



Supporting
document 5.26

IT Investment Plan Addendum

2020-25 Revised
Regulatory Proposal
10 December 2019





SA Power Networks

IT Investment Plan 2020–25: Addendum Dec 2019



Contents

Business Case Addendum References	3
1. Executive summary.....	4
2. Summary of the Original IT Investment Plan.....	7
3. AER Draft Decision.....	10
3.1 AER IT Proposal Evaluation Process	10
3.2 AER Draft Decision	12
4. Revised 2020–25 IT investment Plan	15
4.1 Revised Investment Plan Approach	15
4.2 Our further consultation with stakeholders	15
4.3 Revised IT Investment Plan Summary.....	17
5. Increasing benefits to our Customers	22
6. Portfolio Deliverability.....	24
6.1 IT Portfolio Development Process	24
6.2 Key IT Portfolio Activity Programming Considerations.....	24
6.3 Our Response to Deliverability Concerns	28
Abbreviations	34
Appendix A Stakeholder Feedback.....	35
Appendix B Summary Capex and Opex per annum	38
Appendix C Details of benefits realisation/application by business case	39
Appendix D Detailed Revised IT Portfolio 2019-2025	40

Figures

Figure 2.1: Original Actual/Estimated and Forecast IT totex, capex and opex across the 2015–20 and 2020–25 RCPs.....	7
Figure 3.1: AER IT Expenditure Evaluation Framework	10
Figure 3.2: Strong alignment of the Original Proposal IT business cases to the AER Expenditure Evaluation categorisations.....	11
Figure 3.3: No. of AER Capital Expenditure Questions by Regulatory Proposal Component	11
Figure 4.1: Original vs Revised IT Investment Plan Proposal	21
Figure 6.1: IT Revised Portfolio 2019-2025.....	26

Tables

Table E1: Tangible benefits realisation/application arising from our IT Investment Plan in the 2020–25 RCP (\$million, Dec \$2017).....	4
Table E2: Summary of Proposed IT capex and opex changes from the Original Proposal to the Revised Proposal (\$million, Dec \$2017)	5
Table 2.1: Summary of Original IT Investment Plan initiatives (business cases) by IT expenditure category and Proposed Benefits (\$million, Dec \$2017).....	8
Table 3.1: Summary of the AER Draft Decision and Key comments on business cases requiring further action (\$million Dec \$2017)	12
Table 3.2: AER comments on specific Business Cases	14
Table 4.1: Summary of key customer and stakeholder views	15
Table 4.2: Revised IT Investment Plan Summary compared to the Original Submission and key actions taken in response to feedback (\$million, Dec \$2017)	19
Table 4.3: Opex and Capex changes compared to the Original Investment Plan (\$million, Dec \$2017)	20
Table 5.1 : 2020-25 Revised Proposal Benefits compared to the Original Investment Plan and the AER Draft Decision (\$million, Dec \$2017)	22
Table 5.2: 10 year Assets & Work Program Benefits Revised compared to the Original Investment Plan (\$m, Dec \$2017)	22
Table 6.1: Responding to AER and EMCa Concerns re Deliverability	29
Table 6.2: Summary of Stakeholder support for the IT Proposal	35
Table 6.3: Summary of general concerns raised by Stakeholders	35

Business Case Addendum References

Reference	Revised IT Submission Document Name
CIC Addendum	6.1 - Critical Infrastructure Obligations Business Case Addendum
Assets & Work Addendum	5.31 - Assets & Work Program Business Case Addendum
SAP Upgrade Addendum	5.29 - SAP Upgrade Business Case Addendum
Ring-fencing Compliance Addendum	5.27 - Ring-fencing Compliance IT Solution Business Case Addendum
Utilities Cyber Maturity Uplift	5.30 - Utilities Cyber Maturity Uplift Business Case

1. Executive summary

This is an addendum to our “IT Investment Plan 2020-25” (**original Investment Plan**) contained in our Original Regulatory Proposal for the 2020-25 Regulatory Control Period (**RCP**) submitted to the AER in January 2019.¹ The original Investment Plan should be read for further background and detail.

This addendum summarises the results of the additional work undertaken in response to matters raised by the AER in its Draft Decision for the 2020-25 RCP, matters raised by our customers and stakeholders and emerging compliance matters arising since January 2019.

The AER Draft Decision did not accept four of the eight proposed non-recurrent business cases² on the basis that we had either not sufficiently established the need (Worker Safety: Fatigue Risk Management), not considered all potential options (SAP Upgrade, Ring-fencing Compliance) or overstated the expected benefits (Assets & Work).

In response to these concerns we have undertaken a significant analysis and revision process and:

- reviewed the need and the viability of the business cases that were disallowed by the AER;
- provided additional options (as appropriate), increased the rigor of financial analysis and tested the robustness of the benefits for those business cases we have retained;
- responded to new and emerging cyber security related regulatory obligations;
- reduced our Critical Infrastructure Centre Compliance opex step-change request on the basis of the completion of the competitive service tendering process;
- addressed the AER concerns regarding the deliverability of our IT portfolio, supported by an independent review by KPMG; and
- consulted with our customers and stakeholders on our proposed resubmission.

Table E1: Tangible benefits realisation/application arising from our IT Investment Plan in the 2020–25 RCP (\$million, Dec \$2017)

Benefits realisation/application	IT Original Proposal	AER Draft Decision	IT Revised Proposal	Difference to AER Draft Decision
Reduced our network asset replacement expenditure forecast	65.0	-	49.3	+49.3
Avoided capex, opex or revenue increases	13.9	12.2	28.8	+16.7
Reduced IT recurrent capex proposal	11.8	10.2	11.7	+1.5
Offset opex increases from the IT program	6.9	3.9	6.1	+2.2
Total	97.6	26.3	95.9	+69.6

Note: Numbers may not add up due to rounding

Having undertaken this rigorous process, the recommended options from our retained business cases have still proven to be the long-term least cost options for customers and deliver the best

¹ SAPN – 5.32 – IT Investment Plan 2020-25 - January 2019

² AER Draft decision SA Power Networks Distribution Determination 2020-2025 Attachment 5 Capital Expenditure; 5-14

benefits. The majority of financial benefits from the IT Portfolio are from avoiding expected cost increases in the forecast network and IT expenditures, allowing us to efficiently keep customer prices down in the long term (Table E1).

Relative to the AER Draft Decision:

- Our total forecast benefits have increased by \$69.6 million to **\$95.9 million** (Table E2);
- Our total proposed forecast opex step changes have reduced by \$0.2 million to **\$21.7 million**; and
- Our proposed forecast capex has increased by \$72.3 million to **\$285.3 million**³.

These forecast capital expenditure changes are predominantly due to the reinstatement of the recommended options from the Assets and Work Program and the SAP Upgrade Program based on increased options and financial analysis. The Assets & Work Program also provided the basis for enabling the majority of the IT portfolio benefits, not only in the 2020-25 period but in subsequent RCPs as well.

Table E2: Summary of Proposed IT capex and opex changes from the Original Proposal to the Revised Proposal (\$million, Dec \$2017)

IT Expenditure Category	IT Original Proposal	AER Draft Decision	IT Revised Proposal	Difference to Original Proposal	Difference to AER Draft Decision
Recurrent Capital	136.2	136.2	136.2	0	0
Non-Recurrent Capital	124.3	49.8	122.1	-2.2	+72.3
Total Capital	260.5	186.0 ⁴	258.3	-2.2	+72.3
Opex step changes & substitutions	21.9	21.9	21.7	-0.2	-0.2
Benefits (2020-25)	97.6	26.3	95.9	-1.7	+69.6

Note: Numbers may not add up due to rounding

We are confident that we will be able to deliver this IT portfolio and ensure the benefits to our customers because we have:

- Delivered a larger IT portfolio of work in the 2015-20 RCP, while effectively responding to a rapidly changing environment⁵.
- Effectively managed our portfolio risks – including allowed sufficient levels of change management and warranty period across the Portfolio - based on internal experience and learnings, along with external expertise and verification with other parties (e.g. DNSPs);
- A mature IT Delivery capability with extensive use of Agile delivery methodologies to maximise value, minimise cost and effectively manage business change;
- A standardised portfolio view (complete with high level dependencies) with consideration of our IT Asset Management Plan supported by regularly updated technology roadmaps;

³ All figures in this Addendum are in Dec 2017 dollars

⁴ The AER also reduced the IT capex proposal by \$6.1 million (\$2020 dollars) based on 'modelling adjustment' related to alternative estimates of the contract labour escalators. As this is under contention by SA Power Networks and not directly related to the substance or project costs of the IT submission, which are in 2017 dollars, then it is not considered here.

⁵ Refer section 4 of the Original IT Investment Plan

- Tried and tested flexible workforce arrangements; and
- A mature Corporate Portfolio Management Office (CPMO) that uses lead rather than lag indicators of performance – hence dealing with issues before they impact on the project timelines or delivery.

KPMG performed a detailed independent review of the deliverability and reasonableness of our revised IT portfolio⁶. Their summary of deliverability findings supported our ability to deliver the portfolio of work with findings as follows:

- *SAPN has repeatedly demonstrated their delivery capability within the 2015-2020 RCP, which is larger than the IT portfolio proposed for 2020-2025.*
- *SAPN IT uses an “Agile by default” approach which includes business representatives throughout the delivery. Change management effort is spread throughout a project, which coupled with automated testing reduces the warranty period required as the business is involved throughout the project.*
- *The project pipeline is actively managed, giving consideration to project dependencies and balancing the delivery of the large, medium and small projects, along with the resource profile required to deliver them.*
- *SAPN has adopted a sound approach to planned portfolio delivery, benefits management and monitoring and has taken a prudent approach to scheduling the major projects within the portfolio.*

⁶ SAPN – 5.28 – KPGM Independent Review of the Deliverability of SAPN’s Regulatory Submission for IT Expenditure, Dec 2019

2. Summary of the Original IT Investment Plan

The original Investment Plan detailed a portfolio of Information Technology (IT) initiatives to enable the delivery of better outcomes for our customers at a lower price through secure and efficient IT services.

