-benefit analysis of the major pavement replacement suggests that our long-term costs associated with this facility will be $0.3 million higher, compared to the business-as-usual approach (ie the aggregate present value of our costs over 40 year).

This increase in our costs is driven by the higher capital costs of the major pavement replacement (over the longer term) compared to capital costs of continuing with the business-as-usual approach (which is $2.6 million higher assuming we could continue with the business-as-usual low capex level for the next 40 years, which is most likely unrealistic). But this increase in capex should be offset to a large extent by a reduction in our operating costs of approximately $2.3 million over the same period.

Additionally, we estimate that the pavement replacement should provide some minor improvements to the supply reliability we provide to our customers in the southern metropolitan region. We have estimated the value of this small improvements to be worth approximately $1.93 million over the long term.

Other economic benefits achieved by the program

Regarding other benefits, our program should ensure we can efficiently control safety and environment risks associated with the site.

Regarding our major replacement of the pavement, our cost benefit analysis has shown that these works should provide a small improvement to existing safety risks associates with the current state of the St Marys pavement area. We estimate that, in total, the $3.6 million investment in the pavement will provide long term benefits in reduced safety risks of approximately $0.16 million compared to a business-as-usual approach.

Our other minor works should allow us to maintain the safety and environmental risk associated with the other facilities, in light of their further ageing.

5. Regulatory treatment

We have included $4.1 million in the capex forecast in our regulatory proposal to the AER to allow for major refurbishments and upgrades at our St Marys depot. We believe that the AER can have confidence that this forecast is in accordance with the NER, given the methodology we have applied to determine the need for this project and its scope and cost.

Given the old age and current condition of this property and its anticipated further ageing over the next regulatory period, we consider that the program's forecast capex is in accordance with the NER capex objectives as it is required to:

- maintain the safety of the distribution system through the supply of standard control services;
- maintain the quality, reliability and security of supply of standard control services; and
- continue to comply with regulatory obligations associated with the design, construction and operation of the St Marys property, and our broader safety and duty-of-care obligations.

We also consider that the program's forecast is in accordance with the NER capex criteria as it reflects the efficient cost that a prudent operator would require to achieve the NER capex objectives. Most notably, we have applied a rigorous approach to:

- assess the condition of the St Marys property and identify and quantify specific issues with that property
- determine the detailed scope of works and costs to address those issues
- undertaken comprehensive cost-benefit analysis on the major works components of the program of works, considering a range of short term and long options, including continuing with a business-as-usual approach
- assessed the remaining minor works components to ensure that the overall scale of works is in line with historical levels, which we consider is reasonable given the advanced age of this site and the recent low levels of refurbishment expenditure.

Importantly, we have engaged various independent experts to assist us in these tasks. These experts have specific experience in assessing properties and developing scope and cost estimates, which should ensure that our cost estimates reflect prudent and efficient costs to address identified needs.

We are not proposing to include any adjustments to other incentive mechanisms because of this program. We recognize that the forecast at St Marys represents a significant increase from recent historical levels at this site. However, as we have demonstrated through our cost-benefit analysis, the major benefit achieved by this investment is a reduction in safety risks.

We do consider that the increased investment at this site will result in some improvements to the efficient operation of this property. This should produce benefits in terms of improved productivity associated with this facility and supply reliability to our customers in the southern metropolitan region. These benefits have been important considerations in why we believe that this investment is necessary and should result in a net benefit.

However, we consider that these localized improvements at the St Marys property (for example, in reduced opex or improved supply reliability) will be offset by the effects of the overall ageing of all our properties (and our network in general to some degree). Therefore, we do not consider that any other adjustments are appropriate in these circumstances.

A. Overview of St Marys

In this Appendix, we provide an overview of the St Marys property, including:

- the functional groups and their facilities at this site, and their role in providing services to our customers; and
- the historical development of this site and how we currently maintain this site.

