



Business case addendum: ICT Non-Recurrent – ESB AEMO Post 2025 Roadmap Changes

2025-2030 Regulatory Proposal

Supporting document 5.12.29

December 2024



Empowering South Australia

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Glossary

Acronym / term	Definition
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
B2B	Business to Business
B2M	Business to Market
Capex	Capital expenditure
CER	Consumer Energy Resources
DNSP	Distribution Network Service Provider
DX	Data Exchange
EMMS	Electricity Market Management Systems
ESB	Energy Security Board
GIS	Geographic Information System
ICT	Information and Communication Technology
IDAM	Identity Access Management
IDX	Industry Data Exchange
MSATS	Market Settlement and Transfer Solution
NEM	National Electricity Market
NPV	Net present value
NMI	National Meter Identifier
Opex	Operating Expenditure
OT	Operational Technology
PC	Portal Consolidation
PQ	Power Quality
RCP	Regulatory Control Period
ROM	Rough Order of Magnitude

1. About this document

1.1 Purpose

This document is an addendum to our original business case “5.12.29 SAPN 2025-30 Reset ICT Business Case - ESB AEMO Post 2025 Roadmap Changes” included in our Regulatory Proposal (submitted to the AER on 31 January 2024). We had proposed non-recurrent Information and Communication Technology (ICT) compliance related expenditure, in order to meet a compliance driven identified need of changes to our core National Electricity Market systems. This was as result of the changes initiated by the Australian Energy Market Operator’s, (AEMO) Energy Security Board (ESB) Post 2025 energy market reforms.

This document responds to the AER Draft Decision which accepted our original business case represented only a ‘placeholder’ level of expenditure. It was expected this ‘placeholder’ would be amended in our Revised Proposal based on more certain information available to forecast prudent and efficient expenditure to meet the identified need.¹ Therefore, this document now details our updated expenditure forecast and justifications.

1.2 Expenditure category

- Non-network ICT capital expenditure (capex): non-recurrent - compliance

1.3 Related documents

Table 1: Related documents

Title	Author	Version / date
5.12.29 SAPN 2025-30 Reset ICT Business Case - ESB AEMO Post 2025 Roadmap Changes	SA Power Networks	Jan 2024

¹ AER, *Draft Decision: SA Power Networks Electricity Distribution Determination 2025 to 2030 (1 July 2025 to 30 June 2030) – Attachment 5 Capital Expenditure*, September 2024. p.46

2. Executive summary

Our original business case “5.12.29 SAPN Reset ICT Business Case – ESB AEMO Post 2025 Roadmap Changes Jan 2024”, detailed how AEMO is redesigning and replacing its market systems, triggered by the ESB energy transition requirements and timelines. In order to maintain existing energy market services and maintain compliance, as well as respond to new compliance requirements, this will require:

- significant updates to market facing systems for all National Electricity Market (NEM) participants including Distribution Network Service Providers (DNSPs, or distributors); and
- SA Power Networks to replace and upgrade our market interfaces across our market and billing systems.

At the time of submitting our original business case (January 2024), key changes that we identified as having material impact to our systems were:

- replacing and upgrading market integration systems with a data exchange;
- replacing and upgrading core market security systems and security management; and
- replacing and upgrading how we access market information.

We had insufficient detail on what AEMO may require, our obligations and associated timelines for delivery, leading us to propose a minor placeholder of \$2.0 million (capex) with potential costs ranging up to \$21.1 million over the 2025-30 and 2030-35 Regulatory Control Periods (RCPs).

Since the original business case in our Regulatory Proposal, timing and obligations for components of these changes have now become clearer, and our scope has increased, resulting in an increased cost in the 2025-30 RCP. Key specific changes are:

1. AEMO’s high-level program has been split into two phases;
 - a. The first phase has been approved, providing increased clarity on the scope, timing and obligations.² This phase includes all activities listed above, except for the final implementation of the market data exchange, and will be completed within the 2025-30 RCP. It also includes an expanded scope of systems compared to the initial plan.
 - b. The second phase, the transition of all market participants to the new market data exchange, will not be approved until the end of 2025. Participants are proposed to have a degree of choice when they migrate. However, as a DNSP, SA Power Networks will be required to make some changes and be involved in testing when other participants choose to migrate (to ensure the integrity of the market functioning), which may be well ahead of when SA Power Networks may be required to migrate.
2. The requirements for the Australian Energy Market Commission’s (AEMC) flexible trading arrangements have been approved with a confirmed delivery date.

This business case addendum considers the additional required activities since our Regulatory Proposal, in particular the additional systems impacted and flexible trading arrangements.

The recommended option in our original business case (Option 2 – Technical change) has been expanded to consider optimal timing of our delivery of the new required scope.

This business case addendum and Revised Proposal now recommends option, “Option 2c – Deliver in scope changes over two RCPs (2025-35)”. The total forecast expenditure for these changes is \$22.7 million in capex,

² 5.12.29 AEMO Announcement of commencement of Phase 1 activities, 11th July 2024

of which **\$13.2 million** represents the forecast for our Revised Proposal for the 2025-30 RCP (Table 2). This option is preferred to others that we considered on the basis that it:

- best ensures compliance with the requirements that we reasonably expect to be required in the 2025-30 RCP;
- meets the compliance driven identified need, which options 0 and option 1 do not;
- meets the scope of the immediate compliance requirements that are also achieved by option 2(a);
- also undertakes activities that are considered to be ‘no regrets’ actions to cover emerging compliance requirements, and facilitate the transition of other market participants, whose customers could be seriously impacted if they are unable to make the changes at the time required – in contrast option 2(a) will likely fail to ensure sufficient coverage of compliance requirements in the 2025-30 RCP;
- avoids the implementation of process change and introduction of manual work-arounds; and
- avoids the higher costs and potential uncertainty on some required activities reflected in Option 2b.