We proposed a capital program of **\$260.5 million** and IT Opex step changes of **\$21.9 million** to achieve the following investment objectives:

- **Maintain compliance with existing and meet new regulatory obligations**, as they emerge in a dynamic market environment.
- **Maintain current levels of service and manage IT technology risk** through efficient, secure technology management services, and IT asset refresh and replacement cycles.
- **Manage business and distribution network costs through the efficient use of data and digital technology**. Building on the initial phases of our Assets & Work Program to improve how we manage our distribution network assets while managing risk and maintaining reliability of our network.

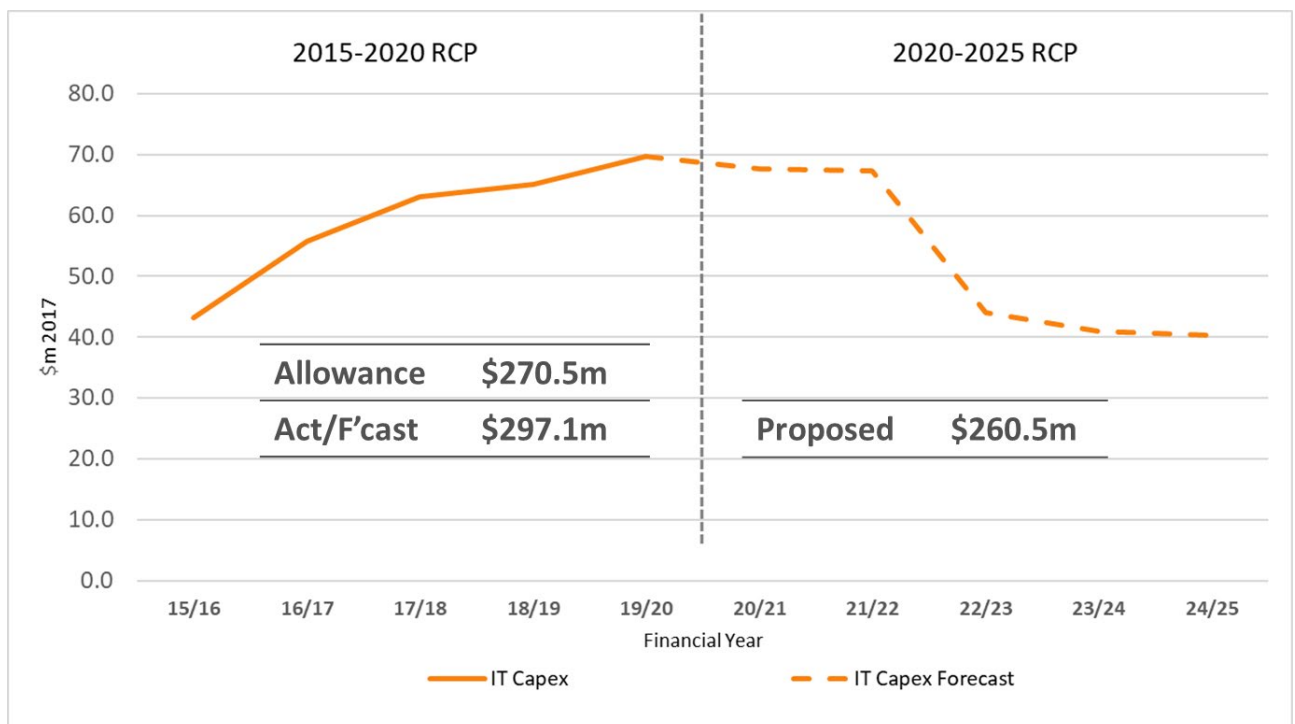


Figure 2.1: Original Actual/Estimated and Forecast IT totex, capex and opex across the 2015–20 and 2020–25 RCPs

Our original Investment Plan reflected that SA Power Networks is currently completing a large-scale replacement, refresh and consolidation program across most of our key IT systems (e.g. CRM & Billing), expenditure for which was included by the AER in our forecast expenditure allowance for the 2015-20 RCP. This program commenced in the 2015 -20 period and will be completed in the 2020-25 period with IT capital expenditure returning to pre-2015 levels once complete (Figure 2.1).

Our original proposed 2020-25 IT capital expenditure is significantly less than both the 2015-20 actuals and the corresponding RCP allowance.

To support our expenditure forecast we submitted a set of 13 business cases. These business cases provided detailed descriptions of the ‘identified needs’ and options analysis including costs, benefits and risk (Table 2.1).

Table 2.1: Summary of Original IT Investment Plan initiatives (business cases) by IT expenditure category and Proposed Benefits (\$million, Dec \$2017)

IT Expenditure category Business case	Original Proposed capital forecast 2020-25	Original Proposed opex step change	Original Proposed Tangible benefits 2020–25
IT recurrent			
Client device refresh	23.2		
IT applications refresh	69.9	3.6	5.3
IT infrastructure refresh	28.5	6.9	9.3
Cyber security	11.5		5.5
IT management, risk and governance	3.1		
Total IT recurrent	136.2	10.5	20.1
Non-recurrent			
Major Upgrades & Replacements			
SAP upgrade	24.6		1.5
CRM & Billing completion	25.5		3.1
GIS consolidation	13.8		1.1
Protection Settings Management system	2.8		2.0
Compliance			
Five Minute Settlement Rule	7.7		
Ringfencing compliance: IT solution	3.8		0.3
Critical infrastructure obligations		11.4	
Service Improvement			
Assets & Work Program	40.7		69.2
Worker safety: Fatigue risk management	5.3		0.2
Total non-recurrent	124.3	11.4	77.4
Total IT investment proposed	260.5	21.9	97.6

Note: Numbers may not add up due to rounding

The majority of the portfolio (78.5%) is focused on maintaining existing services, functionality and capabilities via refreshes, patching and upgrades which generally do not result in large financial benefits—despite this, we have fully identified where financial benefits have arisen from these works (\$20.1 million).

However, the business cases whereby we proposed to obtain new functionality and capabilities, in particular our Assets and Work Program will deliver significant financial benefits to our customers. As the oldest network in the NEM, one of our primary challenges is to prudently manage and replace assets within our ever-aging fleet. Our Assets and Works Program aims to generally improve productivity in our capital asset management practices in order to mitigate the extent of cost increases over time, particularly with respect to network asset replacement. Our Assets and Work Program will deliver significant savings (\$69.2 million in the original proposal) relative to what we believe we would otherwise need to spend.

In total we proposed **\$97.6 million** in tangible benefits for the 2020-25 RCP with the majority of benefits due to the Assets & Work Program delivering avoided costs through improved asset management.

3. AER Draft Decision

The AER evaluated the original Investment Plan and associated business cases having regard to Stakeholder Feedback (Refer Appendix A) and the independent review by Energy Market Consulting Associates (EMCa).

3.1 AER IT Proposal Evaluation Process

3.1.1 AER IT Expenditure Evaluation Framework

The AER has defined an ICT Capital Expenditure Evaluation Approach framework⁷. This evaluation framework was drafted since our original submission but was used to evaluate the original investment plan and each of the associated business cases. Figure 3.1 below highlights the categorisation of expenditure and the approaches to the evaluation of each capital expenditure category.

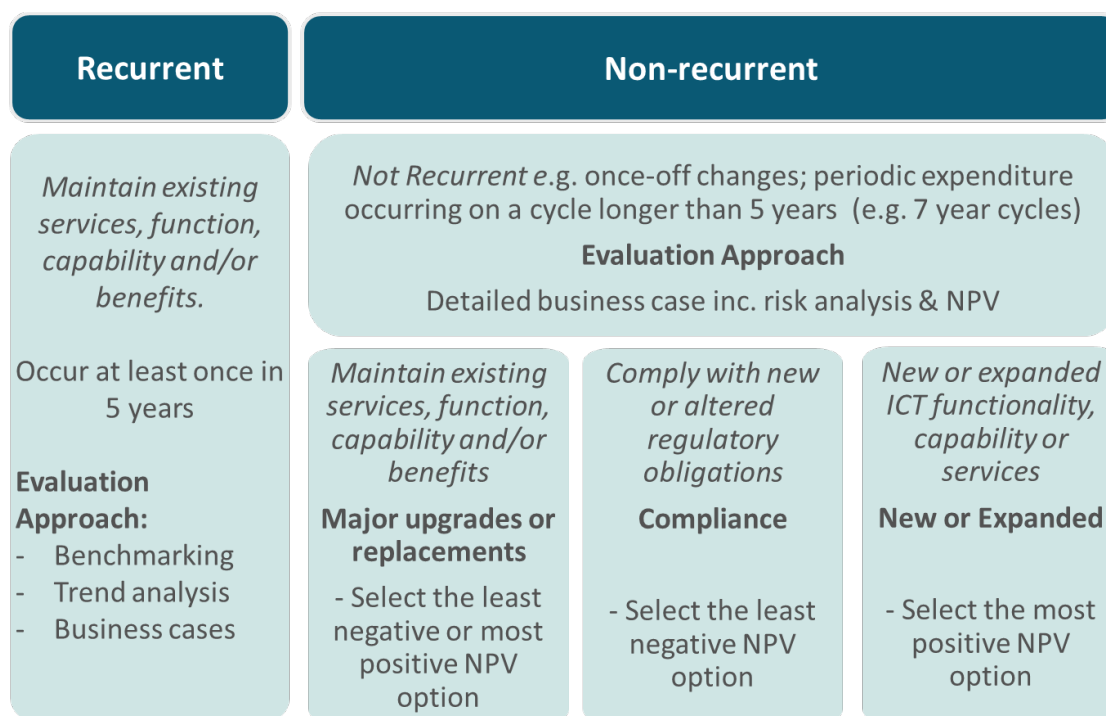


Figure 3.1: AER IT Expenditure Evaluation Framework

Figure 3.2 below shows how each of our IT Business Cases were categorised under the AER framework. Each aligned strongly with the expected AER categorisation and evaluation framework. In fact, the AER's framework was heavily influenced by our approach as being a reasonable and practical means of giving effect to the expectations of the National Electricity Rules with respect to expenditure assessments and improving transparency with respect to ICT expenditure proposals.