The purpose of appendix is to provide background information on St Marys. This understanding is relevant to appreciating the significance of the issues at St Marys and the risks and costs driven by these issues, which are discussed in the next section.

Importantly, this appendix explains:

- St Marys is a critical site for providing services to our customers in the southern metropolitan region and managing our network in this area.
- But St Marys is also an aged site that has had limited major redevelopment or refurbishment since its development in the early 1960's.

St Marys and its role in providing services to our customers

The St Marys property is located approximately 11km to the south of the Adelaide.

St Marys is one of our one of our metropolitan depots, responsible for providing a range of services to our customers and managing our distribution network southern metropolitan network.

The depot is a multi-functional site, including engineering/technical office-based staff and field crews. During working hours, there will be approximately 70 SA Power Networks employees and contractors on site at any time.

The engineering team are responsible for providing various engineering and design services to our customers in this region (other than major customers connected to our sub-transmission network) (eg connection services and relocations). The engineering team are also responsible for providing various in-house engineering and design services associated with the HV and LV network (eg the replacement and augmentation of the network).

The field crews located at St Marys are responsible for the field management of our distribution network in this region, ensuring that security and reliability of supply is maintained. This role involves:

- some construction and commissioning of our distribution network replacement and augmentation works
- some inspection and maintenance works
- the manual operation and control of the network (ie field switching activities).

Importantly, as part of this network management role, the crews operating out of this depot provide the response, restoration and repair for the distribution fault affecting our network in this region.

Therefore, the effective functioning of this facility is critical to both the price and quality of services to our metropolitan customers.

The site is approximately 16,200m^2 in size and can be considered in terms of three broad components: main staff buildings, workshop and storage buildings, and pavement and associated external works. These components are summarised in the table below. The diagram below shows the location of the various facilities within the St Marys site.

Table 8 Overview of the main facilities at St Marys

Facility	Role and functions
Pavement and external works	A large portion of the site is the outdoor area. This represents approximately 82% of the site, consisting mainly of a bitumen/asphalt pavement. The pavement area includes 1. Carparking for site staff and visitors 2. Various parking locations for specialist crew vehicles 3. Various storage areas for networks assets and equipment 4. Various loading and unloading areas, associated with the various storage areas (including the storage buildings below) 5. The internal roadway. The external works also include other facilities such as site fencing and other security features.
Main staff buildings	There are three main staff buildings at this site, as follows: 1. The main office and administration building, which is a single-story 580m^2 brick building. This building is primarily used by the engineering group, and includes offices facilities including, desk spaces, meeting rooms and small kitchenette. 2. The linesman office, which is a single-story 490m^2 building of half brick, half steel-clad construction. This building is used by the distribution field crews, and includes workstation spaces, meeting rooms, offices and small kitchenette. 3. A separate toilet block, which is a single-story 195m^2 brick building and roof tile construction. This building is used by all site staff and includes male and female toilets showers and lockers.
Workshops and storage	There are three separate buildings at this site, which are used as workshops and undercover storage, as follows: 1. Shed 1, which is a single-story 550m^2 building of steel frame and corrugated iron clad construction. This building is primarily used by Network for longer term storage of padmount transformers and other network spares. 2. Shed 2/storage building, which is a single-story 178m^2 building of steel frame and corrugated iron clad construction. This building is primarily used by high voltage test and other live line crews to store electrical equipment out of the weather. 3. Shed 3 workshop/storage building, which is a single-story 936m^2 building of steel frame and corrugated iron clad construction. This building is primarily used by logistics to store cables of conductor, smaller Networks Spares and all plant and tools used by Field Services.

Figure 2 Diagram of St Marys showing the main facilities.

The historical development of St Marys

The St Marys site was originally established in 1960's and purchased by SA Power Networks in 1986 and has always functioned in its current role.

To a large degree, much the original buildings and pavement areas remain as those established around the time that the original site was developed. There have been a few notable minor developments at the site since that time:

- In 2013 as an interim measure, the rear office in the main administration building was upgraded for the Standards Group and an additional office was installed in the main Shed 3 Workshop to facilitate a full-time logistics store person.
- Fencing improvements were completed in 2014 to improve overall site security.

