ICT Forecasting Methodology and Business Case Structure

2025-30 Regulatory Proposal

Supporting document 5.12.23

January 2024

SA Power Networks

Empowering South Australia

Contents

Glossary

Acronym / term	Definition
ACS	Alternative Control Services
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
BAU	Business as usual
Capex	Capital expenditure
DER	Distributed Energy Resources
DNSP	Distribution network service provider
ICT	Information and Communication Technology
IT	Information Technology
NEO	National Electricity Objective
NER	National Electricity Rules
NPV	Net present value
Opex	Operating expenditure
OT	Operational Technology
PIR	Post Implementation Review
RCP	Regulatory control period
RIN	Regulatory Information Notice
SAAS	Software as a Service
SCS	Standard Control Services
Totex	Total expenditure (capital plus operating)

1. Introduction

1.1 Purpose

The purpose of this document is to outline SA Power Networks' methods for forecasting capital expenditure (**capex**) and operating expenditure (**opex**) associated with Information & Communication Technology (**ICT**)[1] for the regulatory control period (RCP) from 1 July 2025 to 30 June 2030 (2025-30 RCP).

1.2 Audience

The audience for this document is anybody seeking to understand our Information Technology (**IT**) Regulatory expenditure forecasting methodology and our Regulatory submission business case structure. The primary audience is personnel engaged to write the IT submission and the business cases.

1.3 Guiding principles

We align our IT forecasting approach with:

- the National Electricity Objective (**NEO**) and specifically the objective to promote "efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers"[2];
- the National Electricity Rules (**NER**) and specifically the expenditure objectives, factors and criteria in sections 6.5.6 and 6.5.7 associated with creating a forecast that is 'efficient', 'prudent' and 'realistic';
- the Australian Energy Regulator (**AER**) Expenditure Forecast Assessment Guideline for Electricity Distribution[3];
- the principles and approaches outlined in the AER Non-Network ICT Capex Assessment Approach[4];
- the guidelines provided in the AER Regulatory Investment Test for Distribution5 and the Industry practice application note - Asset replacement planning[6,7];
- the guidance provided in the Better Resets Handbook[8];
- the SA Power Networks Asset Management Policy and specifically the IT Asset Management Plan; and
- industry good practice.

The general principles used in developing our IT forecast are:

1. **Grounded in reality:** We analyse current and historical expenditure, then project that into the future, taking into account trends, changes in cost drivers and significant expected events.
2. **Thorough:** We use both bottom-up and top-down approaches, iteratively, to build a forecast that takes into account the identified needs and offers a realistic and reasonable approach to ensuring the delivery of the whole of the portfolio.

[1] 'ICT' and 'IT' can be used interchangeably in the sense that the scope of the technologies is the same. For the purposes of this document 'ICT' is used to refer to the specific AER requirements or definitions while 'IT' is used in most other cases for consistency with SA Power Networks' terminology.
[2] National Energy Objectives | AEMC
[3] AER: *Expenditure Forecast Assessment Guideline for Electricity Distribution*, November 2013
[4] AER: *Non-network ICT capex assessment approach*, November 2019
[5] AER: *Application guidelines - Regulatory investment test for distribution*, December 2018
[6] AER: *Industry practice application note - Asset replacement planning*, January 2019
[7] Whilst these guidelines are not specifically relevant to IT assets, we used the principles and the examples from these documents to inform our approaches to IT expenditure forecasting, governance and decision making
[8] AER: *Better Resets Handbook - Towards Consumer Centric Network Proposals*, December 2021

3. **Least cost / maximum benefits**: We explore a range of credible options and sensitivities in business cases to land on the most effective, prudent and efficient option for the identified need.
4. **Long term:** We review and consider all costs over at least 10 years to ensure the long-term cost impacts are understood.
5. **Complete:** We consider costs from the total expenditure (totex) perspective.
6. **Evidence based:** We use detailed analysis, supplier quotes and past experience to develop our costing models, augmented by independent reviews where appropriate.
7. **Adds customer value:** For expenditure which is expected to deliver benefits other than managing risk or achieving compliance, the benefits are shown at the appropriate level within the organisation's forecast.

1.4 Context

This document is part of the suite of documents (Figure 1) that together define our approach to the IT expenditure forecasting and justification used in our 2025-30 regulatory proposal.

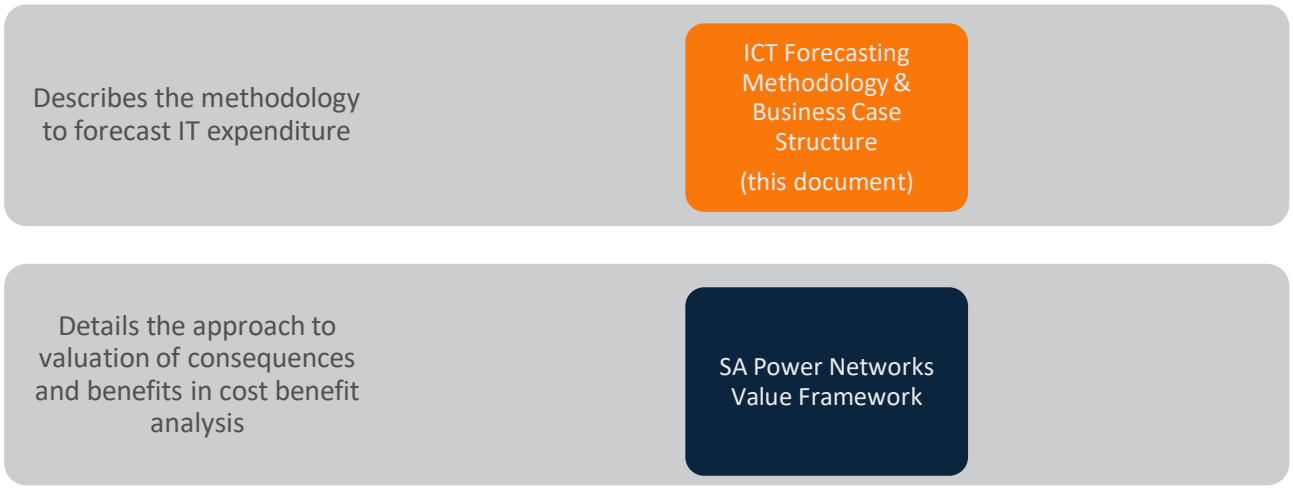

Figure 1: IT methodology document suite

1.5 Related documents

Table 1: Related documents

Title	Author	Version / date
5.12.1 – IT Investment Plan 2025-30	SAPN	Jan 2024
5.1.5 – SA Power Networks Value Framework	SAPN	Jan 2024
IT Asset Management Plan	SAPN	Jan 2024

2. Scope

2.1 In scope

This document covers the methodology used for developing the expenditure forecasts for the **non-network ICT category** including capex and related opex in the standardised AER model (Figure 2).

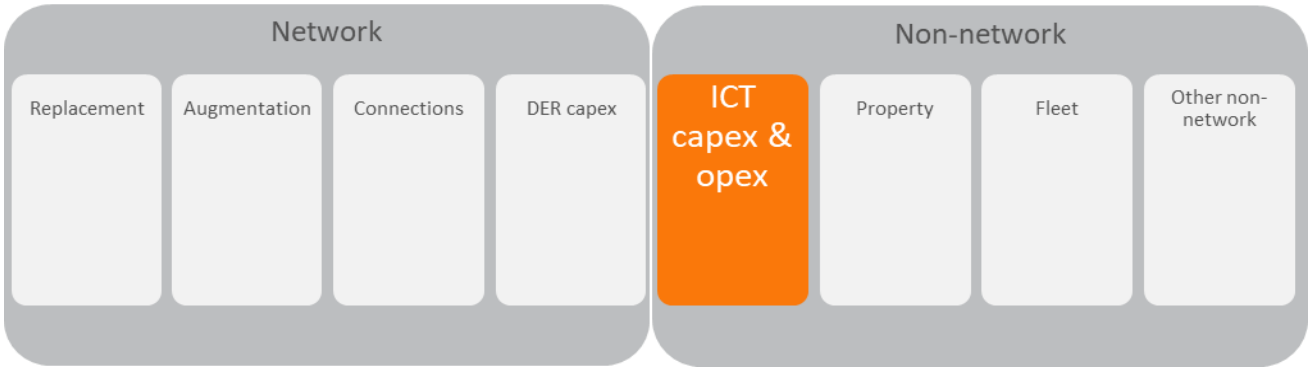

Figure 2: Standardised AER expenditure model

This document covers the expenditure forecasting approaches for the IT capabilities, functions and services used to support the delivery of all SA Power Networks regulated services including Standard Control Services (**SCS**) and Alternative Control Services (**ACS**)[9]. These IT capabilities, functions and services are delivered using the following broad classes of IT assets (Table 2), all of which are in scope of this document.

Table 2: IT Asset Classes

Client Devices	IT Infrastructure and IT Network	IT Applications	Data & Information[10]
Client devices are end-user computing devices, including mobility and collaboration tools. Examples are tablets, laptops desktops and mobile phones.	Computer hardware and systems that form the foundation on which business applications are built. This includes data centre and office-based servers and networking capabilities, which can be of a physical or virtual nature.	Software and systems used across the organisation to enable customer and business services.	All forms of data and knowledge that is processed, stored and transferred and has value to the organisation.

The approaches to managing each of these asset classes, more detail about what is contained in each class and the prioritisation of assets in terms of their criticality to customer and business services are detailed in the IT Asset Management Plan.

2.2 Out of scope

This document does not cover technology costs related to the direct control or functioning of the electricity network otherwise known as Operational Technology (**OT**), except where the expenditure relates to Cyber Security.