⁷ AER Guidance Note -Non-Network ICT Capex Assessment Approach for electricity distributors – 28 November 2019

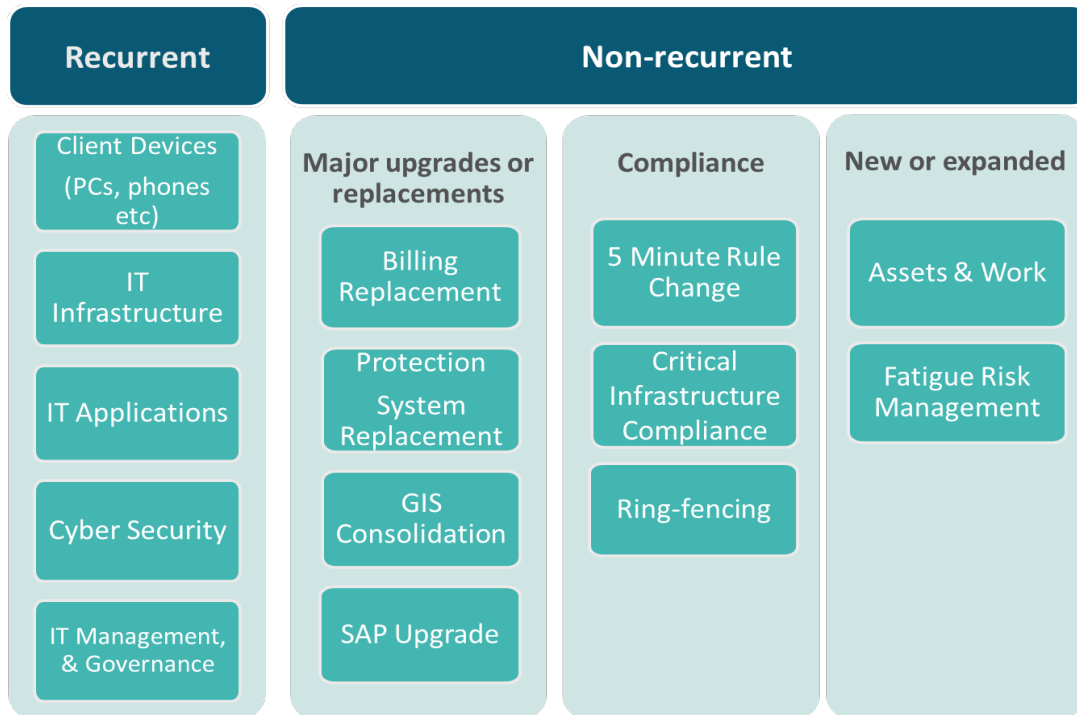


Figure 3.2: Strong alignment of the Original Proposal IT business cases to the AER Expenditure Evaluation categorisations

3.1.2 AER Detailed Evaluation

The AER evaluated the original Investment Plan and associated business cases. The AER also commissioned an independent evaluation by EMCa. As part of the evaluation the AER and EMCa attended all-day workshops on our original IT Proposal and asked over 200 questions as part of formal Information Requests. These questions covered every component of the proposal including our capex (Figure 3.3) and opex expenditure forecast and the underlying cost model assumptions. Particular attention was paid to the opex changes and any potential duplication of costs.

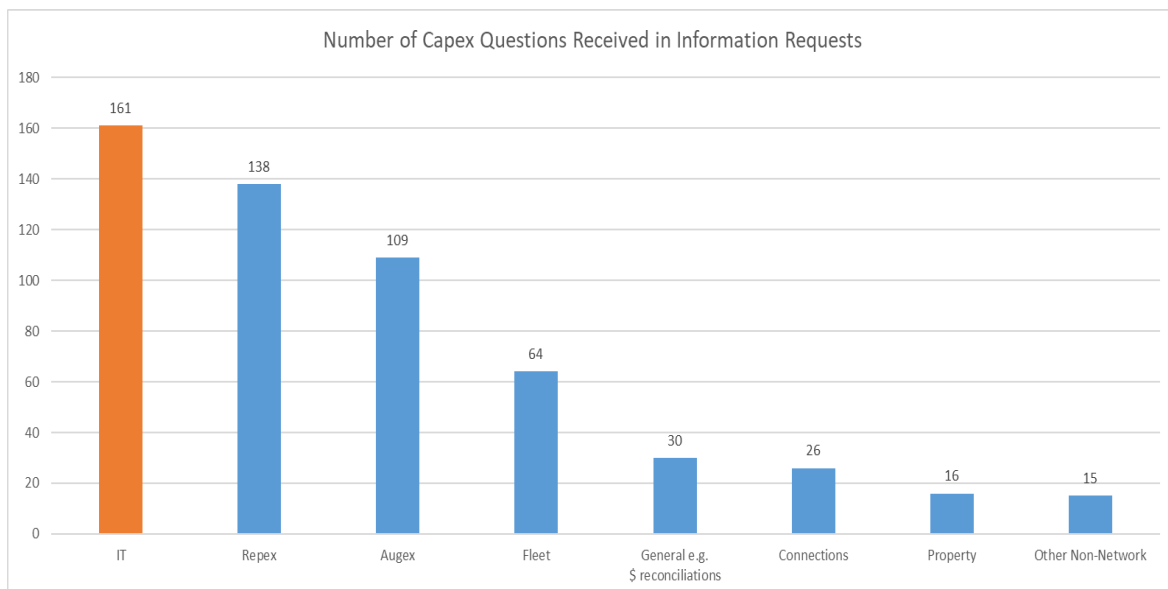


Figure 3.3: No. of AER Capital Expenditure Questions by Regulatory Proposal Component

3.2 AER Draft Decision

Table 3.1 summarises the AER Draft Decision for each of the IT business cases with key comments on those which were not approved or requiring further action.

Table 3.1: Summary of the AER Draft Decision and Key comments on business cases requiring further action (\$million Dec \$2017)

IT Expenditure category Business case	Original Proposed capital forecast 2020-25	Original Proposed step change opex	AER Draft Decision	Key AER comments on business cases requiring further action
IT recurrent	136.2	10.5	Approved	
Non-recurrent	49.8	11.4		
CRM & Billing completion	25.5		Approved	
Protection Settings Management system	2.8		Approved	
Five Minute Settlement Rule	7.7		Approved	
GIS consolidation	13.8		Approved	
Critical infrastructure obligations		11.4	Approved	<ul style="list-style-type: none"> Approved pending actual contract cost from the conclusion of the tender process
Total Approved	186.0	21.9		
Non-recurrent				
Assets & Work Program	40.7		Not approved	<ul style="list-style-type: none"> The network repex benefits are overstated. Provide remodelled financial analysis. The repex benefits cannot be clearly seen in the overall repex submission.
SAP upgrade	24.6		Not approved	<ul style="list-style-type: none"> Requires additional options examining third party support to delay the upgrade
Ringfencing compliance: IT solution	3.8		Not approved	<ul style="list-style-type: none"> Needs to consider other options Provide additional analysis of the financial benefits to customers
Worker safety: Fatigue risk management	5.3		Not Approved	<ul style="list-style-type: none"> Provide increased financial analysis of the risk
Total Not Approved	74.5⁸			
Total investment Proposed	260.5	21.9		

Note: Numbers may not add up due to rounding

⁸ The AER also reduced the IT capex proposal by \$6.1 million (\$2020 dollars) based on 'modelling adjustment' related to alternative estimates of the contract labour escalators. As this is under contention by SA Power Networks and not directly related to the substance or project costs of the IT submission, which are in 2017 dollars, then it is not considered here.

In the Draft Decision the AER approved 71.4% or \$186.0 million of the IT capital expenditure and all of the Original Proposal opex step changes (\$21.9 million) – pending updated actual opex contract costs for the Critical Infrastructure Centre Obligations.

In making its determination the AER noted the following⁹:

- SA Power Networks IT governance and management frameworks are consistent with industry practice.
- The cost estimation methodology is appropriate.
- SA Power Networks had taken steps to assess the risk of delivery.
- Recurrent IT capital expenditure is 10.8% less than the current period and is a “reasonable forecast of the prudent costs”.

The AER commented that:

“SA Power Networks has not justified that four of the eight proposed programs would form part of a reasonable forecast”¹⁰,

and did not approve some of the Non-Recurrent business cases in particular the Assets & Work program and the SAP Upgrade program, as well as smaller initiatives for ensuring Ring-Fencing Compliance and Worker Safety: Fatigue Risk Management. The AER provided specific feedback on why these business cases were not approved and expected SA Power Networks to make changes if they were to be resubmitted.

The AER noted a critique from EMCa on the overall deliverability of the Proposed IT portfolio and commented:

“Given that our forecast removes the proposed capex for four projects, we do not consider that there are likely to be any issues with SA Power Networks delivering this program over the period and therefore we have made no deliverability adjustment on this basis.”¹¹

However, if SA Power Networks chose to resubmit the non-approved cases, particularly the SAP Upgrade and Assets & Work Program then the AER would have regard to the EMCa deliverability comments.