- In 2018/19, we replaced a small portion of the bitumen pavement and the driveway and entrance gates to the front of the yard to improve the safety risks associated with the entrance and to enable two-way heavy traffic flow entering and exiting the site from Ayliffes Road. Recent Highway upgrade works by DPTI to the front of the site now mean 3-way traffic convergence at speed directly in front of the main driveway to the site.

St Marys recent expenditure and refurbishment activity

There has been no major refurbishment or upgrade of the facilities at this site since its establishment. As noted above, during the current regulatory period, we have replaced a small portion of the pavement. However, currently, our capital program is very much a piecemeal reactive program focusing on addressing specific identified issues at the site.

In total, from 2015/16 to 2019/2020 (inclusive, included planned 2019/20 projects) our capitalised refurbishments work at St Marys totaled $0.56 million (real June 20), with an average spend of $113,000 per annum. The annual profile of this expenditure is shown in the figure below. This figure shows that capex in the current period has been low, but increased in 2018/19 and we currently plan to increase this further in 2019/20 to $329,000. The increase in 2018/19 was to undertake the pavement section replacement noted above. The further increase planned for 2019/20 is to reduce the safety risk of entering and exiting the depot as noted above.

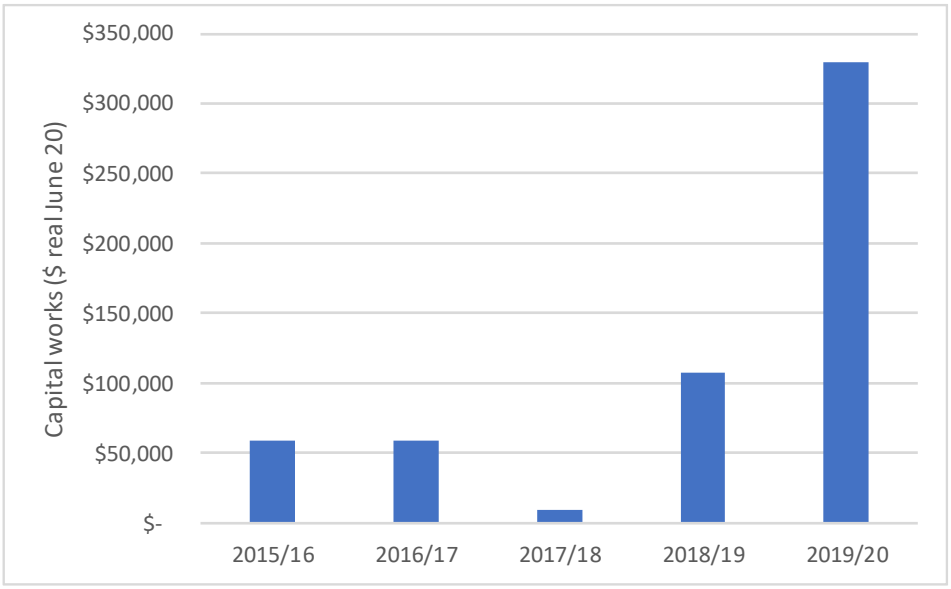

Figure 3 Profile of recent refurbishments and upgrade capex by facility

With regard to maintenance expenditure, over the current period we spend on average $23,674 per annum on reactive maintenance across the site. This is typically minor expenditure to fix defects found at the site (eg repairing plumbing, air conditioning, doors, buildings, security systems, fire systems, and our electrical systems, etc). The annual profile of this expenditure is shown in the figure below, indicating the spend associated with the various facilities discussed above. This chart indicates that a large portion of the reactive maintenance expenditure at this site has been addressing issues found with the main office and the pavement.