Table 2: Non-Recurrent Expenditure Options assessment summary relative to the Option 0 base case, \$million, Jun 2022 real³

Option	Total Program Costs			2025-2030 Costs			Program or 10 Year Estimates		Residual Risk Rating ⁴
	Capex	Opex ⁵	Total	Capex	Opex	Total	Benefits	NPV ⁶	
Option 0 – Do Nothing	-	-	-	-	-	-	-	-	Extreme
Option 1 – Process Change	-	-	-	-	-	-	-	-	Extreme
Option 2a – Deliver only the approved AEMO Phase 1 (July 2024) activities and Flexible Trading	22.7	-	22.7	9.0	-	-	-	-19.2	High
Option 2b – Deliver all in scope changes in 2025-30 RCP	22.7	-	22.7	22.4	-	22.4	-	-20.1	Medium
Option 2c – Deliver in scope changes over two RCPs (2025-35) Recommended	22.7	-	22.7	13.2	-	13.2	-	-19.7	Medium

Other options assessed for this revised proposal were:

- Option 0 – Do nothing (base case, unchanged from original business case); there will be neither process nor system changes implemented; consequently, there will be non-compliance to AEMO’s system changes;

³ Note: Totals presented in tables throughout this document may not exactly match the sums of individual figures due to rounding

⁴ The overall risk level for each option after the proposed option implemented. Refer to [Appendix B](#) – risk assessment for details

⁵ Operating expenditure

⁶ Net present value (NPV) of the proposal over 10-year cash flow period from 1 July 2025 to 30 June 2035, based on discount rate of 4.05%.

- Option 1 – Process change (unchanged from original business case); implementation of process change and introduction of manual processes to avoid system changes; this option does not achieve compliance;
- Option 2a – Deliver only the approved AEMO Phase 1 activities and Flexible Trading; achieving partial compliance by implementing only Phase 1 activities and flexible trading, and deferring all Phase 2 activities until 2030-35; compliance will be achieved upon completion of Phase 2; and
- Option 2b – Deliver all in scope changes in 2025-30 RCP; achieving full compliance by implementing all changes for Phase 1, Phase 2 and flexible trading.

3. Background

Our National Market systems provide connectivity, validation and data-sharing capabilities which enable us to successfully participate in the NEM, including:

- AEMO compliant systems required to fulfil our NEM obligations;
- Business-to-Business communications to other market participants, sharing information such as customer and site (including life support) details, meter data, one-way notifications (meter faults and planned interruptions), service orders (requests and responses) and network billing – invoice data; and
- Business-to-Market connectivity to ensure that configuration data is kept in sync with AEMO’s Market Settlement and Transfer Solution (MSATS) system for customer administration and transfer, and meter data management.

Secure, reliable, real-time, access to AEMO market systems is also critical to service delivery for many of our customer-facing services, providing data inputs to key services including:

- high-priority service order processing, including meter reading/connects/disconnects/special-reads;
- provision of meter data to customers (regulatory requirement);
- customer information for our call centres;
- power outage notifications to customers; and
- GIS (Geographic Information System) mapping services for asset management.

SA Power Networks has obligations as a DNSP, in relation to billing and customer data flows through our national market systems. This annual throughput includes:

- \$1.4 billion in annual electricity network billing charges;
- 238,000 high-priority service orders;
- 9 million market transactions;
- 10,000 new customer connections;
- management of 22,500 life support customers; and
- support and maintenance of around 900,000 National Meter Identifier (NMI)s and associated customer information, as well as 1.2 million meters.

These systems are also key to ensuring that timely and accurate information regarding life-support customers, site risk and health and safety requirements are available to our staff. Not having this information could result in potential injuries or loss of life.

The ESB is making the NEM fit-for-purpose, in collaboration with market bodies: the AEMC, AEMO and the Australian Energy Regulator (AER). The **ESB Post 2025 Electricity Market Design Project** addresses essential change in a world of expanding consumer choices, new technologies, and large-scale capital replacement. They have identified that without reform, consumers will not obtain the full value of emissions reduction offered by the renewables transition.⁷

Energy Ministers have endorsed these reforms and tasked the ESB with their delivery. The ESB is establishing a program of work to deliver these reforms, in consultation with consumer and industry representatives. The suite of reforms is designed to replace aging and legacy AEMO market systems; fix immediate problems;

⁷ [Energy Security Board | Post 2025 electricity market design project \(aemc.gov.au\)](https://www.aemc.gov.au/post-2025-electricity-market-design-project)

design now what needs to happen next; and set up pathways forward so everyone has clarity and confidence about what must be done.

Actioning on these reforms will achieve the following:

- enable more secure access to data across the NEM;
- enable access to new types of data across the NEM;
- allow consumers to benefit from rapidly changing technologies in our power system;
- unlock the value of flexible demand and consumer energy resources;
- complement government schemes which are delivering on their policy commitments including emissions reduction; and
- provide clear signals for timely and efficient investment to deliver reliable, secure, and affordable electricity for consumers.

3.1 Regulatory Proposal - original business case

We proposed our original business case for the ESB AEMO post 2025 roadmap changes in January 2024, with the options outlined below.

Table 3: Original Business Case - Costs, benefits and risks of alternative options relative to the base case over the 10-year period, \$m, \$ Jun 2022 Real.

Option	10 Year Program Costs			2025-30 Program Costs			10 Year Benefits ⁸	10 Year NPV ⁹	Overall Risk Rating ¹⁰	Ranking
	Capex	Opex	Total	Capex	Opex	Total				
Option 0 – Do nothing	-	-	-	-	-	-	-	-	Extreme	
Option 1 – Process Change									Extreme	
Option 2 – Technical change	21.1	-	21.1	2.0	-	2.0	-	-16.5	Medium	1

Our Regulatory Proposal recommended ‘Option 2 – Technical Change’ to align our systems with AEMO’s operational systems. This option was preferred as it maintained our existing customer and business services by ensuring that our core National Market systems are fit for purpose, secure and reliable. The total change was estimated be \$21.1 million over two RCPs.