Concerns raised by the AER that are specific to each business case are discussed and addressed within each of the respective business case addendum documents and are summarised in Table 3.2.

⁹ AER Draft decision SA Power Networks Distribution Determination 2020-2025 Attachment 5 Capital Expenditure; 5:19

¹⁰ AER Draft decision SA Power Networks Distribution Determination 2020-2025 Attachment 5 Capital Expenditure; 5:67

¹¹ AER Draft decision SA Power Networks Distribution Determination 2020-2025 Attachment 5 Capital Expenditure; 5:68

Table 3.2: AER comments on specific Business Cases

IT Expenditure category Business case	Key AER comments on business cases requiring further action	SA Power Networks Responses are found in the following addendum¹²
Critical Infrastructure Obligations	<ul style="list-style-type: none"> Approved pending results of the competitive tender process 	CIC Addendum
Assets & Work Program	<ul style="list-style-type: none"> The network repex benefits are overstated. Provide remodelled financial analysis. The repex benefits cannot be clearly seen in the overall repex submission. 	Assets and Work Addendum
SAP upgrade	<ul style="list-style-type: none"> Requires additional options examining third party support to delay the upgrade 	SAP Upgrade Addendum
Ringfencing compliance: IT solution	<ul style="list-style-type: none"> Needs to consider other options Provide additional analysis of the financial benefits to customers 	Ring-fencing Compliance Addendum
Worker safety: Fatigue risk management	<ul style="list-style-type: none"> Provide increased financial analysis of the risk 	Not applicable. Business case removed

¹² The actual addendum name can be found in the Business Case Addendum references section

4. Revised 2020–25 IT investment Plan

4.1 Revised Investment Plan Approach

Our overall approach to revising the Revised IT Investment Plan was to:

- accept the forecast expenditure allowed by the AER for our IT Recurrent business cases and four of the eight IT Non-recurrent business cases allowed by the AER, thus requiring no further action;
- review the identified needs for the business cases the AER removed from the forecast expenditure;
- create an addendum for each business case we propose to resubmit addressing the feedback and comments from the AER and stakeholders with a focus on additional options, financial, risk and benefits analysis;
- provide the updated opex costs for the Critical Infrastructure compliance via an addendum business case;
- address the IT Deliverability concerns as it relates to the impact of resubmitting revised business cases through an independent external review; and
- consult with our customers and stakeholders on our revised business cases and IT submission.

4.2 Our further consultation with stakeholders

SAPN hosted workshops on 21 October 2019 for ICT and on 25 October 2019 for Repex and IT Assets & Work with customers and stakeholders, including SAPN Customer Consultative Panel (SAPN CCP) and other reference group members, the AER’s Consumer Challenge Panel 14 (CCP14)), and jurisdictional government and AER representatives, on our developing plans for our Revised Proposal.

Table 4.1 shows the key general views¹³ communicated at the workshops, detailed feedback is addressed in specific business case addendums.

Table 4.1: Summary of key customer and stakeholder views

Business Case/Area	What our customers have told us	Our response is found in the following business case addendum ¹⁴
Assets and Work	Stakeholder feedback was supportive of continued investment in the A&W program as a trade-off against increased Repex in 2020-25. The aims of the A&W program were clearly supported with one participant stating that it would be unacceptable to stakeholders for SA Power Networks to not continue to look at the things that A&W seeks to do ¹⁵ .	Refer to the Assets and Work Business Case Addendum

¹³ Views outlined in this table are based on SAPN’s interpretation of what consumers and stakeholders communicated at the workshop, as formal meeting minutes were not taken, nor have written submissions been provided at this time.

¹⁴ The actual addendum name can be found in the Business Case Addendum references section

¹⁵ Verbal comment during the combined Repex and A&W workshop held on the 25th October 2019

Business Case/Area	What our customers have told us	Our response is found in the following business case addendum ¹⁴
	Stakeholders want to have confidence in the repex and ICT modelling/support. They don't want future generations to bear unfair costs.	
SAP Upgrade	Concern over the perception that SAP is "holding utilities to ransom".	<p>We go to market for systems to ensure competitive pricing.</p> <p>In recent years replacement systems have been tendered for a number of utilities and there have been different suppliers winning those tenders. Hence clearly there is an ongoing competitive tension between the vendors.</p> <p>Once a system is selected SA Power Networks leverages our CKI Group global agreements with our key vendors (inc. SAP & Oracle) which provide substantial savings on ongoing maintenance of the software.</p>
Ring-Fencing	Stakeholders accept that if there is an obligation then SAPN will need to invest at least cost to comply with it.	Refer to the Ring-Fencing IT solution business case addendum.
Utilities Cyber Maturity Uplift	Stakeholders want confidence there is no overlap between this business case and cyber security in the ADMS replacement project. However, they accept that if there is an obligation then SAPN will need to comply with it.	Refer Utilities Cyber Maturity Uplift Business Case
General	Stakeholders want to understand the full picture of IT costs across SAPN.	We have provided IT costs as per the AER definition of Non-Network ICT. Our proposed ICT expenditures have also been categorised and structured in accordance with the AER's expected approach as set out in the AER's ICT expenditure assessment guidance note. The AER's approach has been deliberately developed to improve transparency as to the purpose of different parts of proposed ICT expenditures and to facilitate their assessment by the AER.
	Stakeholders questioned whether efficiencies from IT investment are passed on to customers.	We provide summary details of benefits in section 5 of this investment plan addendum, with each benefit area further detailed and discussed in respective business cases and addendums.
	Stakeholders are concerned that IT investment is a 'big number.'	Our proposal is a reduction of over 12% from 2015-2020 RCP actuals and forecast total. It is common for all DNSP's to use ICT to efficiently manage the aging network and increasingly

Business Case/Area	What our customers have told us	Our response is found in the following business case addendum ¹⁴
		<p>complex network grid in a financially constrained environment.</p> <p>Further and more importantly, ICT costs cannot be viewed in isolation of the broader total expenditure performance and benchmarking of network businesses as a whole—more information on our reasoning on this topic can be found in our submission to the AER’s ICT expenditure assessment consultation paper.¹⁶ A striking and general example of this is highlighted by the AER in its ICT consultation paper, wherein it noted that while the total sum of ICT expenditures across distributors (i.e. total of all distributors) in the National Electricity Market have been increasing over the long term (since 2009), the total expenditures of distributors across the NEM has been on a long term decrease since.</p> <p>It is also intuitive to note that the AER in its ICT expenditure assessment guidance note has deliberately chosen not to assess distributors’ proposed ICT on the basis of how ‘big’ the number is. Only recurrent expenditure will be suited to benchmarking, with all ‘non-recurrent’ expenditure needing to be clearly justified on the basis of the identified needs and cost benefit analyses in detailed business cases.</p>
	Stakeholders want confidence there is no double counting.	<p>The AER definitions show us how to classify expenditure and the AER has performed an in-depth analysis of dependencies between business cases and satisfied themselves we were not double counting and are maximising synergies between systems and business cases.</p>

4.3 Revised IT Investment Plan Summary

The purpose of our IT Investment Plan has not changed from our original proposal with our investment objectives to:

- **Maintain compliance with existing and meet new regulatory obligations**, as they emerge in a dynamic market environment.
- **Maintain current levels of service and manage IT technology risk** through efficient, secure technology management services, and IT asset refresh and replacement cycles.
- **Manage business and distribution network costs through the efficient use of data and digital technology**. Building on the initial phases of our Assets & Work Program to improve how we manage our distribution network assets while managing risk and maintaining reliability of our network.

¹⁶ SAPN, *Submission to AER consultation paper—ICT expenditure assessment*, 19 June 2019.

We have undertaken significant additional analysis in response to stakeholder and AER Feedback with a specific focus on three of the four business cases.

Our revised IT Investment Plan Addendum comprises:

- four addendums to the original business cases for Critical Infrastructure Obligations, Assets & Work, SAP Upgrade and Ring-fencing, refer Business Case Addendum References for document names;
- an additional business case (Utilities Cyber Maturity Uplift) to meet new regulatory compliance obligations expected during the RCP;
- the removal of the Worker Safety business case. Safety is a very high priority for SA Power Networks and after a review of our capabilities we will seek opportunities to leverage ongoing initiatives to improve our management of worker fatigue;
- program deliverability; and
- impact on benefits.

The revised IT Capital portfolio was reduced by \$2.2 million to \$258.3 million and the revised IT opex step-change has reduced by \$0.2 million.

Table 4.2 summarises the revised IT Investment Plan compared to the original submission and the key actions taken in response to feedback.

Table 4.2: Revised IT Investment Plan Summary compared to the Original Submission and key actions taken in response to feedback (\$million, Dec \$2017)

IT Expenditure category Business case	Original Proposed capital forecast 2020-25	Revised capital forecast 2020-25	Original Proposed Opex Step Change 2020-25	Revised Opex Step Change 2020-25	How we have responded to Stakeholder and AER Comments
AER Approved					
Recurrent	136.2	136.2	10.5	10.5	Accepted. No action required
Non-Recurrent	49.8	49.8			Accepted. No action required
Approved Pending Updates					
Critical Infrastructure Obligations			11.4	9.6	Updated and reduced costs
Not Approved					
Assets & Work Program	40.7	38.5			<ul style="list-style-type: none"> Remodelled the financial benefits and modified the Program Increased the transparency of the program impact in the overall Repex Addendum.
SAP Upgrade	24.6	24.6			<ul style="list-style-type: none"> Assessed options using third party support to delay the upgrade
Ringfencing compliance: IT solution	3.8	3.8			<ul style="list-style-type: none"> Considered other options. Provided analysis of the significant financial benefits to customers
Worker safety: Fatigue risk management	5.3	0			<ul style="list-style-type: none"> Removed from the IT Revised Investment Plan
New					
Utilities Cyber Maturity Uplift		5.2		1.6	NA
Total IT investment	260.5	258.3	21.9	21.7	

Note: Numbers may not add up due to rounding

The specific variations in capex and opex are described in Table 4.3.