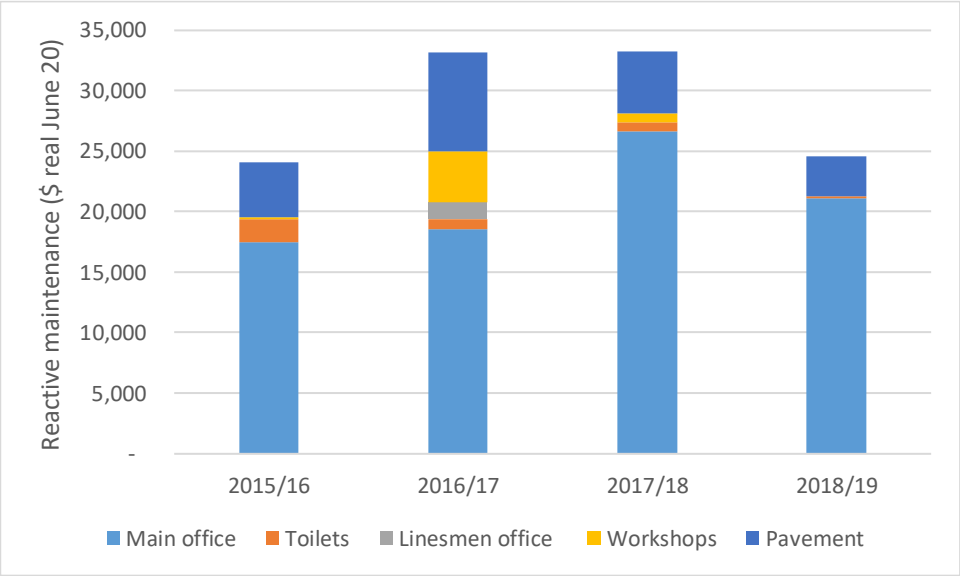

Figure 4 Profile of recent reactive maintenance by facility

In addition to this reactive maintenance, we also spend on average $33,000 per annum on preventative maintenance at St Marys.

B. The 'needs' at St Marys

In this Appendix, we summarise the current issues with the St Marys property that are driving the 'needs' of this property, including:

- the facilities and locations affected and causes of the issues (eg age, condition, compliance, etc); and
- the implications that these issues have on the risks and operational costs associated with this property.

Importantly, this appendix explains that we consider that the issues associated with the pavement area at St Marys are so significant that major replacement projects may be necessary to provide long term solutions to the issues. The pavement is old and in poor condition, with extensive cracking and potholes, which we have been recently addressing through a piecemeal reactive repair strategy. It also has extensive tree uprooting around the external storage bays, which is also damaging the pavement and causing subsidence. These issues are impacting operational costs, customer supply reliability and safety risk, which we are currently managing through a recent program of reactive piecemeal repair.

There are also a range of issues with other facilities at the site predominantly due to their old age, which will be addressed through our minor works program.

This appendix provides photographic evidence of the main issues and is supported by Supporting Document 5.24.2 - St Marys Photographs, which provide more comprehensive photographic evidence.

Assessment methodology

We continually inspect and assess our properties. The issues discussed in this section have been developed from our own inspection processes and the inspections undertaken by RLB, which was discussed in our Original Proposal.

St Marys pavement and associated external works

Context

As noted in Appendix A, the pavement covers a large area (approximately 13,900 m^2), which is used for various functions associated with the depot's various roles. Figure 5 below provides a diagram of the site, indicating the pavement and key features of this pavement, including:

- various parking locations, including
    - carparking for site staff and visitors
    - parking zones for the field crew vehicles
- various storage areas for networks assets and equipment
- the internal road way.

Importantly, during working hours there will typically be numerous vehicles entering and leaving this area, personnel working on foot within this areas, and other personnel moving material using forklift vehicles.

Figure 5 Diagram of pavement in poorer condition

Major issues with the pavement

The poor condition of the existing pavement

The current pavement was original constructed in 1960. Since that time the volume and weight of the vehicles using the facility has increased. Because of the age of the pavement and its heavy use, there has been an increasing volume and severity of areas of the pavement with significantly degraded condition. Historically, we have been repairing the worst affected areas through a piecemeal reactive repair program. However, as was discussed in the previous section, we have only undertaken minor patched repair work in the current period.