However, given the uncertainty of the scope and nature of the AEMO NEM Reform initiatives, we proposed a placeholder of \$2 million for this work in the 2025-30 RCP. The AER’s Draft Decision accepted this expenditure but recognised that it was only a placeholder that would be revisited in our Revised Proposal with further and updated substantiation of the forecast costs of our expected compliance need.

⁸ Represents the total capital and operating risk reduction and over the 10-year cash flow period from 1 July 2025 to 30 June 2035 expected across the organisation as a result of implementing the proposed option.

⁹ Net present value (NPV) of the proposal over 10-year cash flow period from 1 July 2025 to 30 June 2035, based on discount rate of 4.05%.

¹⁰ The overall risk level for each option after the proposed option implemented. Refer to [Appendix B](#) – risk assessment for details.

3.2 Changes since our Regulatory Proposal

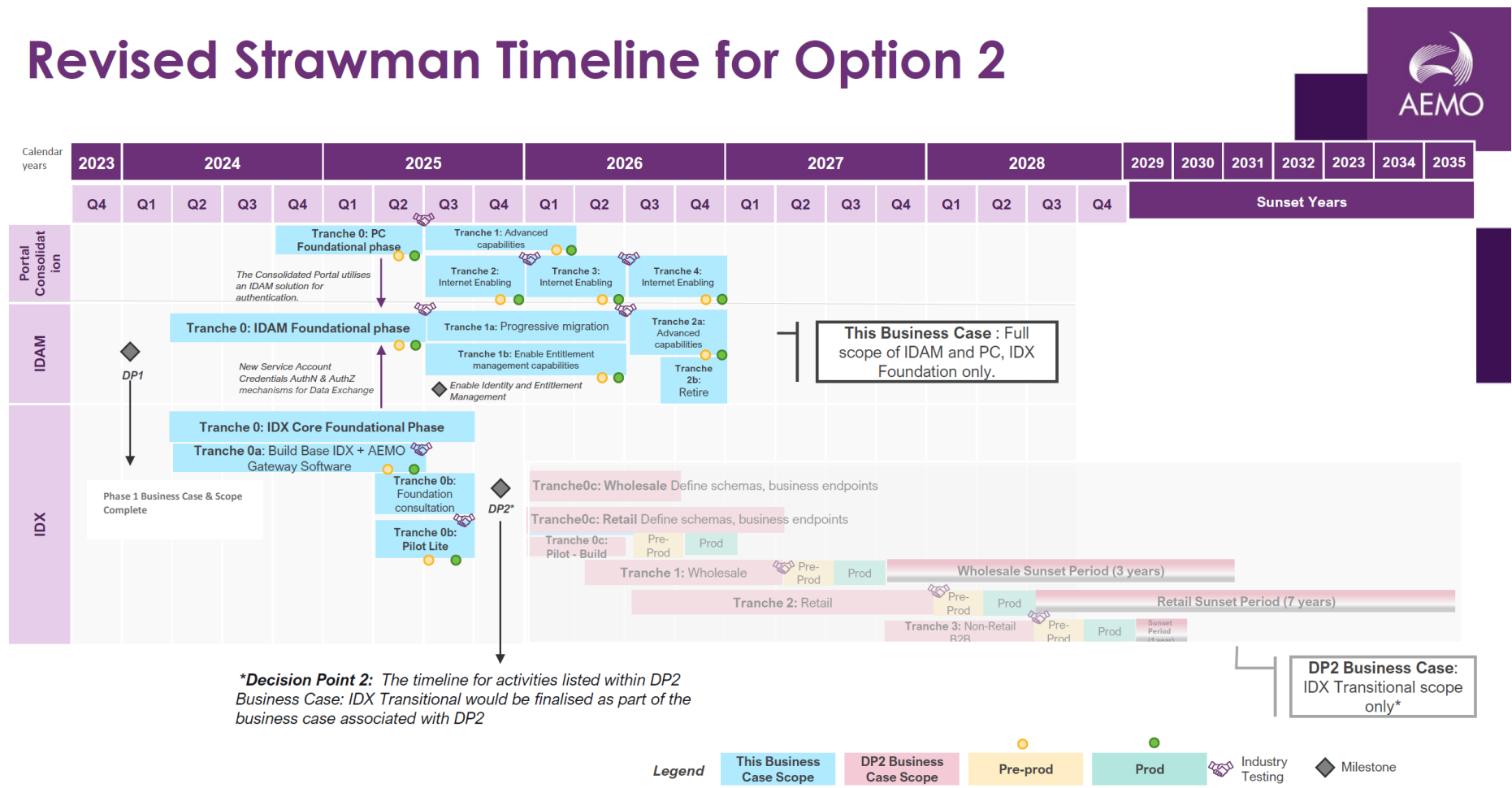
Since the time of our Regulatory Proposal, the following changes have occurred:

- AEMO has split activities into two phases;
 1. AEMO clarified the scope, timelines and obligations for phase 1 (see blue items in Figure 1, below), which includes:
 - replacement and upgrade of market security systems and protocols;
 - replacement and upgrade of how market information is accessed;
 - initial design and concepts for market integration system with data exchanges
 - additional data exchanges including piloting integrations related to power quality (PQ) and consumer energy resource (CER) data.
 2. The second phase is implementation and market transition of the integration / data exchanges for existing market transactions and this won't be fully approved until late 2025 at the earliest. This scope does not include the implementation of the PQ and CER data exchanges at this time (which have been excluded from our consideration and scope).
- Flexible Trading requirements have been approved with implementation by 1 November 2026¹¹. These changes will enable customers
 - to sign up to different service offerings for different electrical loads, through the use of secondary service points (e.g. separating flexible CER loads from more 'passive' consumption); and
 - to record consumption against new meter types for streetlights and other street furniture.

This has significantly increased the scope and deliverables expected in the 2025-30 RCP.

¹¹ [Rule determination – National Electricity Amendment \(Unlocking CER benefits through flexible trading\) Rule 2024 \(aemc.gov.au\)](#)

Figure 1. AEMO roadmap for system changes, as approved at August 2024¹²



¹² Extracted from [AEMO Foundational & Strategic Business Case, July 2024 p.44](#)

3.3 The scope of this business case addendum

AEMO proposes replacing and expanding their National Market systems with products that have improved data management systems, improved data security and modernises their Industry Data Exchange (IDX) communication protocols.