Table 4.3: Opex and Capex changes compared to the Original Investment Plan (\$million, Dec \$2017)

Opex Change	Reference	Rationale
-\$1.8	CIC Addendum	Following completion of a formal tender process in 2019 lower rates were negotiated with the successful supplier.
+\$1.6	Utilities Cyber Maturity Uplift	We expect that, in the 2020-25 RCP, SAPN will need to comply with new regulatory obligations arising from work initiated by the Australian Energy Market Operator (AEMO) in developing the Australian Energy Sector Cyber Security Framework (AESCSF)
-\$0.2	Total Opex Reduction	
Capex Change (\$million Dec \$2017)	Reference	Rationale
-\$5.2	Not Applicable	Removal of the Worker Safety business case as we will instead examine opportunities to leverage current initiatives to manage worker safety.
+\$5.3	Utilities Cyber Maturity Uplift	As above
\$0	SAP Upgrade Addendum	SAP Upgrade costs remained the same. The recommended option in the original submission was shown to have lower costs and risk than other options, particularly those which tried to delay the upgrade.
\$0	Ring-Fencing Compliance Addendum	Ring-Fencing Compliance costs remained the same. The original preferred option has been shown to be the least cost means of achieving the identified need is in the customers interest. Other options would increase costs to regulated customers by approximately \$15.3 million over 2020-25.
-\$2.2	Assets & Work Addendum	Assets & Work Program underwent considerable reanalysis. Projects delivering lower values of benefits were removed from the Program.
-\$2.2	Total Capex Reduction	

Note: Numbers may not add up due to rounding

Figure 4.1 summarises the year on year capex cost for the original and revised IT Investment Plan.

The summary revised IT capex and opex proposal by year and changes from the original proposal are detailed in Appendix B.

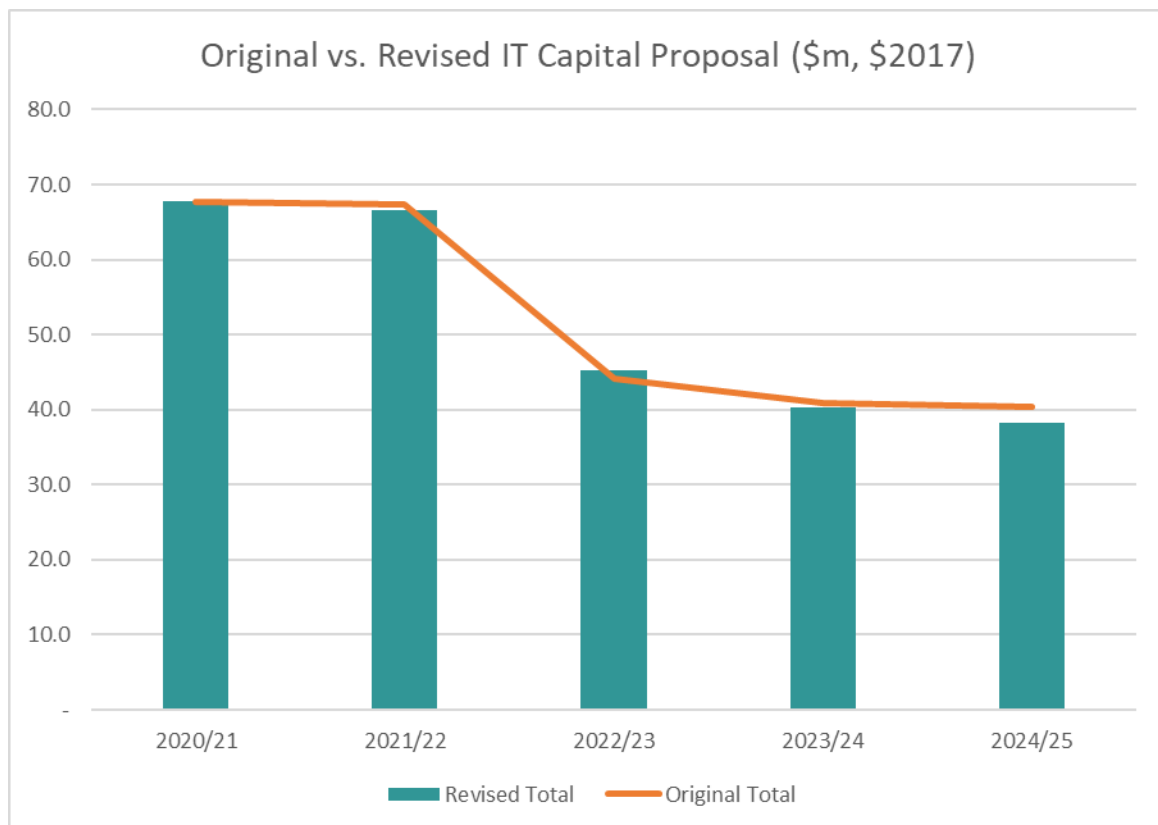


Figure 4.1: Original vs Revised IT Investment Plan Proposal

Given the relatively small changes between the Original and Revised IT Proposal we have undertaken further analysis on program deliverability in response to comments by the AER in their Draft Decision. Refer to Program Deliverability Section 6 below.

5. Increasing benefits to our Customers

As part of the development of our revised submission we sought to validate the underlying benefits, particularly for Assets & Works repex deferrals and for Ring-fencing Compliance. As shown in Table 5.1 the benefits have increased considerably compared to those allowed under the AER Draft Decision. Overall benefits have increased by \$69.6 million to \$95.9 million.

Table 5.1 : 2020-25 Revised Proposal Benefits compared to the Original Investment Plan and the AER Draft Decision (\$million, Dec \$2017)

Benefits realisation/application	IT Original Proposal Benefits 2020-25	AER Draft Decision Benefits 2020-25	IT Revised Proposal Benefits 2020-25	Difference to AER Draft Decision
Approved IT Projects	26.3	26.3	26.3	0
Assets & Work Program	69.2	-	52.9	+52.9
Ring-Fencing Compliance	0.3	-	15.2	+15.2
SAP Upgrade	1.5	-	1.5	+1.5
Worker Safety: Fatigue Risk Management	0.2	-	-	0
Total	97.6	26.3	95.9	+69.6

Note: Numbers may not add up due to rounding

Assets & Works Program Benefits

Assets & Work Program benefits of \$52.9 million for the 2020-25 RCP have been reinstated in the revised proposal compared to the AER Draft Decision. This is a reduction by \$16.5 million compared to the original proposal - due to a considerable reanalysis of the benefits pertaining to network repex deferrals. However, the Assets & Work benefits in the subsequent 2025-30 RCP increased in our revised modelling due improvements that the technology is expected to allow us to achieve in the long run. The 10-year benefits are now **\$137.6 million** (Table 5.2).

Table 5.2: 10 year Assets & Work Program Benefits Revised compared to the Original Investment Plan (\$m, Dec \$2017)

	Assets & Work Benefits 2020-25	Assets & Work Benefits 2025-30	Assets & Work Benefits 10 year Total 2020-30
Original IT Proposal	69.2	58.6	127.6
Revised IT Proposal	52.9	84.7	137.6
Difference	-16.3	+26.2	+10.0

Note: Numbers may not add up due to rounding

Ringfencing Compliance: IT Solution Benefits

The additional Ringfencing Compliance analysis showed that the recommended option delivers approximately \$15.3 million in avoidance benefits to the Regulated customers during the 2020-25 RCP consisting of:

- \$13.1 million in reduced IT costs due to the IT shared services arrangement with Enerven;
- \$1.9 million in revenue reduction due to shared asset arrangements in accordance with the AER's Shared Asset Guideline (already accepted by the AER);
- \$0.3 million in avoided manual effort of maintaining compliance.

Taken together these benefits make a substantial contribution to keeping our costs down for the 2020–25 RCP and we expect this impact to continue into the 2025–30 RCP.

SAP Upgrade

The \$1.5 million in benefits associated with the recommended option for SAP remain the same and are reinstated in this revised proposal.

The breakdown of the benefits by realisation/application and business case for the full revised IT proposal is provided in Appendix C.

6. Portfolio Deliverability

As part of the response to the AER concerns with Portfolio Deliverability we commissioned an independent report by KPMG to review and assess:

1. The deliverability of the proposed program of IT capital expenditure - paying special attention to the concerns raised by the AER and its independent consultant EMCa
2. Comment on the prudence, efficiency and deliverability for the amended and new business cases for the resubmission.¹⁷

Following a thorough interview and assessment process KPMG identified concrete evidence that specifically addressed the AER and EMCa concerns.

The KPMG summary of deliverability findings were that:

- *SAPN has repeatedly demonstrated their delivery capability within the 2015-2020 RCP, which is larger than the IT portfolio proposed for 2020-2025.*
- *SAPN IT uses an “Agile by default” approach which includes business representatives throughout the delivery. Change management effort is spread throughout a project, which coupled with automated testing reduces the warranty period required as the business is involved throughout the project.*
- *The project pipeline is actively managed, giving consideration to project dependencies and balancing the delivery of the large, medium and small projects, along with the resource profile required to deliver them. A highly contingent IT workforce provides the flexibility to scale as required, whilst the incoming pipeline provides the mechanism to forecast and manage resource demand.*
- *SAPN has adopted a sound approach to planned portfolio delivery, benefits management and monitoring and has taken a prudent approach to scheduling the major projects within the portfolio.*

6.1 IT Portfolio Development Process

The approach to the development of our IT Portfolio was detailed in Appendix C of the original Investment Plan. The IT Portfolio was developed using a standardised and iterative process which progressively reduced the number of projects based on need, value, benefits, risk and deliverability. We utilised our mature and award winning CPMO framework for selecting the projects of highest value.