The poor condition of the pavement develops in various ways depending on the pavement material and its use.

Concrete areas are typically laid in block-like tile sections, with a filling material between the blocks. The surface of the blocks can degrade and wear, producing areas of sunken and uneven surface, or significant cracks can form. Alternatively, the joining edges of the blocks can get worn, chipped or the block can subside, such that an uneven step-change occurs between blocks.

The bitumen areas have similar issues with degradation and wear causing potholes and areas of sunken or uneven surface. The bitumen areas can also be affected during times of the extremely high temperature where the weight of the heavy vehicles, particularly at turning points, can cause ruts and uneven surfaces to form. Further, some of our heavy moveable storage and bins can leave deep spot indentations when left on bitumen for extended periods.

Importantly, because of its age and the historical degradation we have seen over the last 15 years, we are expecting further areas to degrade over the short term (ie we anticipating an ongoing need to repair the pavement if we continue with a business-as-usual reactive repair strategy).

Tree uprooting and subsidence

We have extensive areas around the external storage bays on the pavement where the roots of nearby trees are damaging the pavement areas and causing subsidence. This is exacerbating the ageing and poor condition of the pavement in these areas.

Example photographic evidence of pavement issues

Example photographic evidence of the major issues with the pavement is shown below. More comprehensive photographic evidence is provided in Supporting Document 5.24.2 - St Marys Photographs.

Figure 6 Example of complete breakdown of some areas of bitumen to the light vehicle car park and driveways.

Figure 7 Example of full-thickness cracking, subsidence and potholing to main driveway and Car park area

Figure 8 Example of full-thickness cracking, potholes and subsidence to heavy vehicle driveway. Also areas of previous repairs.

Figure 9 Example of cracking around pedestrian walkways

Figure 10 Examples of cracking, subsidence and tree root uplift to storage areas.

Impact of issues on operational costs and risks

The poor condition of the pavement and its layout result in a range of increased costs and risks associated with our operations at St Marys.

The table below summarises the most significant costs and risks we have identified and provides our estimated value for these costs and risks. Further details of the methodology, assumptions and basis for these estimates is provided in the St Marys pavement cost-benefit model in Supporting Document 5.24.1 - St Marys model (confidential).

In total, we estimate that the main costs and risks associated with the poor condition of the pavement is currently approximately $173,475 per annum, with a major component of this due to safety risks[9].

Importantly, given the age of the pavement and its recent history of degraded condition, we expect these issues to worsen if we continue for any extended period with our recent approach of undertaking no significant reactive repair. This will either increase the need for reactive repair to maintain the costs and risks at around current levels, or these costs and risks will increase if do not undertake repairs.

Note, the table below only details the incremental costs and risks resulting from the issues, which we consider would not arise if the issue did not exist. It does not detail all costs and risks for this facility.

Table 9 Summary of the major costs and risks due to the issues with the pavement

Cost/risk category	Description	Expected annual value ($)
Safety risks	Accident in pavement area caused by the areas of poor condition resulting in a fatality or injury.	$6,342
Operational risks	An unexpected and rapidly evolving patch of poor condition occurring that significantly affects the operations on the pavement until it is repaired.	$10,000
Operational inefficiency	Increased costs associated with: • operating on the pavement in areas of poor condition or at time of implementing a reactive repair (ie initiation and application of temporary workaround arrangements or other constraints on usual practices) Note, this include the risk controls that are necessary to ensure that events associated with the safety risk are should have a very low likelihood.	$54,600
	The continuing poor condition of the pavement resulting in low morale and with an expected higher rate of staff turn-over, resulting in increased hiring and training costs.	$23,900
Supply reliability	The economic value (via VCR type calculation) of the increased fault response and restoration times due to the poor condition of the pavement.	$64,013
	The economic value (via VCR type calculation) of the increased fault response and restoration times due an unexpected and rapidly evolving patch of poor condition occurring that	$14,619

[9] It is worth noting that although this safety risk is high in relative terms to other risks at this site, it is only classified as a low to medium risk in our corporate risk scale. Therefore, it is not a specific risk being monitored and controlled through the corporate risk management protocols.

	significantly affects the operations on the pavement until it is repaired.	