[9] Although the Alternative Control Service-related IT costs are not part of the Regulatory Submission, we use the same approach for forecasting IT costs for all regulatory service types.
[10] While not technically a 'financial' asset, in reality data has significant value. Similar to electricity, data is what flows through and is stored and managed in other IT assets. There is a specific subclass of ICT Applications that is purely concerned with the governance, management, consumption, visualisation and use of data for decision making.

3. IT expenditure categories

3.1 Capex categories

We allocate all non-network IT capex to the following categories and sub-categories in accordance with the AER non-network ICT capex assessment framework[11] (Figure 3):

	Recurrent	Non - Recurrent		
AER ICT Categories	Expenditure that is related to maintaining existing services, function, capability and/or benefits and occurs at least once in 5 years	Any ICT expenditure that is not 'recurrent', i.e. • Once-off changes • Periodic expenditure occurring on a cycle longer than 5 years (e.g. 7-year cycles)		
AER ICT Sub-categories		**Maintain existing services** Maintain existing services, functionalities, capability and/or market benefits. Mainly large upgrades & replacements	**Compliance (inc. cyber security)** Comply with new or altered regulatory obligations or requirements	**New or expanded capability** New or expanded ICT capability, functions and services

Figure 3: IT capex categories and sub-categories

The AER framework recognises that different approaches are needed for forecasting and evaluating different types of IT expenditure, including consideration of:

- the business purpose: whether the investment is to maintain existing services and risk levels, achieve compliance or build new or expanded capability, function or service;
- the frequency of the investment: whether the investment is something that happens periodically and regularly within every Regulatory Control Period (**RCP**), or whether it is a less regular investment; and
- the types of benefits expected: whether there are going to be productivity benefits or whether the investment is for managing risk and/or achieving compliance.

The summary of the full AER Non-Network ICT expenditure evaluation requirements are provided in Appendix A.

3.2 Opex categories

We allocate all IT operating expenditure (**opex**) to subcategories that are aligned with the AER Regulatory Information Notice (**RIN**) reporting categories of Recurrent and Non-Recurrent Opex (Table 3).

Table 3: IT Opex Subcategories

IT Opex Category	Description
Recurrent	Operating costs of a recurrent nature relating to maintaining services, capabilities and systems.
Non-Recurrent	Costs which are operating but are not ongoing and are related to or consumed by the implementation of a Non-Recurrent change.

[11] AER: *Non-network ICT capex assessment approach*, November 2019

3.3 Alignment Between Expenditure Categories and SA Power Networks Regulatory Expenditure Scenarios

As part of the development and communication of the Regulatory proposal for Customer Engagement, SA Power Networks defined three high level expenditure scenarios – Basic, Maintain and New Value. These scenarios provide a means to understand the focus and outcomes expected for the different classes of the proposed expenditure, as well providing a mechanism for discussing this with stakeholders. These scenarios are closely aligned with the AER ICT expenditure categories (Figure 4).

Scenario 1: Basic - provides the base level of expenditure and equates to the IT Recurrent expenditure. This represents an 'ideal world' situation where there are no major upgrades required and no new compliance requirements. In reality this scenario is not feasible because it is less than the minimum required to maintain our existing services due to the fact that upgrades/replacements and compliance changes are continually emerging.

Scenario 2: Maintain – includes IT Recurrent expenditure (Scenario 1) plus Non-Recurrent expenditure to Maintain Existing Services and achieve Compliance. Hence this is the minimum required to maintain, operate and secure our services, including major upgrades and meeting new compliance requirements.

Scenario 3: New Value – adds the Non-Recurrent: New or expanded capability expenditure to the Scenario 2 expenditure. This contains all the business improvement expenditure, as well as the expenditure to adapt our services or develop new ones and to scale those services as necessary in response to customer or business requirements.

	Scenario 1: Basic	Scenario 2: Maintain		Scenario 3: New Value
	Recurrent	Non - Recurrent		
AER ICT Categories	Expenditure that is related to maintaining existing services, function, capability and/or benefits and occurs at least once in 5 years	Any ICT expenditure that is not 'recurrent', i.e. • Once-off changes • Periodic expenditure occurring on a cycle longer than 5 years (e.g. 7-year cycles)		
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Figure 4: AER ICT categories alignment with SA Power Networks Regulatory Expenditure Scenarios

This structure links the underlying IT business cases to the whole of the organisation proposal.

4. IT forecast development process

The IT forecast is developed through an iterative process (Figure 5), cycling through a number of stages of consultation as part of the whole of organisation Regulatory Engagement and Proposal Development approach:

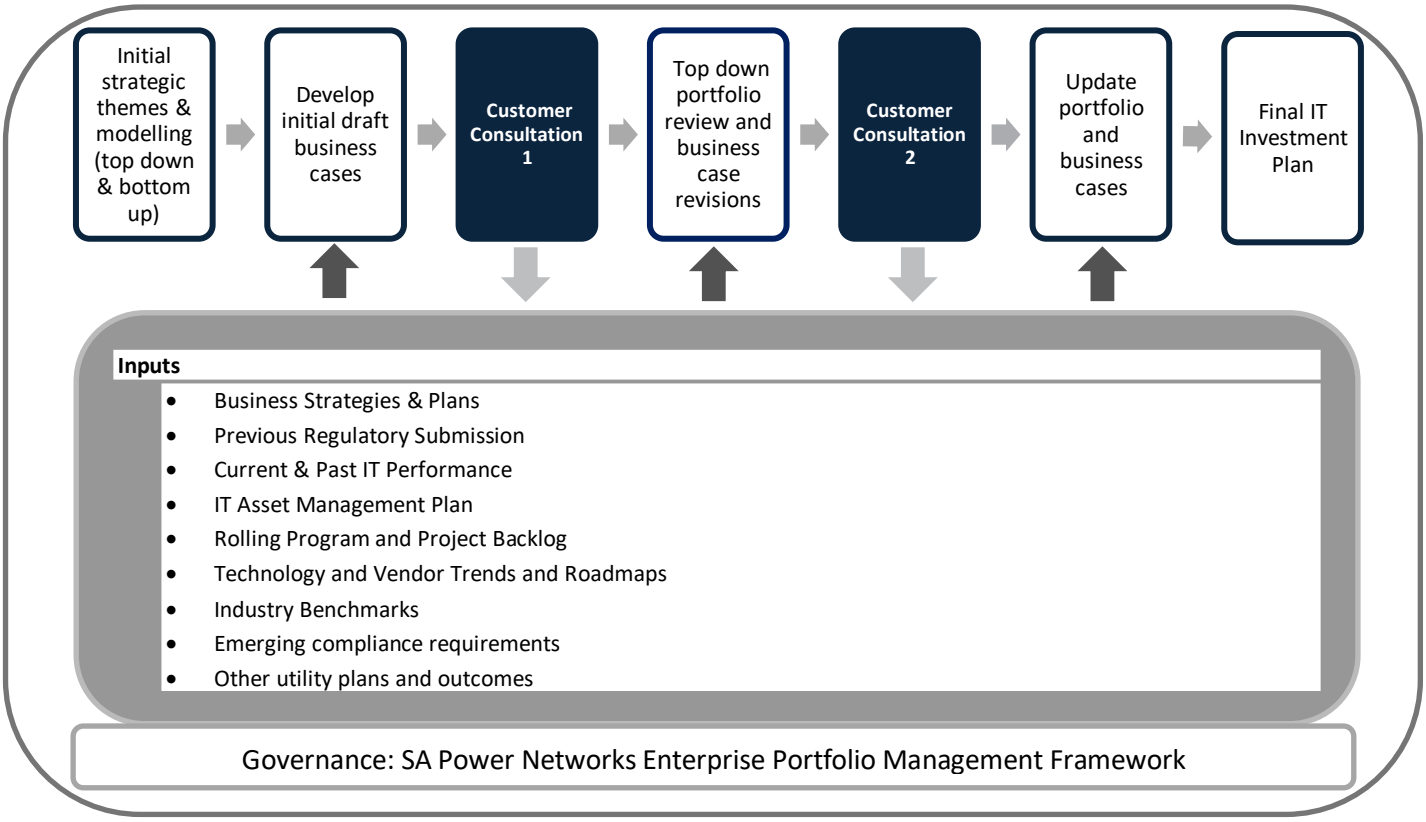

Figure 5: IT forecast development process

1. **Initial Strategic Themes and Modelling:** Working with the business units to understand the forward projections of strategic activity and issues over the current RCP and then out over the subsequent two RCPs. This is used to derive an initial set of issues, identified needs, potential business cases and high-level indicative costs.
2. **Develop initial draft business cases:** Bottom-up development of the draft business cases covering initial cost estimates. The business cases are based on the identified need across the business, commencing with the 'maintain existing services' (recurrent) expenditure items and then building out through the non-recurrent expenditure items. The forecasting process and the business case structures to ensure the business cases meet the AER and customer requirements are detailed in sections 5 and 6 of this document.
3. **Customer Consultation 1 (Focused Conversations and People's Panel):** As part of the whole of organisation Regulatory Engagement workshops, understand the options and approaches being discussed by the rest of the organisation, and the customer preferences being indicated. For the 2025-30 Regulatory Engagement this is done through the Focussed Conversations and the People's Panel. The engagement approach varied based on the expenditure category, as detailed in Appendix B. In summary, non-recurrent IT expenditure that is required to enable a business proposal is discussed as part of the relevant Focussed Conversation and People's Panel discussion. A separate IT Focussed Conversation brings together this proposed expenditure plus the IT Recurrent and

remaining Non-Recurrent expenditure proposals to provide a whole picture of the IT expenditure and bill impacts.