Our IT Program and Project delivery framework considers such criteria as organisational impacts, technical capability to deliver and critical dependencies. The overall capital Portfolio value decreased from \$310 million to the proposed \$260.5 million in the 2020-25 period as a result of this process of internal critique, refinement and external review.

6.2 Key IT Portfolio Activity Programming Considerations

Our revised IT Portfolio is shown in figure 6.1. More detailed schedule activity breakdowns are provided in the relevant business case addendums. Appendix D also provides additional breakdown of the implementation, change management and warranty considerations within each of the Non-Recurrent programs of work.

¹⁷ KPMG: Independent review of the deliverability of SAPNs regulatory resubmission for IT expenditure, December 2019.

The portfolio diagram shows the key capability themes on the left and the associated initiatives within the schedule over the RCP. The dark grey initiatives are our refresh and upgrade projects. The critical periods, in terms of significant organisational changes within the portfolio are circled in red.

Our general portfolio approach was to:

- Identify and place the large and high impact changes so they are spaced over time to manage risk and impact, then schedule the lower risk and impact activities around them based on the dependencies, benefits and being able to leverage resources without overloading them.
- Implement our changes over the longer term (using Agile delivery methodologies to enable more continuous and lower impact changes and reduced warranty periods) while narrowing the size of the window required for high impact stages of the projects.
- Given the size of some of the replacement activities in the first half of the RCP, implement the new capability in the latter half of the RCP to manage our risk for both types of change.
- Ensure capability changes in the first half of the RCP leveraged the activities already undertaken in the 2025-20 RCP to maximise the investment and minimise change impact.

The key considerations for the placement of projects on the portfolio level are:

1. **Maintaining our current levels of services and risk through our ongoing recurrent expenditure.** Generally, these are planned at a similar level year on year and broken into hundreds of small projects or Agile sprints. This approach allows us to continue to manage risk and maintain services while flexibly responding to change. Some years do have a larger spend (e.g. 2021-22 has a larger spend for Infrastructure) but these are largely technical changes such as server replacement which are staged carefully to ensure they have no or limited impacts on the business services.
2. **Key activities that are already underway and need to be completed.** The completion of the CRM & Billing Replacement Program is overall the most costly set of work and has a high impact, although the impact is generally constrained to the Customer and Community Department, with limited impacts on the rest of the organisation. The key dependency between the CRM & Billing solution and the SAP Upgrade program has been considered with over 12 months lag allowed prior to the SAP technical upgrade. Key CRM & Billing activities will be complete by mid-2021. Other planned activities on our IT Portfolio have limited dependency to CRM & Billing and can be delivered as planned.
3. **Time driven compliance changes.** These include:
 - a. 5 Minute Rule Change: This has been programmed to leverage the changes from the CRM & Billing Replacement Program to ensure a cost-effective change.
 - b. Ring-Fencing: IT Solution: This is a technical change impacting predominantly the Finance and Reporting Functions hence limited impact on other areas of the organisation.
 - c. Utilities Cyber Maturity Uplift: This mostly involves the development of process frameworks, processes and policies in a specialist area hence limited impact on other areas of the organisation.

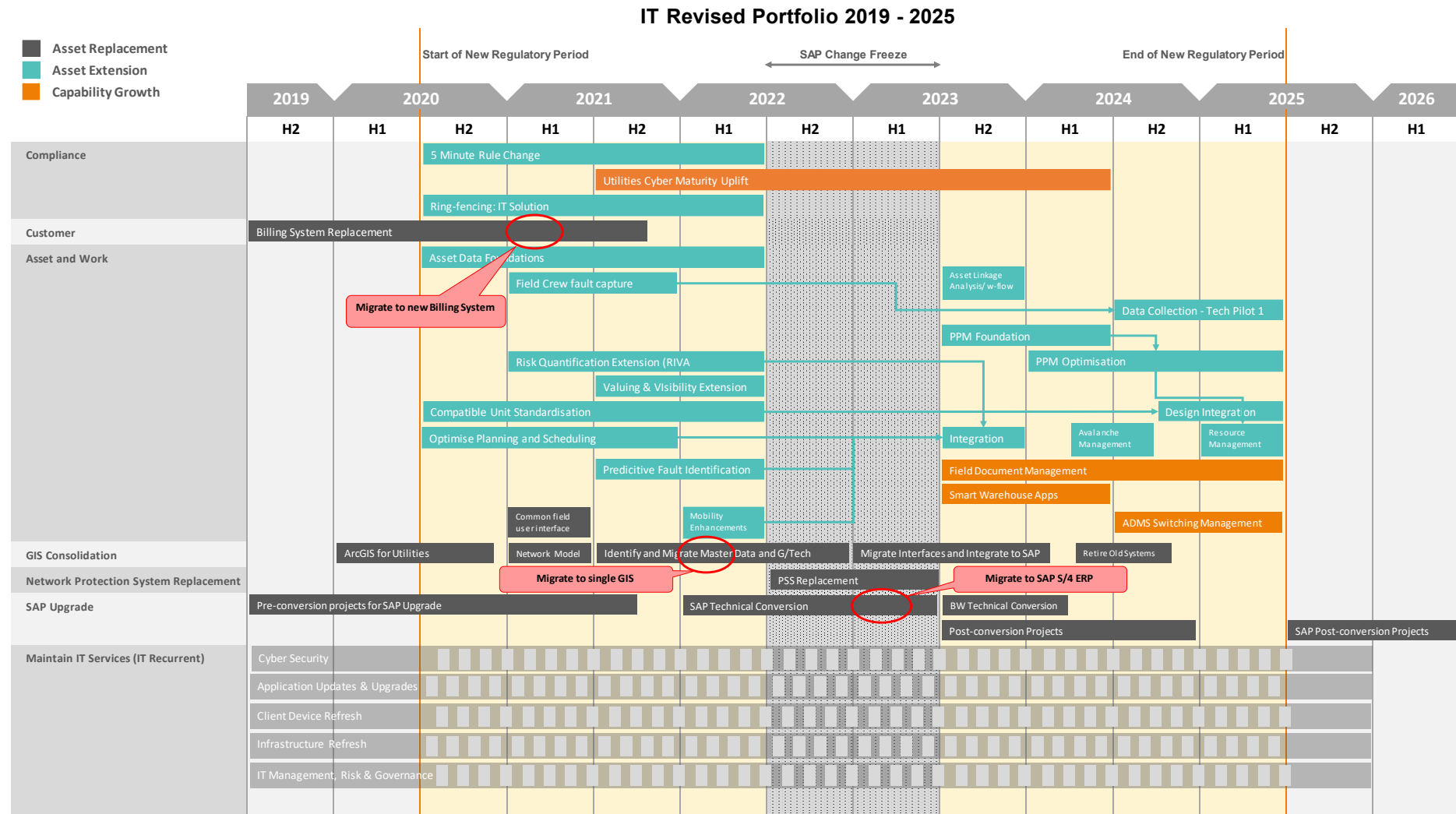


Figure 6.1: IT Revised Portfolio 2019-2025

4. Risk driven changes, including

- a. SAP Upgrade: This is a seven-year program with specific components needing to be upgraded by 2025 to maintain the current levels of support. There are 3 phases:
 - i. Pre-Conversion: The first 2.5 years of SAP Upgrade Pre-Conversion projects are technical projects preparing for the technical conversion and hence have limited impact and can be undertaken at the same time as other changes such as the CRM & Billing Replacement and the GIS Consolidation.
 - ii. SAP Technical Conversion: The last 3 months of the SAP Technical Conversion have a high impact across the organisation but we have programmed a 12 month period (all of 2022-23) where no other major change occurs (referred to as the SAP Change Freeze on the portfolio diagram). This timing allows sufficient time for resolution of any issues and completion of the required Post Conversion projects before the end of 2025.
 - iii. Post Conversion Projects: Some of the remaining SAP systems need to be upgraded by 2025 to maintain support. Upgrades on systems that do not need to be upgraded by 2025 have been delayed to the following RCP to reduce the cost to customers in the current 2020-25 RCP.
- b. PSS Replacement: This is a highly specialised system hence change have limited impact on the organisation. This has been programmed to take advantage of the more limited activity during the SAP Change Freeze.
- c. GIS Consolidation: This is a 5-year program of work. Similar to SAP this commences with low impact technical projects, then initiates the key migration activities and finishes off with other limited impact technical projects. The key migration activities occur during 2022, after the CRM & Billing Replacement completion and well before the SAP Technical Conversion.

5. Delivering New Value to Customers

- a. Assets & Work Program: This Program delivers the majority of benefits to customers through efficiently managing our costs and electricity network risk. Compared to all the other programs listed above (other than the SAP Technical Conversion) this has a larger impact on our Field Staff hence activity has been split into two stages – Before and After the SAP Change Freeze to ensure we are minimising the risk of change impact.
 - i. Before SAP Change Freeze: Projects in this stage are extensions of activity that has already been completed in 2015-20 and also enable significant financial benefits. The impacts and risk of the changes are lower than if the capabilities were new.
 - ii. After SAP Change Freeze: Projects in this phase are the higher impact and new capability designed to embed the Assets & Work benefits. There are a number of dependencies for this in the initial stage. These projects will be occurring at a time when the large replacement programs are complete or nearing completion, hence much less activity in other areas of the organisation.