This business case addendum covers the modification of SA Power Networks' National Market systems required to enable our systems to interact with the new AEMO systems.

3.3.1 In scope

Directly correlating to AEMO's work streams for the rule changes, the items in Table 4 below are considered as being in scope for this business case addendum. The first three have been consolidated into tranches in alignment with AEMO's roadmap in Figure 1 above, grouped by phase (with 'Phase 1' being the current approved tranches, in blue):

Table 4: Summary – Scope of Activities

Item	Phase 1 Activity Scope	Phase 2 Activity Scope
Portal Consolidation Replacement of market portal and how market information is accessed	Tranche 0 <ul style="list-style-type: none"> Implementation and testing of new market portal; Validation and testing of MSATS; Repointing entry points of SA internal market systems and browser services to point to new Markets Portal. Tranche 1 <ul style="list-style-type: none"> Implementation and testing of new portal features: self-service and personalisation. Tranche 2 <ul style="list-style-type: none"> Implementation and testing of new portal features: Market Information, Intermittent Generation and Generation surveys (GSA). Tranche 3 <ul style="list-style-type: none"> Implementation and testing of new portal features: Energy Market Management Systems (EMMS)- Settlements, Forecasting and Demand side Participation. Tranche 4 <ul style="list-style-type: none"> Implementation and testing of new portal features: DER Register. 	None
IDAM (Industry Identity & Access Management) Replacement of market security systems and protocols	Tranches 0 and 1a <ul style="list-style-type: none"> Setup, testing and migration of SA Power Networks to the new security system; Establishment of organisational hierarchy, with identified users, roles and responsibilities and plan for migration; Tranche 1b <ul style="list-style-type: none"> Setup and testing of entitlement management (roles and permissions); Tranche 2a & 2b <ul style="list-style-type: none"> Implementation and testing of new capabilities such as data sharing, audit and compliance reports. Retire old systems and reports. 	None

Item	Phase 1 Activity Scope	Phase 2 Activity Scope
IDX (Industry Data Exchange) Replacement of market integration systems	Tranche 0a <ul style="list-style-type: none"> • Definition of requirements, standards and protocols; • Solution design validation; • Planning for testing and migration. Tranche 0b <ul style="list-style-type: none"> • Development of data exchange roadmap and planning migration approach; • Setup of systems, security and environments and the conducting of two pilots to exchange PQ data and three prioritised CER data sets. 	Tranches 2 and 3 <ul style="list-style-type: none"> • Plan, design, build and implement our internal production version of the data exchange; • Validate end to end exchange of data via AEMO’s gateway, for all market transactions; • Facilitate industry and bi-lateral changes and testing in support of retailers as they migrate to the new systems; • Migrate SA Power Networks’ business functions to new systems;
Item	Activity Scope	
Enabling Flexible Trading	<ul style="list-style-type: none"> • Enable the capture of new data fields from market transactions to specify: <ul style="list-style-type: none"> ○ which customers are involved in flexible trading arrangements (FTA); and ○ which customers have secondary service points • Enable the capture of new types of NMIs such as streetlights and other general equipment 	

Timing Considerations for in-scope activities

Under the current proposed AEMO plan, the new IDX production environment will be available from Q1 2027, with Retailers able to start their migration from Q3 2028. AEMO are planning an extended period of support for legacy systems, where limited support will be available until 2035. This is referred to as the “sunset period” on Figure 1 as a DNSP we will be expected to migrate during this period.

Our timing will be driven by Retailer timings and hence can happen from Q3 2028 onwards. We expect to have to comply between 2028 and 2035 but also expect Retailers will be using opportunities to migrate earlier rather than wait until the end of the extended support period. We therefore need to allow for participation in Retailer migrations and we expect that some of these will commence late in the 2025-30 RCP driven by internal Retailer drivers such as:

- Upgrading or replacing their internal market systems;
- Changes in their business structure eg. mergers; or
- Wanting to achieve the benefits of the new systems earlier, such as reduced implementation cost for future industry reform.

As a DNSP we are required to be involved and facilitate Retailers’ transition to ensure the integrity of the ongoing market transactions and data.

CER Data Sharing Pilots

In concert with industry participants, AEMO has been undertaking an extensive industry co-design process to identify and prioritise use cases for the CER data sharing. The objective is to realise the full benefits of CER for all consumers through secure, standardised and efficient data sharing. These use cases are detailed in the recently released “CER Data Exchange Industry Co-Design Consultation Paper, October 2024”.¹³ Figure 2 below summarises the 10 primary use cases and indicative timelines. Nine out of 10 use cases are

¹³ <https://aemo.com.au/-/media/files/initiatives/der/2024/cer-data-exchange---consultation-paper---oct-2024.pdf>

targeted within the next 5 years i.e. by 2030. Three priority use cases have been identified as delivering the best value for consumers, as well the base functional capabilities required to secure and standardise CER data sharing across the NEM. These use cases are:

- 1. Sharing Network Limits;
- 4. Supporting Local Network Services; and
- 9. Consistent CER Standing Data.

These use cases will be piloted as part of the Phase 1 activity and hence we have estimated our costs based on them.

Figure 2. CER Use Case Priorities and Indicative Timelines from the CER Data Exchange Industry Co-Design Consultation Paper, October 2024, Figure 17, p.40

Use case	Table Sentiment	Timeline	Build option	Complimentary Groupings
1. Sharing Network Limits	Priority	Within next 5 years	Extend	▲
2. Grid Data Collaboration	Some value, but not urgent	Within next 5 years	Extend	▲
3. Scaling Dynamic network pricing	Less value, subject to detail	5 years +	Extend	◆
4. Supporting Local Network Services	Priority	Immediately	New	◆
5. Transparency of Market Prices	Less value, subject to detail	Within next 5 years	Extend	◆
6. Flexibility Service Requests	Some value, but not urgent	Within next 5 years	Extend	◆
7. Streamlined CER Portfolio Data Access	Some value, but not urgent	Immediately	Extend	◆
8. Visibility of CER Customer Choices	Some value, but not urgent	Within next 5 years	New	◆
9. Consistent CER Standing Data	High value	Immediately	Extend	◆
10. Support EV Uptake and Integration	Less value, subject to detail	Within next 5 years	Extend	◆

3.3.2 Out of scope

The following items below are considered out of scope. The requirements for these items are still evolving and are yet to be formally approved, impacting our ability to estimate costs with confidence:

- pilots for any other CER use cases;
- production implementation of the CER use cases; and
- production implementation of the PQ data exchange.