4. Top-down IT portfolio review and revision of Business Cases: Compile and review the details from the preferred options of all business cases into a whole of portfolio context, including dependency, resource and risk analysis (See Figure 10 below). Update business cases based on the inputs from customers and the portfolio reviews. Section 9 provides more details of this process.
5. **Customer Consultation 2:** Input from stakeholder groups on the proposed portfolio of IT work presented within the SA Power Networks Draft Plan.
6. **Update the business cases and the portfolio based on customer feedback**
7. **Creation of the final IT Investment Plan, Business Cases and cost models for submission**

5. IT expenditure forecasting approaches

5.1 Overview

The overall objective of our forecasting process is to estimate the expenditure that we reasonably need to incur in the forthcoming RCP in order to:

- ensure the efficient operation and use of electricity services in the long-term interests of customers;
- 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 that maximise the useful life of our assets and optimise the outcomes for our customers; and
- enable the organisation to continue to efficiently respond to the energy market changes, meet its strategic objectives and deliver new value for customers.

The diagram below (Figure 6) summarises our IT forecasting approaches and expenditure justification aligned with the AER assessment approaches for each IT expenditure category and subcategory. Details regarding each expenditure category/sub-category are provided in the sections below.

Consistent with the overall AER expenditure assessment framework, capital and operating expenditure are forecast, justified and assessed differently.

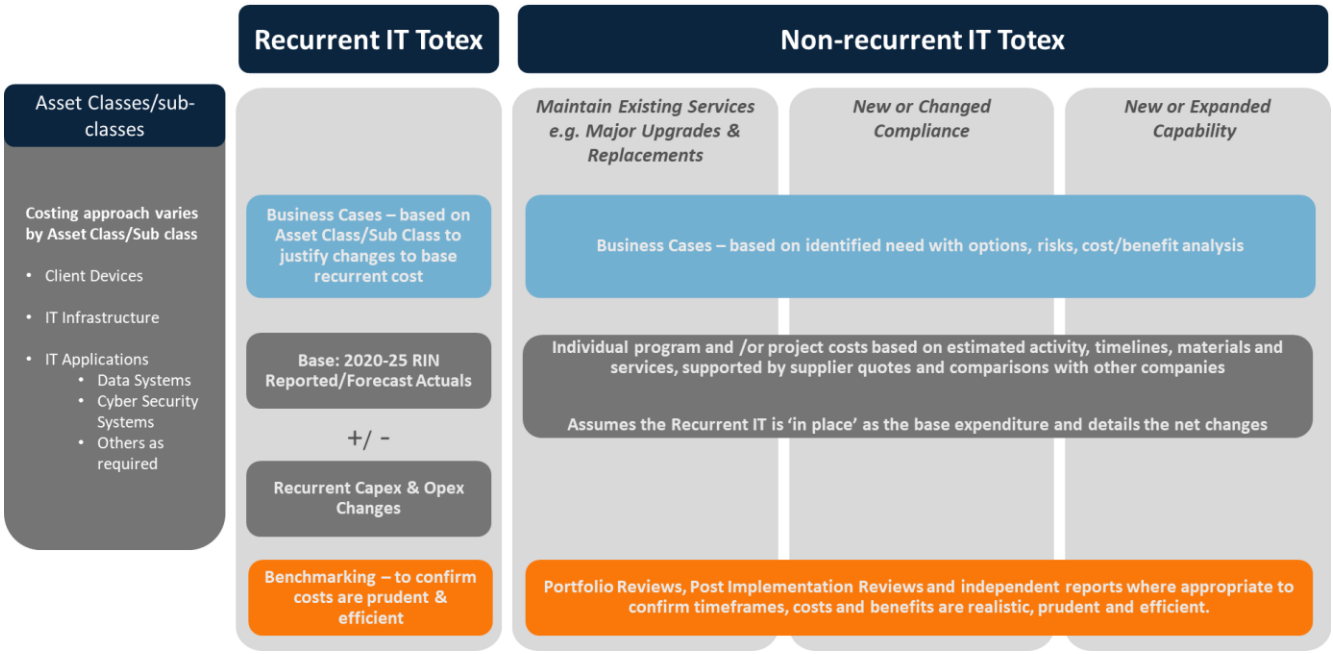

Figure 6: IT forecasting approaches by expenditure category

Our overall approach to expenditure forecasting and justification is to create a set of recurrent and non-recurrent business cases which justify the forecast. The approach varies between the expenditure categories.

1. For IT Recurrent expenditure, we divide our services and assets into asset classes or subclasses. Business cases are then developed that reflect the need to maintain existing services for a class or subclass, e.g. Client Devices, Cyber Security. The objective is to justify changes to our recurrent base

expenditure. The base expenditure (where possible) is defined as the RIN Reported actuals for the 5 years prior to the production of the business case. We then project expenditure forward, taking into account changes, trends and expected future events. Each business case includes at least two options, with the base option being 'maintain the existing levels of expenditure'. In addition, top down totex benchmarking is used to review expenditure trends relative to other distribution network service providers (**DNSP**).

2. For IT Non-Recurrent expenditure, an individual program/project-based business case is created which focuses on meeting an identified need. The costing is bottom-up, activity by resource based and includes expected timeframes, delivery dates, services, materials, risks and benefits. The business cases are typically supported by supplier indicative quotes. A number of mechanisms are employed to assess the reasonableness of our non-recurrent programs and forecasts, including comparison to our own past experience, comparisons with other companies, supplier indicative quotes and the use of appropriately experienced external entities to generate the costs, and/or independent reports if required.

5.2 Asset classes and forecasting approaches

As the same asset classes and subclasses are used for both Recurrent and Non-recurrent expenditure, similar forecasting approaches are used for both. The key difference is that while Recurrent business cases are focused around one asset class or subclass, Non-recurrent business cases can involve changes to multiple asset classes.

Table 4 shows the forecasting approach for each of the recurrent expenditure segments.

Table 4: IT asset classes/sub-classes and associated forecasting approaches

IT classes/sub classes (and business cases)	Characteristics of assets	Forecasting approach
Client Devices	High volume short-life hardware assets (majority 2 – 5 years).	Bottom-up volumetric device type modelling using historical unit expenditure cost, condition-based risk experience and suppliers support plans.
IT Infrastructure	Medium volume short life assets. Increasingly a combination of physical and virtual assets.	Bottom-up volumetric modelling based on historical expenditure, criticality to services, risk, strategic growth factors and suppliers support plans.
IT Applications	Medium numbers of high value individual software assets. For ease of management, the applications are sub-divided into business functional groupings.	Bottom-up historical expenditure by individual application, taking into account criticality to services, changing risk and strategic requirements and suppliers support plans.
Data, Analytics & Intelligent Systems	Small numbers of high value services and applications for managing data and information and generating insights.	
Cyber Security Systems	Small numbers of high value services and applications managing cyber security compliance requirements.	

5.3 Forecasting IT recurrent expenditure

The objective of the IT recurrent expenditure forecast is to ensure SA Power Networks has sufficient resources to maintain our existing levels of IT services and risk for the forthcoming RCP. Consistent with the AER definition, this expenditure is related to "maintaining existing ICT services, functionalities, capability and/or market benefits, and occurs at least once every 5 years".

The Recurrent forecast covers IT services, applications, systems, devices and hardware that are operational or expected to be operational on the 1st of July of the start year of the RCP (e.g. 1st July 2025 for the 2025-30 RCP).

5.3.1 Key cost components

The key cost components that are in scope of the recurrent business cases are as follows:

1. Client devices, servers, network and infrastructure hardware related refresh and replacements;
2. Ongoing security updates and patching to hardware and applications to ensure, as the sole distributor in South Australia, we maintain the required cyber security levels;
3. Small – medium upgrades to hardware, applications and systems to maintain compliance, supportability and ensuring ongoing utility of the assets; and
4. Small enhancements to hardware, applications and systems to respond to ongoing small business changes and retain the existing investment value and benefits.[12]

These cost components are driven by the standards and lifecycle timing for each asset class as detailed in the IT Asset Management Plan.

5.3.2 Assessing changes on the Base Recurrent IT Capex and Opex

As per the AER's Base-Step-Trend approach to forecasting, historical actual IT expenditure serves as a base in our cost analysis, which is then subjected to a number of factors that increase or decrease the base costs (Figure 7). Each of these is considered for each of the recurrent business cases, but **only those factors with a material impact will be costed and discussed in the business case**s.

Each factor is explained in more detail below.

- Inclusion of unfunded compliance costs: There may be compliance costs not included in the AER's past RCP allowances due to timing or because the allowances under-forecast compliance costs. Actual compliance related spends must be accounted for in revealed costs. For example, Australian Taxation Office Single Touch Payroll requirements emerged during the 2020-25 RCP and now have a recurrent component as the Tax rules and reporting requirements change regularly.
- Increases from the implementation of non-recurrent: The implementation of new systems in the previous RCP will generally increase the 'recurrent' expenditure to maintain support for / upgrade / refresh those systems in the following RCP. An example is the implementation of the systems to manage Distributed Energy Resources (**DER**). The initial implementation occurred in 2020-25 RCP as part of non-recurrent projects but the ongoing refresh and update costs are now in a Recurrent IT business case.

[12] Large enhancements that would likely be needed to meet compliance or deliver benefits would be the subject of Non-Recurrent Business Cases.