Overall, while there is a significant amount of work being undertaken in the first 2.5 years of the RCP, we have carefully considered the order in which each activity will take place and the potential impact. There is sufficient flexibility within the schedule to move activities around as changes happen without impacting on our ability to deliver on our outcomes and customer benefits within the RCP.

6.3 Our Response to Deliverability Concerns

As part of the AER Draft Decision, Energy Market Consulting Associates (EMCa) concluded that:

“...based on their experience, it considered that all projects in the proposed IT portfolio required 25 to 30 per cent time contingency added”.

Their detailed considerations and our responses are in Table 6.1 below. We believe these considerations are based on an incorrect understanding of our capabilities to manage and deliver complex programs of work based on historical evidence and current capabilities.

During the 2015-20 RCP we have shown that we can plan, manage and deliver a large and complex IT program aligned with our expenditure allowance.¹⁸ We have shown that large externally driven unplanned changes to our IT work program can also be managed and delivered effectively:

- The critical industry driven changes to improve our outage management response, as a result of the 2016 major outages within South Australia, were implemented efficiently through modifications to existing initiatives and rearranging priorities;
- Metering Contestability obligations were implemented on time while we were managing the changes detailed above.
- The impacts on our CRM & Billing Replacement Program were identified and managed, with minimal¹⁹ changes in the project costs for CRM & Billing.

Our approach to IT Portfolio, Program and Project Management is aligned with:

- industry standards;
- considers our learnings including from post implementation reviews; and
- meets the governance expectations of SAPN²⁰.

We have a comprehensive investment planning, forecasting and monitoring process aligned with our:

- corporate capital evaluation and expenditure guidelines to ensure appropriate evaluation and approval,
- capital monitoring and post implementation review procedures to ensure achievement of our objectives and benefits; and
- our regulatory allowance.

Our IT Delivery framework considers the interaction between all our work ranging from major organisation or technical change initiatives to projects and includes our day-to-day support activities. Planning, approval and management of this work aligns with the relevant governance framework and is monitored through various governance levels. The critical points where dependencies are managed from top level down is:

- CPMO,
- IT Architecture Review Forum,
- IT Investment Committees,
- IT Portfolio Manager,
- IT Project Manager and
- Operations teams.

¹⁸ Section 5 of the Original IT Investment Plan

¹⁹ Increases based on escalators including CPI

²⁰ Refer Figure 5.4 Key outcomes from the IT improvement program, in the original IT Investment Plan

Our historical experience and current capabilities will enable us to deliver our forecast program of work.

Table 6.1: Responding to AER and EMCa Concerns re Deliverability

Issue raised	Response
Bias towards overestimating of expenditure	<ul style="list-style-type: none"> • This is an unfounded statement and overlooks important context: <ul style="list-style-type: none"> ○ For the 2015-2020 RCP the expenditure in our Regulatory Proposal was forecast based on our needs relative to our 10 year work program along with appropriate financial analysis. ○ The AER's Final Decision allowed a lower level of expenditure than we had proposed in either our Regulatory Proposal or Revised Proposal. The AER did not believe the case for some of our proposed expenditure as we had articulated, did not approve costs to accommodate regulatory changes pertaining to Metering Contestability due to a timing issue (the regulatory changes were likely but not fully enacted at the time of the distribution determination), and otherwise also sought to consider customer price outcomes. ○ However, as evidence that our proposed forecast expenditures for the 2015-20 were reasonably based, we were forced to undertake material projects in the 2015-20 RCP driven by regulatory changes implementing Metering Contestability, which drove material expenditures—expenditures which had in fact been included in our regulatory proposal and revised regulatory proposal. Expenditures on other projects included in our regulatory proposal and revised regulatory proposal but also disallowed by the AER, such as some components of the Assets and Work program were brought forward and others were delayed²¹. • We have demonstrated during 2015-2020 our ability to deliver to and within overall budget. • We have a mature IT project estimation framework aligned to the SAPN Corporate Capital Expenditure Forecast guideline. Our CPMO assesses the financial accuracy and viability of projects and monitors expenditure and benefits. • Our history shows that estimates are reliable and accurate. One of our largest and most complex projects, the Billing & CRM Project, developed estimates in 2010 which were endorsed by Deloitte and were reviewed in 2012 with no material change. These estimates were verified as part of our current implementation project and were endorsed by our CPMO as part of project approval. The forecast expenditure in 2020-25 for the completion of Billing & CRM reflect the original 2010 estimates.

²¹ The analysis of changes during the period can be found in Section 5.2 of the Original IT Investment Plan.

Issue raised	Response
Some projects are behind schedule such that there is a high likelihood that delivery will extend into the 2020-25 RCP	<ul style="list-style-type: none"> • Our CPMO monitors the performance and delivery of Projects to ensure that benefits are achieved when expected. Monitoring also comprises of Lead Indicators which enable a considered response to issues including potential project delays. • We believe the EMCa comments are based on incorrect reading of the CPMO status report that were provided: <ul style="list-style-type: none"> ○ The Scheduling Lead Indicator is used to identify pre-emptive issues and risks of project delay, reports also consider actions required to ensure the project does not have delay. ○ The example CPMO status report provided to EMCa identified 2% of projects had scheduling issues. This report was misinterpreted by EMCa as 30% had scheduling issues and an assessment that this would increase the likelihood of material delays into 2020-25. • Other than the long-term IT initiatives we have already identified as planned to run across RCPs (eg. CRM & Billing, SAP Upgrade, recurrent BAU projects) we expect all other IT programs and projects to be completed as planned before the end of the RCP.²² • Our IT project estimating framework includes consideration of delivery risks and allows appropriate time contingency in projects (at no additional cost). (Also refer to the individual business case addendums) • Our mature IT Portfolio and IT Project Delivery framework considers dependencies between projects to manage the impact of project delays. Program and Project managers manage project dependencies within and across their accountability with escalations via CPMO reporting if required.

²² The final completion of one Operational Technology project has been delayed until January 2021, to occur after the main 2020 storm season, however this has no material impact on the IT work program.

Issue raised	Response
Understated and/or Underestimated the delivery risk of the majority of its projects	<ul style="list-style-type: none"> • The IT Portfolio has carefully considered the risk of each program and associated project initiative. The IT portfolio is designed and managed around the large high risk items including Billing & CRM and SAP Upgrade, with other projects delivered around these depending on both technical and change dependencies between project initiatives. • We have redrawn IT Portfolio diagram to include a more detailed view of program and project dependencies including showing change management, warranty and time contingency. Refer Appendix D. • We engage external consultants to support our planning approach where there is high complexity, high risk or limited internal knowledge or experience. We also discuss approaches with external organisations who may have planned or delivered the specific project initiative we are considering. For SAP Upgrade we have had significant input from experts (e.g Capgemini) and other entities to build and verify our approach. • Our IT project estimating framework includes consideration of delivery risks and allows an appropriate level of: <ul style="list-style-type: none"> ○ testing, ○ change management, and ○ warranty. ○ If required time contingency is included (at no additional cost) if there are critical dependencies between projects. • Our IT Delivery method is based on an “Agile” delivery approach, not the traditional “waterfall” delivery approach. This method enables us to quickly identify issues and respond and has been used successfully during 2015-2020 enabling us to achieve the delivery of our large and complex portfolio of work. With a smaller IT Portfolio in 2020-2025, there is an associated reduction in delivery risk.

Issue raised	Response
Interdependence of project completion delays and utilisation of project deliverability resources	<ul style="list-style-type: none"> • We have redrawn the IT Portfolio diagram to include a more detailed view of program and project dependencies including showing change management, warranty and time contingency. Refer Appendix D. • The positioning of projects within our portfolio considers dependencies and is based on our bottom up and top down planning approach to ensure we do not plan projects “back to back” and allow flexibility and movement of projects. Critical high-risk programs and their associated projects also have an allowance for time slippage. • Project interdependencies have been considered between critical programs and associated project initiatives. • Medium to Small projects with no dependencies are scheduled around high-risk programs to manage resources and costs, these can be rescheduled to meet unexpected changes to the IT Portfolio with no cost impact. • Our IT Portfolio is aligned with our IT Asset Management Plan which is supported by the regularly updated technology roadmaps for all IT Assets. • Standardised portfolio view (complete with high level dependencies) with consideration of our IT Asset Management Plan supported by regularly updated technology roadmaps • Our IT Delivery method is based on and “Agile” delivery approach, not the traditional “waterfall” delivery approach. This enables us to delivery smaller projects when delays occur and redirect resources • Our flexible resourcing approach enables us to manage changes in projects to maintain or minimise costs. A project delay on the critical path may result in resources being reassigned within the project to other activities or to other projects. Resources will also be released to their respective Contracting agencies. • Dependencies are documented and managed by are various levels including by CPMO, IT Architects and Program and Project managers within and across their accountability. If there is a requirement to resolve conflicts these are escalated to the associated Steering Committees or to the CPMO for resolution by the Executive Team.
Overlap of Project End and Project Start times which can considerably increase the risk of a total portfolio expenditure overrun	<ul style="list-style-type: none"> • We have redrawn the IT Portfolio diagram to include a more detailed view of program and project dependencies showing the limited (and considered) overlap of project end and start dates. Refer Appendix D • A few projects may have an overlap, however the dependency between each is considered first. We enable the overlap to ensure that as one project completes and the next starts, skilled resources are fully utilised. This reduces the start-up costs of projects and maximises efficiency of resourcing and thus costs e.g. ERP Migration and BW Migration

Issue raised	Response
Has not significantly changed its expenditure forecasting methodology	<ul style="list-style-type: none"> • Our IT portfolio planning approach and approach to business cases (including articulation of the identified need for forecast expenditures and cost benefit assessments) aligns with the AER non-network ICT capex assessment approach as set out in their guidance note. • Our plans and costs are based on an additional 5 years of SAPN IT learnings over those we identified in 2015-2020. Most of the planned 2020-25 activities are extensions of activities (and hence learnings) undertaken in 2015-20. • Our IT portfolio comprises individual business cases for all expenditure. We detailed the improvements we have had in our estimating spreadsheets in our original IT Investment Plan. • Our business case estimating framework includes consideration of: <ul style="list-style-type: none"> • the use of external experts where there is high complexity, high risk or limited internal knowledge or experience • based on estimates and learnings from initial stage activities or proof of concept activities • verification with other companies who may be planning for or have undertaken similar initiatives • or internal knowledge and experience. • Our estimates and thus IT expenditure forecast has been built using this approach. • Our overall approach is aligned with AER expectations and is reasonable, consistent and reliable.