In the event there are requirements to deliver any of the out-of-scope items or there are substantial changes to the proposed implementation timelines or scope resulting in a material impact (e.g. mandating that all of the phase 2 activities are completed by 2030), SA Power Networks will submit a pass-through request.

The initial rough-order-of-magnitude costs for productionising all 10 of the CER use cases is **\$27.1 million** for implementation, plus costs for maintenance and consumption.

4. The identified need

Driven by new market requirements and rule changes, the replacement and uplift of existing technologies requires SA Power Networks to implement system changes to ensure our continued access to the NEM, as well as enabling the access and functionality of other participants within the NEM.

The identified need that this business case addendum responds to is as follows:

- a. to continue to comply with applicable regulatory obligations / requirements pursuant to the capex objectives in 6.5.7(a) of the National Electricity Rules (NER), on the basis that as a DNSP we:
 - have a responsibility to ensure our systems are available, reliable and secure - ensuring life-support, metering data management, service orders and customer billing functions; and
 - must continue to meet our obligations as a Metering Data Provider (MDP) and a Metering Coordinator (MC) within the NEM;
 - have regulatory obligations with respect to cyber security to ensure all application security vulnerabilities are remediated in accordance with the risk and threats they pose. In addition, we need to ensure the security of the national market by ensuring our cyber systems are fully up to date;
- b. to maintain the safety of our distribution network and system, pursuant to clause 6.5.7(a)(4) of the NER;
- c. to facilitate the energy transition for our customers and their ability to benefit more from CER, consistent with the overall intent of the ESB's reform program; and
- d. to facilitate the transition of other market participants to ensure that they also remain compliant.

5. Comparison of options

5.1 The options considered

Table 5: Summary of options considered.

Option	Description
The base case	
Option 0 – Do nothing	Do not comply with the regulatory changes.
Option 1 – Process Change¹⁴	Implement only process change including introduction of manual work-arounds to enable security, integration and Flexible Trading outcomes.
Option 2a – Deliver only the approved AEMO Phase 1 (July 2024) activities and Flexible Trading	Deliver only approved Phase 1 changes and Flexible Trading and defer data exchange design and implementation to the 2030-35 RCP.
Option 2b – Deliver all in scope changes in 2025-30 RCP	Deliver full scope of system changes within the 2025-30 RCP. This includes delivery of Phase 1, Phase 2 and Flexible Trading.
Option 2c – Deliver in scope changes over two RCPs (2025-35)	Deliver the approved Phase 1 changes and Flexible Trading. Commence the planning and design of the data exchange in 2025-30 but defer implementation of data exchange until 2030-35 RCP.

¹⁴ Remains unchanged from original business case

5.2 Options investigated but deemed non-credible

We considered an option of not making any changes to our National Market systems until RCP 2030-35, but concluded that this would impact our obligations of maintaining customer facing services and mitigating risks to safety and quality of supply, as follows:

- not having secure, reliable and real-time access to AEMO market systems and data would impact our obligation and ability as a DNSP to efficiently manage billing and customer processes;
- timely and accurate information regarding life-support customers, site health and safety risks is critical in our goal to avoid potential injuries or loss of life; and
- further, SA Power Networks facilitates industry and market functionality with other South Australian market participants, particularly Retailers. These participants and their customers would be seriously impacted if they were not able to test their connectivity to the NEM via our market systems, especially at a time of major technical change.

5.3 Analysis summary and recommended option

5.3.1 Options assessment results

Table 6 summarises the options assessed, their costs for the 2025-30 RCP, total costs over a 10-year period and associated Net Present Value (NPV) result.

Table 6: Costs, benefits and risks of alternative options relative to the base case over the 10-year period, \$m, \$ Jun 2022 Real.

Option	10 Year Program Costs			2025-30 Program Costs			10 Year Benefits ¹⁵	10 Year NPV ¹⁶	Overall Risk Rating ¹⁷	Ranking
	Capex	Opex	Total	Capex	Opex	Total				
Option 0 – Do nothing	-	-	-	-	-	-	-	-	Extreme	
Option 1 – Process change	-	-	-	-	-	-	-	-	Extreme	
Option 2a – Deliver only the approved AEMO Phase 1 (July 2024) changes and Flexible Trading	22.7	-	22.7	9.0	-	9.0	-	-19.2	High	3
Option 2b – Deliver all in scope changes in 2025-30 RCP	22.7	-	22.7	22.4	-	22.4	-	-20.1	Medium	2
Option 2c – Deliver in scope changes over two RCPs (2025-35)	22.7	-	22.7	13.2	-	13.2	-	-19.7	Medium	1

Assumptions

The following assumptions are applicable under all options:

¹⁵ Represents the total capital and operating risk reduction and over the 10-year cash flow period from 1 July 2025 to 30 June 2035 expected across the organisation as a result of implementing the proposed option.

¹⁶ Net present value (NPV) of the proposal over 10-year cash flow period from 1 July 2025 to 30 June 2035, based on discount rate of 4.05%.

¹⁷ The overall risk level for each option after the proposed option implemented. Refer to Appendix A– risk assessment for details.