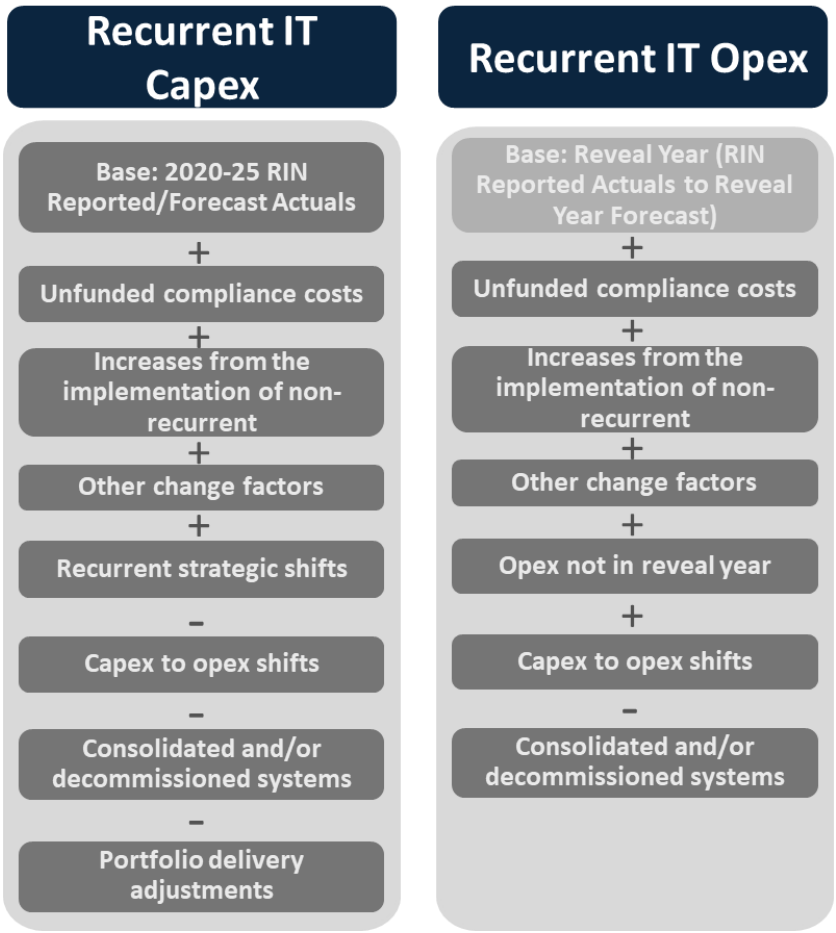

Figure 7: Recurrent IT Capex and Opex changes relative to the base

- **Other Change Factors** – The AER does provide for escalation based on expected drivers such as the increase in the number of customers over time. However, on occasion specific cost drivers **may** increase IT costs faster than this. The key factors we consider for changes in the recurrent expenditure are listed in the tables below. Table 5 lists some key factors, while Table 6 provides some examples of how costs are estimated and in which cost category the costs are assigned. Increasingly growth factors are opex, reflecting the shift to Cloud infrastructure and systems. We review the factors that are associated with allowed escalators and determine if they are already likely covered by an escalator to the appropriate level. For those that may not be then we only ask for the variations on that level.

Table 5: Other change factors reviewed as part of the Recurrent business cases

Factors Considered	Component costs driven by factors (including recurrent and refresh costs)
No of additional users (net)	• Number of client devices • IT network consumption • Application licensing • Data storage (eg. email, documents, backup) • Cyber monitoring and control
No of offices or depots	• Number of client devices (location based) • IT network consumption • Cyber monitoring and control
No of customer smart meters	• Data storage • Compute (processing resources) • Application licensing • Reporting and analysis consumption costs
No of customer smart meters from whom we are receiving extended data sets	• Data storage • Compute (processing resources) • Application licensing • Reporting and analysis consumption costs
No of electricity network assets	• Data storage • Compute (processing resources) • Application licensing • Reporting and analysis consumption costs
No of electricity network assets with active monitoring and/or actively monitored feeders	• Cyber monitoring and control • IT network usage • Data storage • Compute (processing resources) • Application licensing • Reporting and analysis consumption costs
No of network connected CER devices	• Data storage • Compute (processing resources) • Application licensing • Reporting and analysis consumption costs • Cyber monitoring and control
No of customers on flexible tariffs	• Cyber monitoring and control • IT network usage • Data storage • Compute (processing resources) • Application licensing

Factors Considered	Component costs driven by factors (including recurrent and refresh costs)
	• Reporting and analysis consumption costs
No of assets with visual data storage requirement eg. pictures, video, LiDAR.	• Data storage • Compute (processing resources) • Reporting and analysis consumption costs

Table 6: Example estimation approaches for IT Components

Cost component	Estimation Approach	Business Case Assignment	Cost Type
Number of client devices	No. of devices per type of device x refresh frequency x cost of device	Client Device Refresh	Capex
Data storage (inc. backup)	Average size of single data item (megabyte) x update/growth frequency x type of storage required x cost per megabyte	IT Infrastructure Refresh	Opex
Compute (server resources for processing)	% of server time required for processing x cost per server x no. of servers	IT Infrastructure Refresh	Opex
IT network consumption	Average cost per device x no. of devices	IT Infrastructure Refresh	Opex
Application licensing	Cost per licence x no. of licences required	IT Applications or IT Infrastructure Refresh	Opex
Cyber monitoring and control	Cost per device x level of cyber security required x no. of devices x type of device	Cyber Security	Opex
Reporting and analysis consumption costs	Average size of single data item (megabyte) x update/growth frequency x type of data x cost per megabyte	Data, Analytics and Insights	Opex

- Capex to opex shifts: The AER framework allows a step-change shift from capex to opex. This equates to a step-change increase in opex and a corresponding step-change reduction in the capex request. There are a number of recurrent capex to opex shifts that are expected to be undertaken in the next RCP:
  - IT Applications being migrated to Software as a Service (**SAAS**) based alternatives: This means the capital-based refreshes and updates for that application will change to opex. For the 2025-30 Proposal we are treating these SAAS changes as a base year adjustment in line with the AER approach.
  - IT Infrastructure being migrated to Cloud: IT systems migrating to Cloud infrastructure reduces the long term (10 year) capital infrastructure replacement costs but generally requires an immediate increase in opex to achieve this.
  - Operationalisation of IT services: Over the last few years we have increased Cyber security investment considerably in response to the increasing legislated cyber security requirements. The capabilities and systems are now embedded as we move from a 'build' to an 'operational' phase, necessitating an associated shift in recurrent expenditure from capital to operating.
- Recurrent strategic shifts: Occasionally there are shifts in how we manage our devices and systems driven by unavoidable external changes. For example, Covid and our increased cyber security posture combined to shift the purchasing of our client devices from shared desk-based devices to individual mobile devices which would allow people to work from home while keeping our systems secure. This increased the overall costs of our future device forecasts due to the increased number of devices.

- Consolidated and decommissioned systems: Over time systems are consolidated and/or decommissioned, meaning that they no longer need to be refreshed. This is reflected in our costing by cessation of the forecasts for those systems at the appropriate time during the RCP. This also applies to opex costs. Any negative net opex step-change benefits associated with decommissioning is considered in the context of the whole of the IT portfolio and used to offset recurrent opex increases elsewhere.
- Portfolio delivery adjustments: Some programs of work are so large that they impact on the ability to deliver normal recurrent activity for a period, resulting in the reduction of the recurrent expenditure during that period. An example is the SAP S4 Upgrade during 2022-23 and reflected in the 2020-25 proposal. We anticipated (and experienced) a reduction in normal activity during the upgrade and hence we reduced our recurrent funding request appropriately.
- Opex not in reveal year: This is a specific opex step-change that is driven by a change that is not in the base IT Reveal Year opex costs simply due to the impact of timing, i.e., it occurs in the last one or two years of the RCP. For example, if the Reveal Year is year 4 of the RCP (e.g. 2023-24) and we implement a new system towards the end of that year, the system operating costs that commence in the following year (2024-25) will not have been in the Reveal Year base cost for IT and hence need to be added as part of the submission as a 'true-up' step-change.

5.3.3 IT Recurrent Totex benchmarking

We monitor and regularly review IT Recurrent expenditure historical performance, both at the whole of category level and within each of the business cases and asset classes. This serves to highlight the key drivers of cost changes at all levels, including those that may impact the proposed expenditure estimates. Consistent with the AER approach we use the publicly available RIN actuals data to benchmark our IT Recurrent totex (recurrent capex + recurrent opex) against the other DNSPs on an annual basis. The benchmarking is completed on both customer and user numbers. We also develop forward estimates for enabling a comparative forward view of our IT expenditure, based on the published DNSP regulatory submissions and determinations.

This trend and benchmarking analysis is used to determine:

1. The key changes that are driving forecasts up or down; and
2. The reasonableness of our forecasts compared to our own historical trends and compared to other DNSPs (where possible).

5.4 Approach to forecasting Non-Recurrent expenditure

The forecasting approach for non-recurrent expenditure is to develop individual business cases that focus on delivering specific business or service outcomes based on an identified need. Each business case defines a scope of work, explores options to achieve the outcomes, and provides detailed activity-based costings for each considered option plus risks, assumptions and benefits. Indicative supplier quotes, comparisons with other entities and our own historical experience of similar changes are all used to provide realistic estimates of the costs.

As the underlying asset classes are the same as those for Recurrent expenditure, the general costing approaches for the Non-Recurrent expenditure business cases are also the same. The simplified costing approach across the Non-Recurrent business cases is detailed in Figure 8 below, with a more comprehensive explanation provided in the next section on business case structure.