Abbreviations

AER	Australian Energy Regulator
A&W	Assets and Work
BAU	business as usual
capex	capital expenditure
CPMO	Corporate Portfolio Management Office
DNSP	distribution network service provider
GIS	geographic information systems
NEM	National Electricity Market
NER	National Electricity Rules
NPV	net present value
opex	operating expenditure
OT	operational technology
PSS	Protection Settings System
RCP	Regulatory Control Period
repex	replacement expenditure
totex	total expenditure (i.e. capex + opex)

Appendix A Stakeholder Feedback

Customers and other stakeholders provided considerable feedback on our Original Proposal IT Investment Plan and provided submissions to the AER. These concerns were taken into consideration by the AER in providing the SA Power Networks' Draft Decision. A high-level summary of stakeholder views and our responses are presented in Table 6.2 below.

Table 6.2: Summary of Stakeholder support for the IT Proposal

Feedback	Response
<p><i>"The improved asset management and particularly the improved use of data and ICT is the 'secret' to SAPN's long term cost containment success."</i></p> <p>ECA</p>	<p>We acknowledge the ECA for recognising our long-term effort to contain our costs using technology. Cost efficiently maintaining our assets will continue to be challenging as our network continues to age and the consumer service requirements continue to diversify.</p>
<p><i>"A key element of SAPN's digital strategy is to manage business and network costs through more efficient data. SAPN have provided quantification of benefits, which it considers exceeds the cost of the project [Assets & Work]."</i></p> <p>ECA</p>	<p>We have refined and added to those benefits quantifications for the resubmission.</p>
<p><i>"SAPN has been on the forefront of using new [information] technology to improve the way it operates and plans its business."</i></p> <p>ECA</p>	<p>Our network will continue to be at the forefront of renewals penetration, as well as being the oldest in Australia. We must continue to use technology to help us respond to these changes and maintain our risk.</p>
<p><i>"We acknowledge that ICT expenditure is a critical and increasing component of a distributor's expenditure, complicated by the shift to operating expenditure through cloud services."</i></p> <p>CCP14</p>	<p>We acknowledge CCP14 for recognising the increased use of technology, and hence increased cost of technology as an overall component of a distributor's expenditure. Distributors are increasingly using ICT to deliver the agreed levels of customer and network services within the constraints of reducing allowances.</p> <p>The shift from capex to an increased opex base does make the picture more complex and require a shift to a totex perspective, particularly for recurrent ICT costs. This is reflected in the approach in the new AER ICT Expenditure Evaluation Framework.</p>
<p><i>"The reduction in ICT expenditure in the next period [2020-25] is encouraging."</i></p> <p>Business SA, Joint Submission</p>	<p>We acknowledge both Business SA and the Joint Submission for noting the significant reduction in ICT expenditure over the period once our large replacement program (geared to maintaining our existing services) is completed. The revised proposal maintains that reduction in expenditure.</p>

Table 6.3: Summary of general concerns raised by Stakeholders

Feedback	Response
<p><i>“The IT proposal needs to be closely reviewed.”</i></p> <p>Business SA</p>	<p>The AER has very thoroughly reviewed our 2020-2025 IT proposal - more thoroughly than any previous IT proposal (see Section 3.1)</p>
<p><i>“The proposal seems high relative to other networks.”</i></p> <p>CCP14</p>	<p>As detailed in our original IT Investment Plan, SA Power Networks IT has one of lowest IT costs per customer in the NEM, and has been one of the lowest since the start of the NEM.</p> <p>Every DNSP is at a different stage of their technology lifecycle when compared to others within an RCP. In the 2015-2020 we were allowed a large IT capital replacement program which was planned to continue into the 2020-25 period. Hence yes our expenditure is currently high relative to other networks, however we plan for that to revert to much lower levels in the 2020-25 RCP as the replacement program is completed.</p> <p>Further and more importantly, ICT costs cannot be viewed in isolation of the broader total expenditure performance and benchmarking of network businesses as a whole—more information on our reasoning on this topic can be found in our submission to the AER’s ICT expenditure assessment consultation paper. A striking and general example of this is highlighted by the AER in its ICT consultation paper, wherein it noted that while the total sum of ICT expenditures across distributors (i.e. total of all distributors) in the National Electricity Market have been increasing over the long term (since 2009), the total expenditures of distributors across the NEM has been on a long term decrease.</p> <p>It is also intuitive to note that the AER in its ICT expenditure assessment guidance note has deliberately chosen not to assess distributors’ proposed ICT on the basis of how ‘big’ the number is. Only recurrent expenditure is suited to benchmarking (and the AER’s draft decision approved our proposed recurrent expenditure as being efficient) , with all ‘non-recurrent’ expenditure needing to be clearly justified on the basis of the identified needs and cost benefit analyses in detailed business cases (and the AER’s draft decision identified specific concerns with some of these cases which we have now sought to address in our Revised Proposal).</p>
<p><i>“There is no evidence of the usual cycle of renewal and higher investment followed by a period of maintenance and lower investment, instead continued high investment.”</i></p> <p>CCP14</p>	<p>ICT maintenance lifecycle relates to maintenance/renewal for small recurrent items within an RCP or large non-recurrent upgrades which occur at longer cycles.</p> <p>ICT Investment is also for business improvement capabilities based on associated benefits, we continue to invest in technology to contain costs as acknowledged by ECA.</p> <p>Our expenditure graphs clearly show a significant decrease over the 2020-25 period, both from totex and capex perspective.</p>

Feedback	Response
<p><i>As part of an international company SAPN should be able to obtain a discount on SAP."</i></p> <p>SACOSS</p>	<p>As detailed in the Stakeholder workshops, SA Power Networks obtains a significant discount on SAP maintenance costs due to the SAP volume licence agreement with the CKI Group of companies.</p>
<p><i>"We would like to see more evidence on the benefits of ICT capex and demonstrate how this will result in continued lower costs."</i></p> <p>SAPN Customer Consultative Panel (SAPN CCP)</p>	<p>All benefits accounted for as set out in Section 4 of this Investment Plan Addendum and in specific business case addendums</p>
<p><i>"The customers should not have to pay for ring-fencing."</i></p> <p>SA Govt</p>	<p>The AER allows for the efficient sharing of assets between regulated and unregulated businesses in order to reduce the costs for Regulated customers. Our revised Ring-Fencing Compliance- IT Solution Business Case Addendum Dec 2019 describes how customers of regulated services benefit from our proposal.</p>
<p><i>"SAP have a monopoly position"</i></p> <p>SAPN CCP & CCP14</p>	<p>We go to market for systems to ensure competitive pricing.</p> <p>In recent years replacement systems have been tendered for a number of utilities and there have been different suppliers winning those tenders. Hence clearly there is an ongoing competitive tension between the vendors.</p> <p>Once a system is selected SA Power Networks leverages our CKI Group global agreements with our key vendors (inc. SAP & Oracle) which provide substantial savings on ongoing maintenance of the software</p>

Appendix B Summary Capex and Opex per annum

Table B.1 Summary of the IT Original and Revised forecasts for capex and opex (\$million, Dec \$2017)²³

		2020–21	2021–22	2022–23	2023–24	2024–25	2020–25 total forecast
IT Capital	Original Proposal	67.7	67.3	44.1	40.9	40.4	260.5
	Revised Proposal	67.8	66.6	45.3	40.4	38.3	258.3
	Difference	0.1	-0.7	1.1	-0.6	-2.1	-2.2
IT Operating Step Changes	Original Proposal	3.9	4.1	4.6	4.6	4.7	21.9
	Revised Proposal	3.3	3.7	4.4	4.8	5.4	21.6
	Difference	-0.6	-0.4	-0.2	0.2	0.7	-0.2

Note: Numbers may not add up due to rounding

²³ The costs exclude escalators such as CPI.

Appendix C Details of benefits realisation/application by business case

Table C.1: Benefits realisation/application by business case for the 2020-25 RCP (\$million, Dec \$2017)

IT Investment Plan objective Business case	Tangible benefits in 2020–25	Reduced Network Asset Replacement proposal	Reduced IT Capex proposal	Opex Reductions Used to Offset Opex Increases	Avoid Expected Capex or Opex Cost Increase (Maintain current levels)
Maintain compliance					
Ring-fencing compliance: IT solution	15.2			0.3	15.0
Maintain current levels of service and manage risk					
IT applications refresh	5.3			1.7	3.6
IT infrastructure refresh	9.3		7.7	1.6	
Cyber security	5.5				5.5
SAP upgrade	1.5		1.5		
CRM & billing completion	3.1				3.1
Protection settings management system	2.0		1.9	0.1	
GIS consolidation	1.1		0.6	0.5	
Manage our business and network costs through efficient use of data and digital technology					
Assets & Work Program	52.9	49.3		1.9	1.7
Total IT investment proposal	95.9	49.3	11.7	6.1	28.8

Note: Numbers may not add up due to rounding

Appendix D Detailed Revised IT Portfolio 2019-2025