- AEMO will continue to the phase 2 of the IDX implementation, which is certain, evidenced by the investment to date, the commitment to the roadmap, the need to replace legacy systems and the overall ministerial support for the objectives;
- there is a period of extended support available over several years, from January 2029. Without extended support cyber and functional risk increase significantly; and
- AEMO can actually create a reliable and effective technical solution that will enable the extended support period in the first place, removing the need for participants to migrate at the same time and in the 2025-30 RCP. Should AEMO be unable to do then then all participants will be forced to migrate en masse over a very short time period in order to minimise the risk to maintaining existing services.

5.3.2 Recommended option

The recommended option for our Revised Proposal is ‘**Option 2c – Deliver in scope changes over two RCPs**’ (2025-35). This addresses the requirement of our systems to be technically aligned with the operational systems provided by AEMO, more specifically the changes identified in their NEM Reform timeline covering identity management, communication protocols and provision of a new market portal and enablement of Flexible Trading arrangements. Our project will be delivered in line with the timeline provided as part of the AEMO roadmap. This option is preferred to others that we considered, on the basis that it:

- meets the compliance driven identified need, which options 0 and option 1 do not;
- meets the scope of the immediate compliance requirements that are also achieved by option 2(a);
- avoids the implementation of process change and introduction of manual work-arounds;
- avoids the higher costs and potential uncertainty on some required activities reflected in Option 2b; and
- also undertakes activities that are considered to be ‘no regrets’ actions to cover emerging compliance requirements, and facilitate the transition of other market participants, whose customers could be seriously impacted if they are unable to make the changes at the time required – in contrast option 2(a) will likely fail to ensure sufficient coverage of compliance requirements in the 2025-30 RCP.

Table 7: Proposed expenditure by cost type for 2025-30 RCP (June 2022, \$ million)

Cost Type	2025-26	2026-27	2027-28	2028-29	2029-30	Total 2025 - 30
Capex	6.8	2.2	0.5	1.4	2.2	13.2
Opex	0	0	0	0	0	0
TOTAL	6.8	2.2	0.5	1.4	2.2	13.2

Appendix A provides the detailed risk analysis for each option. Appendix B provides the links to the cost and benefit models for each option.

5.4 Option 0 – Do Nothing (Do not comply with regulatory rule change)

5.4.1 Description

Maintaining compliance with market changes is a strategic imperative for SA Power Networks and a failure to address this requirement will create extreme risk. This option is not credible but has been included to provide the baseline for the risk analysis against which other options are assessed.

5.4.2 Risks

Table 8: Option 0 Risk assessment summary

Risk consequence category	Current risk level ¹⁸ (Option 0)
Safety - Harm to a worker, contractor or member of the public	High
Performance and Growth - Financial impact	Extreme
Network - Failure to transport electricity from source to load	High
Customers - Failure to deliver on customer expectations	High
Technology and Data Capabilities – Disruption of access to, or use of systems	Extreme
Technology and Data Capabilities – Unauthorised access or disclosure of information	Extreme
Scope of Industry Change Delivery – Failure to effectively deliver project objectives and benefits	High
Schedule of Industry Change Delivery – Failure to meet industry change milestones	High
Overall risk level	Extreme

5.5 Option 1 – Deliver only Process Changes

5.5.1 Description

This option would involve implementing physical process change and work arounds to avoid changes to core market and meter data management systems. Market data transmissions are high volume, 2-way transactions with complex business rules that occur through internal and external (AEMO Hub) interfaces.

Due to the real time nature of the transactions and huge volumes of the data involved and the market requirements for capturing and transacting this data, neither increased labour resources nor modification of business processes can provide a credible solution to address the NEM Reform changes. This option would not mitigate the extreme risk for SA Power Networks.

¹⁸ The level of risk post current controls (ie after considering what we currently do to mitigate the risk).

5.5.2 Risks

Table 9: Option 1 Risk assessment summary

Risk consequence category	Current risk level ¹⁹ (Option 0)	Residual risk level ²⁰ (Option 1)
Safety - Harm to a worker, contractor or member of the public	High	High
Performance and Growth - Financial impact	Extreme	High
Network - Failure to transport electricity from source to load	High	High
Customers - Failure to deliver on customer expectations	High	High
Technology and Data Capabilities – Disruption of access to, or use of systems	Extreme	Extreme
Technology and Data Capabilities – Unauthorised access or disclosure of information	Extreme	Extreme
Scope of Industry Change Delivery – Failure to effectively deliver project objectives and benefits	High	High
Schedule of Industry Change Delivery – Failure to meet industry change milestones	High	High
Overall risk level	Extreme	Extreme

5.6 Option 2a – Deliver only the approved AEMO Phase 1 (July 2024) activities and Flexible Trading in 2025-30

5.6.1 Description

This option would deliver only the changes that are already approved, to maintain continuity of our processes and interfaces with the market following AEMO’s implementation of their foundational changes to IDAM, PC and IDX. The scope of this option defers Phase 2 activities until 2030-35.

Although delivering Option 2a will at a minimum maintain alignment of our business activities and processes to AEMO and their foundational capabilities for security management, data exchange and portal, our internal systems will remain on legacy technology and integrations with the market, putting at risk the security of our systems and data until we progress to the new solution. This risk will progressively increase over time.

This option is not recommended as the deferral of all Phase 2 activities into the 2030-35 period increases the risk of not meeting industry change milestones in a timely manner, risking impacts to our customers, stakeholders, other market participants and their customers.

Our timelines are dependent on when other participants choose to migrate. This means that it is reasonable to expect that we will have activity to undertake in the 2025-30 RCP. In addition, this program will run for a

¹⁹ The level of risk post current controls (ie after considering what we currently do to mitigate the risk).

²⁰ The future level of risk once treatments proposed in this option have been implemented.

number of years and cost effectively executing a staged plan of the years allows for the management of our risk and effective delivery.