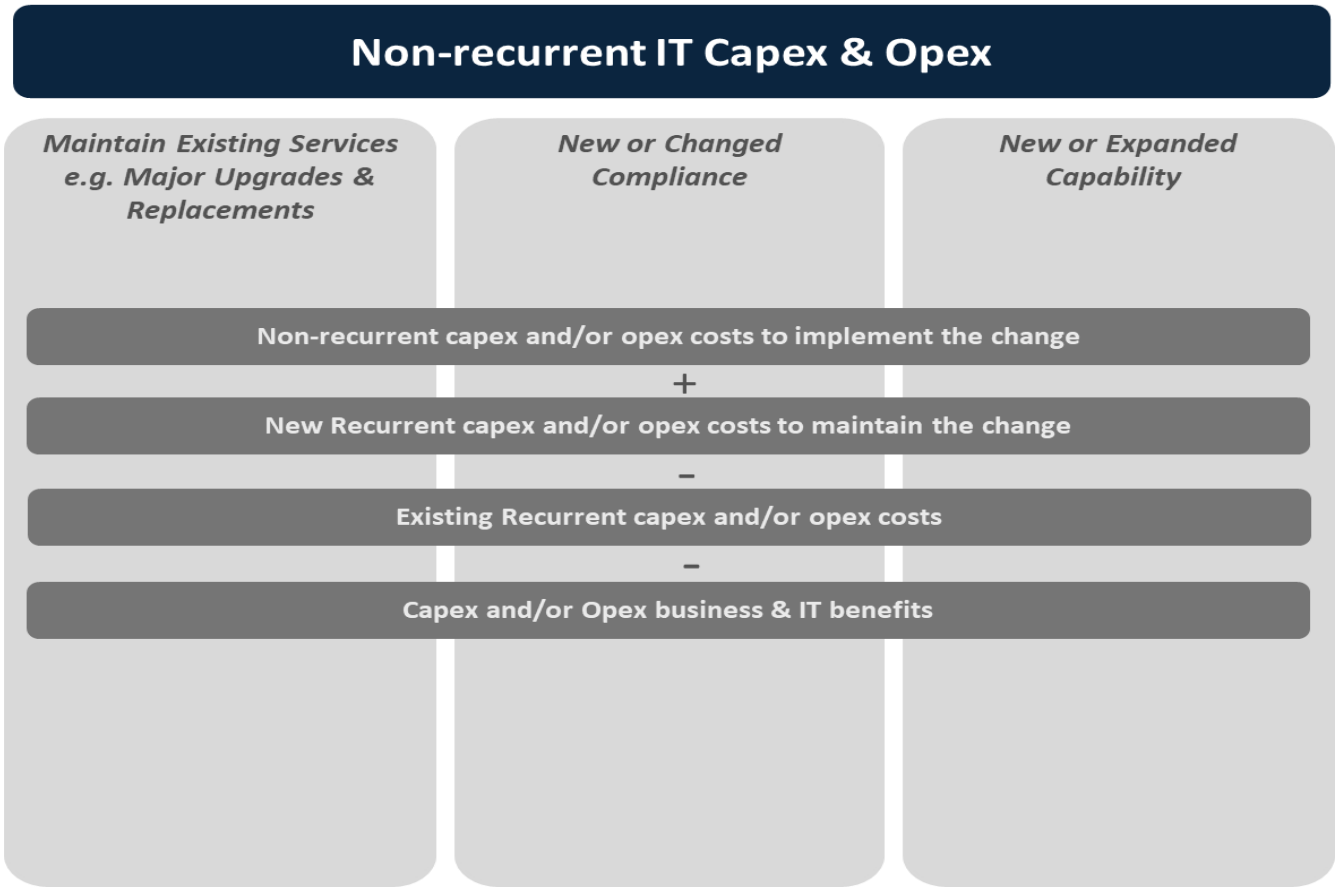

Figure 8: Considerations for forecasting non-recurrent business case expenditure .

5.4.1 Avoiding double counting of costs

We use a number of approaches to avoid the double counting of costs and benefits between Recurrent and Non-recurrent business cases.

The Non-Recurrent expenditure generally assumes that Recurrent expenditure is 'in place' and summarises the 'net' changes relative to existing expenditure. For example, if a Recurrent uplift results from a Non-Recurrent change, we ensure we take into account any existing Recurrent expenditure and we only request the delta (net change) in the Non-Recurrent business case.

Should a Non-Recurrent business case result in a reduction of Recurrent expenditure (a benefit) then we adjust the relevant Recurrent forecast downwards, assuming the Non-Recurrent expenditure is allowed by the Regulator. If the Non-Recurrent expenditure is not allowed, then we would need to ensure this amount is returned to the IT Recurrent allowance.

6. Business case structures

Our approaches to each of the business cases are consistent with the AER evaluation requirements as detailed in Appendix A. The following summarises our general approaches across the expenditure categories as highlighted in Figure 9.

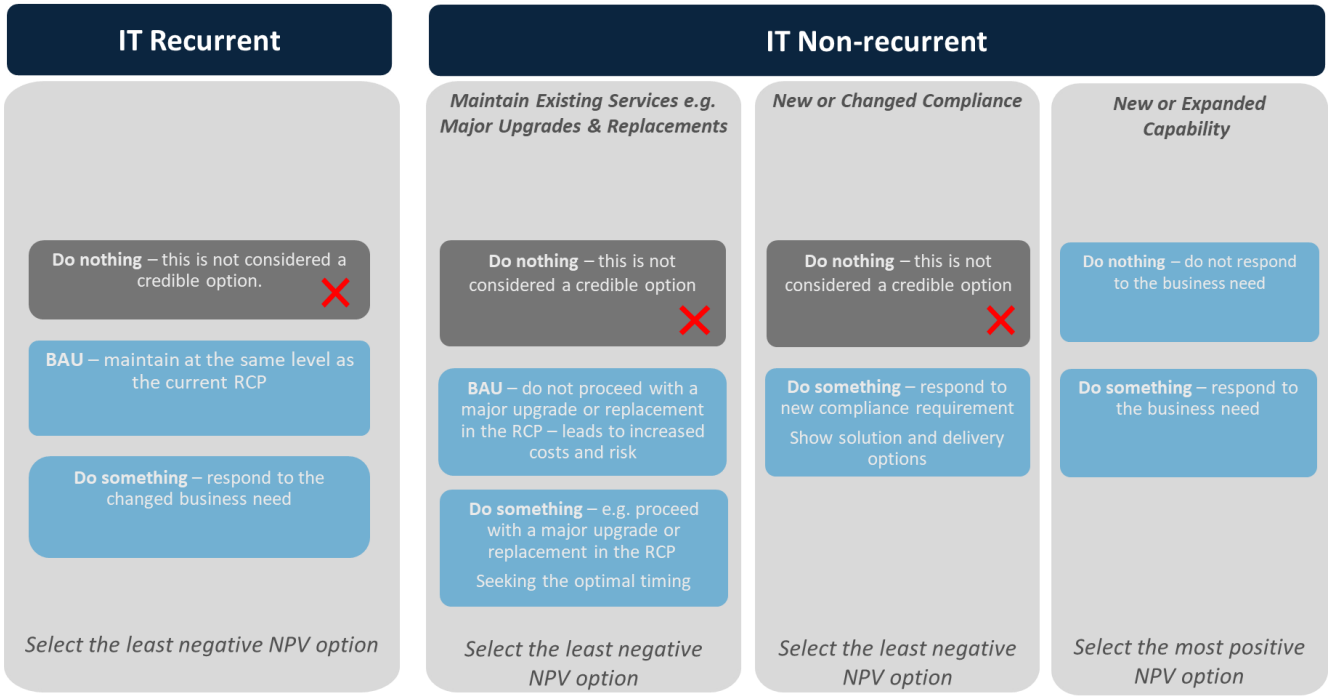

Figure 9: IT Business case option and financial analysis approaches by IT expenditure category

Each business case is based on identified need with options, risks, benefits and financial analysis appropriate to the expenditure category.

6.1 Options Consideration

6.1.1 Base Credible Options

At least 2 credible options are considered for each business case.

The 'Do nothing' option is only considered credible for the New or Expanded Capability business cases due to fact that doing nothing for the 'Maintain existing services' (IT Recurrent or Major Upgrades & Replacements) and 'Compliance' activities always incurs a significant cost or penalty for inactivity. 'Doing nothing' is a credible option for the 'New or Expanded capabilities' business cases, reflecting the more optional nature of the business or strategic improvements compared to the more mandatory nature of the other expenditure activities.

The base credible option Business as Usual (**BAU**) for IT Recurrent business cases is to maintain the current business as usual expenditure levels through the next RCP. BAU considers the current expenditure levels carried forward as they are. This option also details the risk for the services of not changing expenditure.

The base credible option (BAU) for "Maintaining Existing Services: Major Upgrades and Replacements" is to maintain the current systems levels through the next RCP, and then to initiate the changes in the following RCP. This will always result in increased expenditure to manage the increasing risk and/or costs associated with maintaining systems that may no longer be officially supported. The general assumption here is that every system will need a replacement or upgrade at some stage and hence the objective of the analysis is to determine when it is most economically justifiable to do so.

IT Recurrent

For IT Recurrent expenditure, our approach is to find the appropriate cost/risk balance for maintaining the existing services. We determine if the current expenditure level is likely to maintain, increase or decrease our levels of service, and risk, based on whether the IT services and requirements have changed in the current RCP. For example, we have implemented DER management systems as a new capability in the current RCP. Maintaining the same levels of IT expenditure into the next RCP would result in us not being able to support these new capabilities and hence an increased level of risk across the IT services. Hence to maintain our levels of services and risk we need to 'do something' and increase the IT expenditure forecast appropriately.

IT Non-Recurrent: Maintain Existing Services

For business cases in this category, 'Do Nothing' is not a feasible nor credible option. In reality, the system is still required, and the base case therefore assumes the existing system or version will be retained, and maintained, for the whole of the next RCP.

The base case is essentially delaying the required action to a future period. Hence for many situations the base option becomes 'maintain the existing systems in the coming RCP and perform the required action in another RCP'.

Increasing risk will require changes in risk and management approaches (and hence increasing cost) over time. For example, a supplier has informed us they no longer support an existing software application past a certain date. This means past that date our risk steadily increases over time as we can no longer obtain security updates, upgrades or fixes for that system. Issues include:

- functional – if a function breaks we are limited in our ability to be able to fix it;
- cyber – any security vulnerabilities will not be identified nor fixed which increases the risk of an incursion; and
- business responsiveness – we are limited in our ability to respond to emerging business needs. (This is a significant issue in a rapidly evolving energy market).

The minimal response then is to attempt to manage the decreasing service levels and increasing risk using the existing levels of expenditure. However, this almost always results in some level of increased costs in other areas as we attempt workarounds to maintain services and bypass what is essentially a 'dying' application.