Other issues with the pavement

In addition to the poor condition and layout of the pavement, there are also a number of other more minor issues with the external structures and fixtures associated with the pavement area. These issues do not drive the need to replace the pavement, but some will be able to be addressed opportunistically if the pavement is undergoing a major planned replacement. Otherwise, these issues would be addressed either through the reactive maintenance program, or more likely minor works in the capital works program.

The table below lists the most notable issues, providing a brief explanation of each issue and how it affects costs and risks (note, for these more minor issues, we have not tried to quantify the costs and risks).

Table 10 Summary of minor issues with logistics pavement

Issue	Explanation of issue	Impact on operational costs and risks
Fencing	Compliance, design issue or condition?	This increases the possibility that there could be either theft or damage of site equipment, with the resultant additional costs to our business associated with that event.
Security services	The existing beams and cameras (old analog video cameras) have been assessed to be inadequate resulting in break-ins to the facility.	This increases the possibility that there could be either theft or damage of site equipment, with the resultant additional costs to our business associated with that event.
Elevated Work Platform (EWP) parking	There is a lack of undercover parking for the EWP vehicles.	We currently have up to 22 EWP vehicles parked at this location. These are expensive vehicles; for example, we have large EWP vehicles required by our field crew, which are valued at up to $500,000 each. The current arrangements expose these vehicles to weather (eg high UV, rain and hail). This can accelerate their aging, increasing maintenance costs and reducing their effective lives. It is also worth noting that historically, we had undercover parking at the site. However, this had to be dismantled because the newer EWP vehicles were too high for the structure.
Wash bays	The washbay at this site is in original condition and does not comply with current EPA and SA Water requirements.	Due to the nature of the works we perform, our EWP fleet represent a major risk to biosecurity and pest and disease spread in cropping and grazing areas. As such, these need to be washed regularly, and particularly following any field use.

Staff building issues

Context

St Marys site includes three main staff buildings:

- the main office and administration building
- the linesmen office
- the toilet facilities.

The main office admin building and the toilet block, including their non-structural elements, including fixture and fitting are aged resulting in a range of issues that we are currently managing.

These issues are not requiring major refurbishments and upgrades of these buildings and so will be addressed either through the ongoing reactive maintenance program and minor works in the capital works program (similar to those discuss in Section 3).

Main Buildings and Toilets issues

The main office and toilet buildings are brick building constructed in the 1960's. The buildings contain office facilities, including open plan desk spaces, offices and meeting rooms, and toilet and changing facilities. There have been minor refurbishments in 2013 but other than this the main admin building remains largely as constructed.

The main building issues are associated with the age and condition as summarized in the table below.

Table 11 - Summary of issues with the main buildings and toilets

Issue	Explanation of issue
Toilets	Very aged, original 1960's facilities and in need of refurbishment to align with modern standards. Sanitary fixtures and fittings in need of replacement.
Buildings Internal Fit-out	Minor refurbishments have been undertaken, however carpet tiles, painting and patching and lunchroom refurbishments now required.
Air conditioning	The system has passed its design life and is considered to be in its end-of-life phase. Also, because of it vintage, it is considered to less efficient that modern systems.

Sheds and Workshop/storage building issues

Context

As noted in the previous section, the St Marys site includes three large workshop/storage buildings.

All these building, including their non-structural elements, including fixture and fitting are aged resulting in a range of issues that we are currently managing.