Table 10: Option 2a Advantages and disadvantages

Advantages	Disadvantages
Achieves AEMO’s target outcomes and approved activities in time with the Phase 1 requirements	Risk progressively increases over time due to staying on legacy systems
This is the lowest cost option for the 2025-30 RCP, although the total cost of change over the 10-year period remains the same	Deferring Phase 2 activities until 2030-35 RCP increases the risk of SA Power Networks failing to meet industry change milestones
	Deferring Phase 2 activities increases the risk of failing to deliver on the timelines of other participants and impacting their customers

5.6.2 Costs

Expenditure for Option 2a was forecast on a bottom-up basis (Table 11). The timing of costs reflects alignment to the current AEMO Phase 1 activities for the 2025-30 RCP. The total expenditure of \$22.7 million comprises of the following key components:

- a) \$9.0 million capex for the delivery of the approved Phase 1 changes in the 2025-30 RCP; and
- b) \$13.3 million capex for the deferred delivery of AEMO Phase 2 activities in the 2030-35 RCP.

Table 11: Option 2a Capex Costs by Project (\$m Jun 2022 Real)

Project	2025 H1	2025-26	2026-27	2027-28	2028-29	2029-30	Total 2025 – 30	2030-31	2031-32	2032-33	2033-34	2034-35	Total 2025-35
Replacement of market portal and access	0.2	1.1	0.2	-	-	-	1.2	-	-	-	-	-	1.4
Replacement of market security systems	0.1	1.1	0.3	-	-	-	1.4	-	-	-	-	-	1.6
Replacement of market integration systems	0.1	2.3	0.8	-	-	-	3.1	5.1	8.2	-	-	-	16.5
Enable Flexible Trading	-	2.3	0.9	-	-	-	3.2	-	-	-	-	-	3.2
Total	0.4	6.8	2.2	-	-	-	9.0	5.1	8.2	-	-	-	22.7

Assumptions:

- AEMO milestone dates for production, industry testing and support end dates are as indicated in current approved business case and not earlier;
- Retailers’ transition to the future state will be gradual as they too take advantage of the extended support period, reducing the urgency for SA Power Networks to uplift IDX capability; and
- SA Power Networks’ participation in industry testing will be required to support every market participant who operates in South Australia as part of their activities to transition to future state.

5.6.3 Risks

Table 12: Option 2a Risk assessment summary

Risk consequence category	Current risk level ²¹ (Option 0)	Residual risk level ²² (Option 2a)
Safety - Harm to a worker, contractor or member of the public	High	Medium
Performance and Growth - Financial impact	Extreme	High
Network - Failure to transport electricity from source to load	High	Medium
Customers - Failure to deliver on customer expectations	High	Medium
Technology and Data Capabilities – Disruption of access to, or use of systems	Extreme	Medium
Technology and Data Capabilities – Unauthorised access or disclosure of information	Extreme	Medium
Scope of Industry Change Delivery – Failure to effectively deliver project objectives and benefits	High	High
Schedule of Industry Change Delivery – Failure to meet industry change milestones	High	High
Overall risk level	Extreme	High

5.7 Option 2b – Deliver all in scope changes in 2025-30 RCP

5.7.1 Description

This option involves delivering all system changes across our National Market systems in conformance with the standards and protocols established through AEMO’s full scope of activities in addition to flexible trading arrangements in the 2025-30 RCP.

Delivery of Option 2b will ensure our readiness, improving the deliverability and efficiencies of future reform activity as they emerge from the Market.

Table 13: Option 2b Advantages and disadvantages

Advantages	Disadvantages
Achieves AEMO’s target outcomes and approved activities well within the time with their requirements.	The full AEMO requirements are still not fully understood, creating risk of over-investing without additional information
Reduces risk associated with maintaining legacy systems.	Highest cost option aside from do nothing and process changes
Reduces risk associated with a longer transition period.	

²¹ The level of risk post current controls (ie after considering what we currently do to mitigate the risk).

²² The future level of risk once treatments proposed in this option have been implemented.

Advantages

Disadvantages

Readiness for retailers and other stakeholders as they progressively transition to future state, enabling a more efficient transition for our stakeholders.

Retains skills and knowledge within project team for duration of delivery, increasing efficiencies and reducing the cost of ramp-up and joint bi-lateral testing

5.7.2 Costs

The expenditure for Option 2b was forecast on a bottom-up basis (Table 14). Option 2b differs to Option 2a only in the timing of activities, the cost elements are the same. Option 2b brings forward all Phase 2 activities into the 2025-30 RCP. The total expenditure of \$22.7 million is comprised of:

- a) \$9.0 million capex for the delivery of the approved Phase 1 changes in the 2025-30 RCP; and
- b) \$13.3 million capex for the delivery of AEMO Phase 2 activities in the 2025-30 RCP.

Table 14: Option 2b Capex Costs by Project (\$m Jun 2022 Real)

Project	2025 H1	2025-26	2026-27	2027-28	2028-29	2029-30	Total 2025 – 30	2030-31	2031-32	2032-33	2033-34	2034-35	Total 2025-35
Replacement of market portal and access	0.2	1.1	0.2	-	-	-	1.2	-	-	-	-	-	1.4
Replacement of market security systems	0.1	1.1	0.3	-	-	-	1.4	-	-	-	-	-	1.6
Replacement of market integration systems	0.1	2.3	0.9	0.5	4.4	8.4	16.4	-	-	-	-	-	16.5
Enable Flexible Trading	-	2.3	0.9	-	-	-	3.2	-	-	-	-	-	3.2
Total	0.4	6.8	2.2	0.5	4.4	8.4	22.4	-	-	-	-	-	22.7

Assumptions

- There will be minimal slippage to the timeline and milestone dates proposed by AEMO.

5.7.3 Risks

Table 15: Option 2b Risk assessment summary

Risk consequence category	Current risk level ²³ (Option 0)	Residual risk level ²⁴ (Option 2b)
Safety - Harm to a worker, contractor or member of the public	High	Medium
Performance and Growth - Financial impact	Extreme	Low

²³ The level of risk post current controls (ie after considering what we currently do to mitigate the risk).

²⁴ The future level of risk once treatments proposed in this option have been implemented.