IT Non-Recurrent: Compliance

Given the mandatory nature of defined Regulatory or Legislative requirements and, usually, a defined date to achieve them by, the base option for Compliance related business case is to 'do something'.

IT Non-Recurrent: New or Expanded

For these business cases, the base credible option can be 'Do nothing'. This option can be literally be $0 (if nothing already exists) or 'BAU costs' (if something exists and is being changed) depending on the circumstances.

6.1.2 'Do Something' Options

IT Recurrent

For IT recurrent expenditure, 'Do something' involves consideration of one or more options to efficiently maintain our existing levels of service and risk, taking into account the changes (up and down) that have occurred in the current RCP. These changes and the means of determining the costs were provided in section 5 above. This could include situations where 'Do Something' actually reduces the recurrent expenditure without materially increasing the risk, for example, when systems are consolidated.

IT Non-Recurrent: Maintain Existing Services

We follow a two-step process for the development of these business cases, presenting at least two 'Do something' options. This results in the most efficient cost for the change.

We first define the most likely solution or set of solutions for the change, selecting a reasonable preferred solution from amongst a number of options. We do not however make a commitment to a particular solution, due to the fact that the preferred software may have changed or may not be available due to the time lag between the time the Regulatory business case is developed, and the action is required. Hence, we generally review a number of solutions to give us the 'best estimate' for the requirements.

We then assess the implementation of the estimated solution on the basis of different timings, risk and opportunity levels. This is generally defined in terms of modelling the change implementation in the next RCP versus in a later RCP.

Factors impacting determination of the optimal time to perform the change within the RCP include:

- the impact on maintaining our customer service and risk levels;
- whether it is possible to defer all or part of the change into a subsequent RCP;
- the availability (and cost) of ongoing supplier support or alternative support arrangements;
- how much the change enables or facilitates other initiatives such as 'Compliance' or 'New and Expanded capability' initiatives; and
- the additional costs to manage ongoing business changes through workarounds or customisation, which then need to be recreated and retested when a new system is implemented, effectively multiplying the cost of the business change.

IT Non-Recurrent: Compliance

The objective of the IT Non-Recurrent: Compliance forecast is to ensure SA Power Networks has sufficient resources to comply with 'new/altered regulatory obligations/requirements'. These compliance changes are associated with legislated, regulatory or national market requirements, which arise or are reasonable expected to arise within the RCP from a number of sources including:

- New changes to the national energy market processes
- New changes to the data flowing to or from the market.
- Rule changes related to the management of network or customer assets.
- Changes to cyber security and/or data privacy legislation or standards.
- Changes to government reporting requirements eg. Single Touch Payroll.

For these business cases we present at least two 'Do something' options involving different means of achieving such compliance requirements by the required date. This can include adding more staff to meet the compliance requirements and/or multiple technology solutions.

IT Non-Recurrent: New or Expanded

The objective of the 'IT Non-Recurrent: New or Expanded' forecast is to justify investment focused on delivering new value to customers. This expenditure generally falls into three types:

- enabling strategic customer, business or network programs to create new value, create new services or manage the energy transformation;
- using technology to understand the operations or assets on the network and make better operational and strategic decisions; or
- using technology to deliver efficiencies in our business through improved user experience and streamlined business processes.

For these business cases, we present one or more 'Do something' options to deliver on the business requirements and deliver the benefits.

6.2 Scope Considerations

As summarised in Table 7, the scope covers the refreshes or changes being undertaken in the next RCP (eg 2025-30), but with different emphasis depending on the expenditure type.

For IT Recurrent business cases we only include IT services and systems that are in production as the 1st July of the start date of the RCP (eg. 1st July 2025 for the 2025-30 RCP). These are the services and systems that need to be maintained for the RCP. Any new systems will be included in the Non-Recurrent business cases.

The Non-recurrent business cases contain justification for program/projects that:

- start in the previous RCP but are completed post 1 July 2025;
- start and end in the 2025-30 RCP; and
- start in the 2025-30 RCP but end in the 2030-35 RCP.

These business cases detail the full program of activity but only request the funding for the 2025-30 RCP.

Table 7: Key dimensions and considerations for the IT business cases.

	Recurrent	Non-Recurrent		
		Maintain existing services eg. Major Upgrades & Replacements	**New or changed compliance**	**New or expanded capability**
Scope	Systems & services in operation as at 1 July 2025	Major changes, upgrades and replacements that will be completed post 1 July 2025	Compliance changes that come into effect post 1 July 2025	New or expanded capability being implemented post 1 July 2025
Risk Handling (Risk Framework & Value Framework)	Generally qualitative given the number of assets in each case but monetised where possible.	Monetise where possible	Generally monetisable – fines and charges associated with non-compliance	Qualitative with monetised elements where possible.
Quantifiable Benefits	Small avoidance or reduction benefits	Small avoidance or reduction benefits.	Primary benefit is avoidance of the fines and charges for non-compliance.	Demonstrate identification of reasonably expected efficiencies or avoidance benefits
Sensitivities	Related to the refresh frequencies of the underlying assets. Generally tested across options.	Solution and timing options.	Tested in options as different responses to the requirement	Explored as part of the options to understand which components of the program deliver the most benefits
Strategic Alignment	Generally responding to the past strategic priorities.	Strategy shapes the solution rather than the need. Need generally due to the enforced nature of the change.	Limited impact of strategy generally to the compliance nature of the change.	Driven by the strategic priorities arising out of customer and business improvement requirements.

6.3 Risk Handling

All business cases contain risk analysis for all options.

Qualitative risk analysis is used for all business cases and follows the SA Power Networks Risk Management Framework. This includes identifying multiple risks for each business case. The summary risk rating for each option is based on the highest overall risk rating of the risks identified.

Quantitative risk analysis including risk monetisation is used depending on the business case and where it can provide meaningful input to the case. The monetisation of risk (and the benefits of avoided risk) reflects the approaches and calculations detailed in the standard costing template and based on the SA Power Networks Risk Management Framework.

IT Recurrent

A qualitative risk assessment is determined for each option. This assesses the residual risk of the option, ie the risk remaining after the 'Do something' action has been applied.

Given the majority of Recurrent business cases cover a very large number of customer and business services and capabilities, creating a meaningful monetised risk value is extremely difficult and provides very little utility for distinguishing between options. The exception to this are those capabilities that are a discrete service with defined outcomes and have existing research that can be used to monetise the risk values.

IT Non-Recurrent: Maintain Existing Services

Given these changes usually involve only one application and this can be related to the delivery of specific functions or services, monetisation is more probable and useful for these business cases.

Given that the majority of the options are around the timing of the activity (replacement or upgrade), monetisation of the risk and showing how it changes over time (ie. one RCP vs the next) is only one of the components that needs to be considered. Sometimes the costs associated with increasing support, workarounds, the inability to respond to ongoing business requirements and ongoing customisation that needs to be undone later on are bigger determinants of the optimal timing for changes than risk. The SAP Upgrade business case in the 2020-25 SA Power Networks Regulatory Submission provides an example of this situation.

IT Non-Recurrent: Compliance

Given there are generally penalties associated with Compliance business cases, then a level of risk monetisation is reasonable and useful.

IT Non-Recurrent: New or Expanded

These business cases are focused on benefits, and risk avoidance is a key component of that. Hence monetisation will be used where possible.

6.4 Quantifying Benefits

Benefits quantification is completed as a standard part of business case development. For 'Maintain Existing Services' and 'Compliance' business cases, some small reduction or avoidance benefits are identified and taken into account in the economic modelling, though this is not a primary focus. Benefits associated with the 'New or expanded capability' business cases are larger and better quantified.

6.5 Sensitivities

We explore sensitivities as part of the option analysis.

For the relevant IT Recurrent business cases, we generally examine variations in the refresh frequencies in our options, for example, BAU vs. industry standard client device replacement lifecycles or the time between patching and refreshing IT applications to the latest versions.

For 'IT Non-recurrent: Maintain Existing Services' business cases, we assess both different solutions and the timing of those options. For example, in the SAP S4 Upgrade for the 2020-25 Regulatory Submission we considered a number of alternative solutions including replacing or upgrading SAP. Then once we settled on the solution, we modelled the cost and risk changes from performing that upgrade across at least 2 RCPs.

For 'IT Non-recurrent: New or Expanded program' business cases, we explore which projects create the most benefits and whether only those projects are the projects we need to do in order to deliver benefits. For example, within the Assets & Work Program proposal in the 2020-25 Submission, we assessed which

projects were necessary to deliver the best benefits in the 2020-25 period and which projects could be delayed to the 2025-30 RCP.

6.6 SAAS Opex Handling

We are expecting an increasing proportion of opex as part of the IT expenditure over the coming years – across both Recurrent and Non-recurrent programs. This reflects changes in the accounting rule changes for SAAS, the general shift to Cloud replacing capex increases with opex increases and the increasingly process based costs of Cyber. These step changes will be detailed and justified within the relevant business cases.

In line with the general approach being used in the recent DNSP Regulatory Submissions we will handle the SAAS related opex changes as an adjustment on the base year opex. The changes will be detailed within the relevant business cases but then aggregated to create a single total adjustment on the base opex.

7. Forecast Build Up

As highlighted in section 5, we undertake quite detailed costing analyses within our business cases. While the IT Recurrent costs are generally based on actuals, the Non-Recurrent costs are based on detailed activity and resources plans, and supplier quotes, with independent assessments where appropriate.

Costing is built up using standard templates including labour, materials and services, and does not include contingency.

Each business case generally considers capex and opex costs, risks and benefits over at least a 10-year period to understand the likely future impacts and allow the calculation of the long term financial outcomes as conceptualised in the Net Present Value (**NPV**) calculation. The default NPV is calculated over 10 years but can be longer if required.