These issues may require some (or all) of the buildings to be rebuilt in the next period. However, we are assuming the likelihood of this occurring is low, and so will be addressed either through the ongoing reactive maintenance program and minor works in the capital works program (similar to those discuss in Section 3).

The three buildings and their issues are summarized below.

Table 12 - Summary of issues with the Sheds/Workshops

Issue	Explanation of issue
Wall and roof cladding	The walls and roof are clad in corrugated iron sheeting, which is the original cladding and is in very poor condition with some rusting, very poor condition paintwork and damage.
Structure/Framing	Shed 1 and 3 have old original timber sub-frames in poor condition and the steel framing sections of shed 3 have been damaged by forklift movements over time.

Example photographic evidence of site issues

Example photographic evidence of the issues with the buildings at St Marys is shown below. More comprehensive photographic evidence is provided in Supporting Document 5.24.2 - St Marys Photographs.

Figure 11 Original fit-out to shower and toilet cubicles

Figure 12 Examples poor condition of corrugated iron sheets of shed/workshops

Figure 13 Examples poor condition of corrugated iron sheets of shed/workshops

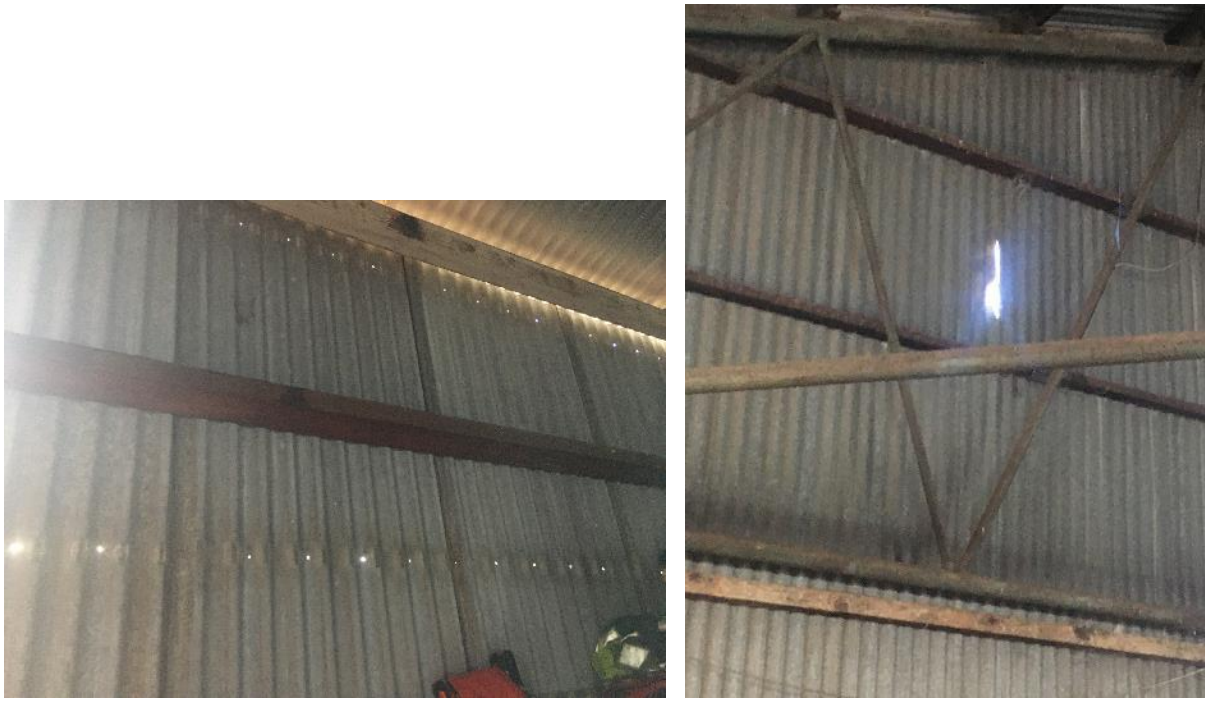

Figure 14 Examples original timber/steel framing of sheds/workshops