For the 'New or Expanded capabilities' category, we are seeking the option with the best long term NPV, reflecting that this activity is focused on adding customer value and achieving benefits.

For the other business cases we are seeking the least negative NPV option, that will maintain our services or achieve compliance most effectively. This reflects that we are seeking to maintain our existing customer value or achieve compliance rather than adding substantial value as part of these activities.

For programs and projects being undertaken across RCPs we detail the full cost of the activity across the RCPs, but only request the funding for the relevant RCP.

7.1 Cost Build Up

The costs for each option in each business case are estimated through completion of a detailed and standard project cost template that is structured according to SA Power Network's standard IT project methodology. This approach structures projects into six phases that are further broken down into a total of 20 sub-phases that are then used to plan and cost the project. (Refer Table 8 below).

The nature of each project is flagged as to whether it is to be based on SAAS solution or an alternative. This ensures that the modelling results in the appropriate accounting treatment of the expenditure – as operating or capital expense.

The effort required for the specific roles relevant to each phase of the project (e.g. project manager, architect, developer, tester etc.) is estimated (in days of effort) based on SA Power Networks staff and our external consultants' experience of similar past projects in SAPN and at other organisations. This effort is split according to SA Power Network's standard internal staff/external services mix of 20% internal staff and 80% external services and costed using SA Power Networks standard IT cost estimation methodology and standard resource rate card.

The template is designed to collect the resourcing and cost information in 6-month blocks, which can then be viewed in calendar or financial views. As standard the template is set on a 10-year view allowing the long-term picture to be completed.

External expenses, such as licence fees and external system integrator costs, are usually based on actual quotes, published licence fees/rates etc. or market research. In other cases, the experience of SA Power Networks staff and our external consultants of the costs incurred in similar projects at SA Power Networks and at other organisations, was used to provide a reasonable estimate of the costs.

Table 8: Structure of SA Power Networks Project Methodology Template

Phase	Subphase
Phase 1- Planning, Project Management and Coordination	Planning, Project Management and Coordination
Phase 2 - Feasibility, Innovation & POCs	Feasibility, Innovation & POCs
Phase 3 - Develop & Plan	Plan
	Requirements
	Business Case
	Vendor Selection
Phase 4 - Implement - Design & Architecture	Implement - Design & Architecture
Phase 5 - Implement - Build & Test	Software Licensing
	Software Licensing (12-month upfront purchase)
	Hardware Infrastructure Changes
	Client Device Purchases
	Development
	Configuration
	Integration
	Data Conversion & Migration
	Testing
Phase 6 - Implement - Deploy	Training Delivery
	Training Materials & Preparation
	Warranty
	Change Management
	SME Backfill

The template also allows the collection of benefits data, risk monetisation and economic value (NPV) calculations.

7.2 Benefits Build Up

An extensive and iterative process involving business and IT representatives is undertaken to identify and define a set of reasonable benefits relevant to the option.

This process aligns with our Value Framework. The use of factual historical data and future forecasts where possible ensures an industry best practice approach that meets AER and community expectations and results in a justifiable and reasonable estimate of the benefits. Where relevant, we undertake sensitivity analysis to understand the degree to which the benefits vary with changes in the key assumptions and so ensure the robustness of the calculations.

The focus of the benefits analysis is the identification and categorisation of benefits that are realisable and/or will make a difference from an end customer perspective.

7.3 Final Forecast Model

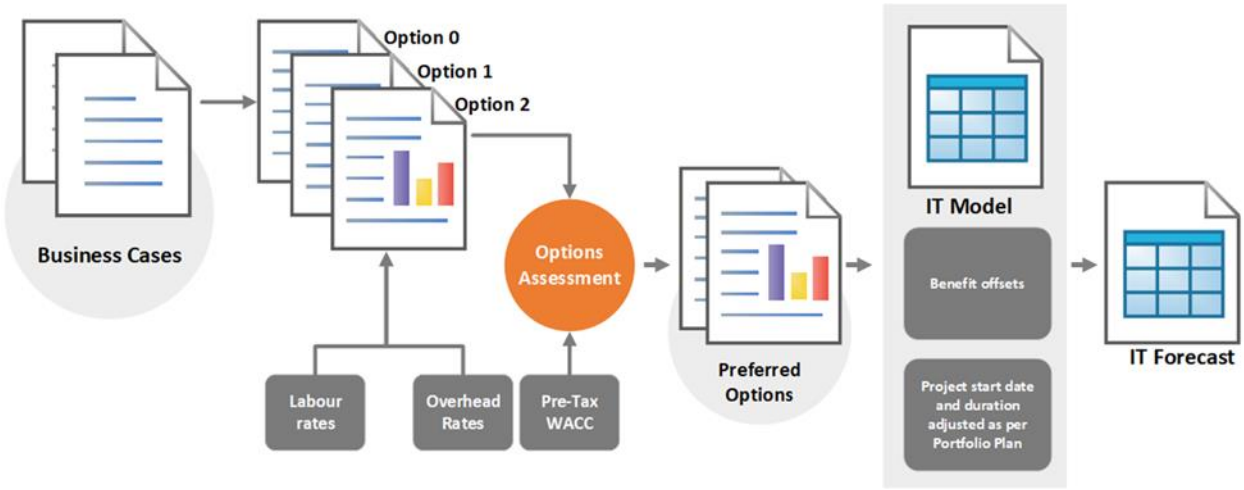

Figure 10: How the financial components of the IT business cases are merged to create IT Forecast Model

Figure 10 summarises the process whereby the costs and benefits from the preferred option within each business case are brought together to create the IT cost model. A separate template is created for each option and the summary information from the preferred option is copied to the IT model. Portfolio and Project timing and benefits offsets are adjusted in the IT model to create the final IT forecast. The IT forecast is then fed into the overall SA Power Networks' forecast.

8. Benefits incorporation and realisation

8.1 Benefits classification

A conservative approach is used to define benefits for use in the financial analysis. Quantifiable benefits can be capex or opex in nature and are classified into basic types (see Table 9 below).

Benefits of a more indirect or intangible nature are considered and listed but are not included in the overall NPV analysis.

Table 9: High Level Quantifiable Benefit Definitions

Benefit	Definition
Savings/reduction	A direct tangible benefit associated with reducing the cost of service as a result of the changes implemented.
Avoidance	A tangible benefit associated with avoiding increased costs of service, driven by activity that is reasonably expected to happen or currently will happen without a change in approach or without the relevant funding.
Customer time saving	A tangible benefit associated with saving customers time eg. reducing the time spent on the phone.
Cost deferral	Deferring expenditure to a future RCP, which reduces the costs in the RCP. Likely needs to be undertaken in the future but may change to cost avoidance if future conditions determine it is no longer needed.
Risk monetisation	The monetisaton of the impact of managing a risk. This is really another subtype of the cost avoidance benefit, but one based on the defined probabilities and impact of risks actualising. This is usually the value of the differences between the costs of the risk actualising in different options. Hence initiating an activity which lowers the likelihood or impact of a risk will have a lower monetised risk value than before that activity is undertaken. The difference between the two risk values becomes the benefit of undertaking the activity.

Cost reductions are generally related to opex related benefits of a recurrent nature.

Cost avoidance and deferral can be opex or capex related, and of a recurrent or non-recurrent nature.

Where benefits result from the combination of more than one investment (eg. a benefit is a result of two or more projects), then the derived benefit was apportioned between the relevant projects according to their estimated contribution to achieving those benefits.

8.2 Benefits realisation

While 'customer time value' and 'risk value' benefits are quantifiable and contribute to the NPV they are not generally realisable in the same way as other benefits.

The benefits realisation approach for other benefits varies depending on the expenditure category (Table 10). Our general approach is that benefits arising in IT Recurrent, IT Non-Recurrent: Maintain Existing Services and IT Non-Recurrent: Compliance business cases will be used to offset cost increases elsewhere in the IT portfolio, and changes will not appear as negative step-changes in the overall submission. For IT Non-Recurrent: New or Expanded Capability business cases, where possible, we will have associated step changes or other adjustments reflected in the overall submission.

Table 10: Benefits realisation approaches by IT expenditure category

Expenditure category	Comments	Realisation approaches
IT Recurrent	Benefits may include small cost reductions or avoidance due to consolidation of particular applications or services.	1. For capex avoidance or reductions: Reducing the IT Recurrent capex proposed for the asset class. 2. For opex reductions: Offsetting against expected IT recurrent opex increases.
IT Non-Recurrent: Maintain Existing Services eg. Major Upgrades or Replacements	Benefits may include small cost reductions or avoidance due to consolidation of particular applications or services.	1. For capex avoidance or reductions: Reducing the IT Non-Recurrent capex request for the program/ project. 2. For opex reductions: - Offsetting against expected IT recurrent opex increases.
IT Non-Recurrent: Compliance	Benefits in this category are generally associated with managing risks hence are not realisable but some realisable benefits to occur.	1. For capex avoidance or reductions: Reducing the IT Non-Recurrent capex proposal for the program/ project. 2. For opex reductions: Offsetting against expected IT recurrent opex increases.
IT Non-Recurrent: New or Expanded Capability	The benefits of these investments are realised in business and network services other than IT.	1. For capex avoidance, deferral or reductions: Demonstrating a variation in the associated business request or the overall submission. 2. For opex reductions: Reduced the opex request. 3. For opex avoidance: Demonstrating the business cost would have otherwise been incurred.

9. Portfolio and deliverability review

The objective of the portfolio review is to create an IT portfolio that best balances the required outcomes and benefits with the costs, effort and impact across the whole of the organisation for the whole of the RCP. More specifically, we contextualize each program and project within the whole organisational set of activities and:

- determine the relative value and complexity of each program or project compared to all others;
- understand the key dependencies and risks across the portfolio, including what is essential for the use by other initiatives;
- undertake a reality check on the proposed body of work and the timeframes;
- integrate learnings from previous programs summarised through the Post Implementation Review (**PIR**) process;
- understand resource impacts across the portfolio to set up for the best chance of long-term success;
- run portfolio smoothing to reduce very large expenditure 'humps'.

This process involves a number of stages and inputs that work together to provide the optimal portfolio delivery approach, taking into account the relative deliverability risks associated with each set of work.

9.1 Portfolio build up and dependency analysis

The portfolio is gradually built up in steps as shown in Table 11 and described below.

Table 11: Portfolio prioritisation approaches for the IT expenditure categories

Expenditure category	Input order	Portfolio prioritisation approach and considerations
Recurrent	1	Mandatory Informed by the IT Asset Management Plan & risk analysis • Large refresh timelines eg. Field tablets, IT data centre hardware. • Required software patching and update schedules.
Non-recurrent: Maintain existing services	2	Mandatory Informed by the IT Asset Management Plan, risk analysis and dependency analysis – based on delivering capability or value to other programs • End of support dates. • The ability to extend the life of the asset as long as possible. • Risk factors, particularly risks to security patching. • External changes likely exposing capacity limitations. • Dependencies - enabling capability for other projects/programs and avoiding costly rework. • Complexity – including availability of required skills.
Non-recurrent: Compliance	3	Mandatory Dates compliance is required or we reasonable expect it to be required
Non-recurrent: New or expanded	4	Optional Prioritised based on alignment to the NER, strategic fit and customer input • Looking to deliver benefits early, taking into consideration other dependencies

1. Add the IT Recurrent: Maintain Existing Services business cases preferred options, ensuring the placement of the necessary activities to maintain the minimum BAU services.
2. Add the IT Non-Recurrent: Maintain Existing Services business cases preferred options, ensuring the placement of necessary activities to maintain long term BAU services, as well as any pre-requisites for the Compliance and 'New or Expanded' programs.
3. Add the date driven 'IT Non-Recurrent: Compliance' business cases preferred options, ensuring we respond to our regulatory, market and legislated obligations.
4. Add the IT Non-Recurrent: The 'New or Expanded' business cases preferred options last, reflecting that these are generally business improvement rather than BAU activities.

While undertaking this analysis we consider the following general principles:

- **Prioritise Customer Value:** Understand the value of the project to customer services and prioritise those that deliver more direct value to maintain existing services and/or add new value.
- **Maximise Program Efficiencies:** Grouping related projects together to ensure efficient delivery using the same teams to deliver multiple projects over the longer term.
- **Spread Delivery Risk:** Identify and place the large and high complexity 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, the benefits and being able to leverage resources without overloading them.
- **Deliver Continuously and Effectively:** Use 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.
- **Build Capability and Minimise Rework:** Maximise the use of projects earlier on the portfolio plan to deliver capability that can then be used or reused as part of subsequent projects.
- **Manage Constraints and Resource Contention:** Ensuring that the same expert internal resources are not being spread across too many initiatives at the same time which impacts on the ability to deliver effectively. Manage factors such as the bushfire season which impact on the ability to render changes during key times.

The overall objective is to create a smooth pipeline of project activities and wherever possible deliver tangible benefits early, whilst minimising the impact on the business, our customers, key external stakeholders, and the individuals involved in delivering the projects.

9.1.1 Portfolio iterations and outcomes

The portfolio compilation and review are undertaken at a number of stages during the development of the IT Regulatory Submission. This allows us to feed any changes from this review into the underlying program and project business cases. These changes can include:

- removing business cases from the submission because they are not of sufficient value or do not deliver sufficient benefits, from either an economic perspective or based on feedback from the customer workshops;
- deferring all or part of a program or project into a subsequent RCP;
- changing the order of programs or projects based on dependencies to ensure we are maximising the reuse of changes to delivery subsequent outcomes and benefits;
- changing the order of programs or projects to consider complexity and ensuring we are not attempting multiple high complexity changes at the same time;

- changing the order of programs or projects to consider the skills required and ensure we can retain similar skills across different activities and reduce the costs of personnel losses and re-onboarding; and
- reprofiling expenditure to avoid large increases or reductions and ensure more consistent delivery.

9.2 Incorporation of IT PIRs

Projects and programs are reviewed on completion as part of our standard Portfolio and Program Management approach. The lessons and outcomes from these reviews are fed into our forecast at numerous stages throughout the process from the initial business case estimation to the portfolio reviews. Specifically, these outcomes serve to:

- provide initial Regulatory forecasts based on previous projects;
- provide guidance on the reasonableness and achievability of the proposed program/project forecasts and benefits;
- understand lead times, capabilities, skill bases and successful management approaches for both the internal teams and likely external partners and
- assist with revision of portfolio dependences, resource impacts, timelines and outcomes based on previous experience.

Appendix A – AER non-network ICT expenditure evaluation requirements

1. AER ICT expenditure evaluation approaches

The AER expenditure categories and evaluation approaches set out in the AER *Non-network ICT capex assessment approach*[13] are summarised in Table A1.

Table A1: AER ICT Expenditure Categories and evaluation approaches

AER ICT Expenditure category / subcategory name	SA Power Networks category / subcategory name[14]	Definition	Primary AER evaluation approaches
Recurrent ICT	**IT Recurrent**	Expenditure that is related to maintaining existing ICT services, functionalities, capability and/or market benefits, and occurs at least once every 5 years.	The AER will: • analyse historical trends having regard to our explanation of observed changes, eg increases in recurrent expenditure as the result of previous non-recurrent expenditure; • benchmark our ICT totex (by customer numbers, IT users or other normalisation factors). This will use a rolling 5 year average; and • review business cases seeking evidence of prudency and efficiency of the investment including: – our use of prudent asset management practices (eg evaluated through industry comparisons); – our use of bottom-up and volumetric analysis techniques where appropriate eg for client devices; – information concerning the organisation's risk position and risk management strategies; and – our justification of step-changes via an appropriate business case analysis.
Non-recurrent ICT	**IT Non-Recurrent**	Expenditure that is not 'recurrent' as per the definition above.	

[13] AER: *Non-network ICT capex assessment approach*, November 2019, pp. 8-9

[14] The remainder of this document is using the SA Power Networks naming for consistency with our internal documentation and RIN reporting

AER ICT Expenditure category / subcategory name	SA Power Networks category / subcategory name[14]	Definition	Primary AER evaluation approaches
Non-recurrent ICT: Maintaining existing services, functionalities, capability and/or market benefits	**IT Non-Recurrent: Maintain Existing Services**	Expenditure related to maintaining existing services, functionalities, capability and/or market benefits that does not recur every five years. For example, upgrades or replacements of systems which may occur on a longer cycle (e.g seven to twelve years).	The AER will: • review business cases, ensuring that: – the business cases assess a range of feasible options including timing and scope options (demonstrating prudency) and possible alternative systems or service providers (demonstrating efficiency); and – the option with the highest NPV (ie the least negative or the most positive) is selected; and • compare the proposed expenditure with the past expenditure in this subcategory.
Non-recurrent ICT: Complying with new / altered regulatory obligations / requirements	**IT Non-Recurrent: Compliance**	Expenditures that are driven by the need to comply with new or altered regulatory obligations or requirements.	The AER will: • review business cases, ensuring that: – at least one feasible option for implementing the requirements is considered; – should there be options to achieve requirements (eg through the use of external service providers), the costs and merits of these options are to be compared; and – the option with the least negative NPV is selected.
Non-recurrent ICT: New or expanded ICT capability, functions and services	**IT Non-Recurrent: New or Expanded Capability**	Expenditures relating to the acquisition of new or expanded ICT capability, functions and services.	The AER will: • review business cases, ensuring that: – a range of feasible options for implementing the requirements including 'Do nothing' are assessed; – benefits of these options exceed costs; and – the option with the most positive NPV is selected.

2. ICT portfolio deliverability requirements

The AER will assess the ICT portfolio as a whole, and particularly the proposed non-recurrent projects with regard to deliverability under the timing proposed.

3. ICT benefits incorporation

The AER expects that any financial benefits achieved from the *non-recurrent* expenditure will be incorporated into the related overall DNSP submission expenditure forecast and clearly identified. Where the benefits are opex related, the AER expects to see associated negative opex step changes. Any benefits beyond those that cover the initial project cost may contribute to the 0.5% opex productivity assumption.

4. ICT Post Implementation Reviews

To improve its understanding of the degree of accuracy of the forecast costs and benefits of our proposed ICT investment, and to increase transparency of ICT expenditure the AER requires the presentation of PIRs for up to 10 largest projects (nominally >$1 million) completed in the five years to January 2024.

Each PIR will need to include:

- actual cost compared to proposed cost;
- actual timeframe compared to proposed timeframe;
- actual benefit compared to proposed benefit; and
- commentary on material variations to the above.

Appendix B – IT business case customer consultation approaches

Table B1: Customer Consultation approaches by IT Expenditure Categories

AER ICT Expenditure category / subcategory name	Engagement Approach	Example Discussion Points
IT Non-Recurrent: New or Expanded Capability	Consult/Involve	• Validating key themes and ideas emerging from the previous workshops which required IT capabilities. • Customer input on the prioritisation of high-level ideas and initiatives. • Customer feedback on the proposed options.
IT Non-Recurrent: Compliance	Consult/Involve	• Emerging and expected compliance requirements. • Customer feedback on the proposed options.
IT Non-Recurrent: Maintain Existing Services	Inform	• The total proposed costs by business case. • General approaches to business cases with a couple of examples. • Linkage to enabling strategic business initiatives.
IT Recurrent	Inform	• The total proposed costs by business case • Current benchmarking performance • Key trends & changes • Approaches to business cases

All expenditure is discussed in total dollars (capex & opex) and conceptualised in customer bill impact terms.