Risk consequence category	Current risk level ²³ (Option 0)	Residual risk level ²⁴ (Option 2b)
Network - Failure to transport electricity from source to load	High	Low
Customers - Failure to deliver on customer expectations	High	Low
Technology and Data Capabilities – Disruption of access to, or use of systems	Extreme	Low
Technology and Data Capabilities – Unauthorised access or disclosure of information	Extreme	Low
Scope of Industry Change Delivery – Failure to effectively deliver project objectives and benefits	High	Low
Schedule of Industry Change Delivery – Failure to meet industry change milestones	High	Low
Overall risk level	Extreme	Medium

5.8 Option 2c – Deliver in scope activities across two RCPs

5.8.1 Description

This option delivers phase 1 activities and phase 2 activities that are considered as being ‘no regrets’ and also manage risk over the long run. This option also enables SA Power Networks to facilitate the migration of other NEM participants to their new systems as they choose to move.

This approach is most prudent in enabling us to balance risk with expected compliance timelines. The ‘no regrets’ activities include:

- facilitating the migration of other participants when they choose to move; and
- commencing the planning and design and initial set up of our own systems once we understand the final AEMO requirements.

‘No regrets’ is used to describe those Phase 2 planning and design activities (starting in calendar year Q3 2028) that SA Power Networks deem to be essential and reasonably expected to be required, even though AEMO have not concluded their decisions of the market integration system. This assessment is based on the following key milestones that are due in advance of the commencement of our Phase 2 activities:

1. Formal approval of the business case for the market integration future state (July 2024), meaning that the decision to proceed with the new market integration system is established and firm;
2. Delivery of AEMO’s core market integration capability is due Q3 2025 as part of Phase 1 and the pilot with industry is due for completion by Q2 2026, meaning that we will have a firm understanding of the technical solution AEMO will be deploying, which will therefore inform the architectural and design decisions for our internal market integration system;
3. Decision Point 2 (DP2) – the business case for phase 2 – in AEMO’s timeline will be approved by Q4 2025; transition planning would be dependent on affirming the technical solution is viable and so achievement of this milestone supports the assertion that we would have enough information to inform our Phase 2 activities;
4. We have only estimated for those activities we expect to undertake irrespective of the final AEMO solution, and not estimated for the activities that are more dependent on the solution; and

5. We reasonably expect other entities will commence their migration ahead of us based on their own drivers and or opportunities to replace and upgrade their own market systems. As noted above we will be required to be involved in their migrations as well.

Option 2c is preferred to Option 2a on the basis that:

- Better ensures compliance with the requirements that we reasonable expect to be required in 2025-30;
- The approach increases our ability to meet industry change milestones and contribute to industry goals; and
- Maintains our ability to deliver regulatory change in a timely manner that minimises impacts to our customers and stakeholders, and those of other market participants.

This approach spreads the delivery risk and cost over a longer period of time.

Table 16: Option 2c Advantages and disadvantages

Advantages	Disadvantages
Achieves AEMO’s target outcomes and approved activities in time with their requirements	Risk progressively increases over time due to staying on legacy systems
Enables management of risk associated with maintaining legacy systems earlier than Option 2a	
Lower risk of migrating onto an immature IDX – allows the AEMO systems to stabilise before migrating on to it – creating less implementation risk and impact on customers	
Balances risk with cost most prudently	
Reduces risk of meeting industry change milestones	
Reduces risk of failing to deliver on timelines of other participants and impacting their customers	

5.8.2 Costs

The expenditure for Option 2c was forecast on a bottom-up basis (Table 17). The timing of costs reflects alignment to the current AEMO roadmap decision points and proposed delivery dates. The total expenditure of \$22.7 million requested across the two RCPs, 2025-35, has the following key components:

- (a) \$9.0 million capex for the delivery of the approved Phase 1 changes in the 2025-30 RCP;
- (b) \$4.1 million capex for Phase 2 work in the 2025-30 RCP, including SAPN’s response to changes from market participants, as well as planning, architectural and design work, and the commencement of solution delivery; this is no regrets work that is required to be done to achieve compliance.
- (c) \$9.1 million for the implementation of Phase 2 in the 2030-35 RCP.

Assumptions

- AEMO milestone dates for production, industry testing and support end dates are as indicated in current approved business case and not expected to be earlier.
- By the end of 2027 we will have clarity on the detailed compliance requirements that will inform architecture, design and implementation.

Table 17: Option 2c Capex Costs by Project (\$m Jun 2022 Real)

Project	2025 H1	2025-26	2026-27	2027-28	2028-29	2029-30	Total 2025-30	2030-31	2031-32	2032-33	2033-34	2034-35	Total 2025-35
Replacement of market portal and access	0.2	1.1	0.2	-	-	-	1.2	-	-	-	-	-	1.4
Replacement of market security systems	0.1	1.1	0.3	-	-	-	1.4	-	-	-	-	-	1.6
Replacement of market integration systems	0.1	2.3	0.9	0.5	1.4	2.2	7.3	9.1	-	-	-	-	16.5
Enable Flexible Trading	-	2.3	0.9	-	-	-	3.2	-	-	-	-	-	3.2
Total	0.4	6.8	2.2	0.5	1.4	2.2	13.2	9.1	-	-	-	-	22.7

5.8.3 Risks

Table 18: Option 2c Risk assessment summary

Risk consequence category	Current risk level ²⁵ (Option 0)	Residual risk level ²⁶ (Option 2c)
Safety - Harm to a worker, contractor or member of the public	High	Medium
Performance and Growth - Financial impact	Extreme	Medium
Network - Failure to transport electricity from source to load	High	Medium
Customers - Failure to deliver on customer expectations	High	Medium
Technology and Data Capabilities – Disruption of access to, or use of systems	Extreme	Medium
Technology and Data Capabilities – Unauthorised access or disclosure of information	Extreme	Medium
Industry Change Delivery – Failure to effectively deliver project objectives and benefits	High	Medium
Industry Change Delivery – Failure to meet industry change milestones	High	Medium
Overall risk level	Extreme	Medium

6. Deliverability of recommended option

We have successfully completed two major National Market projects in May 2021 (Billing Program) and March 2022 (SAP to Cloud), with zero loss of data and minimum business disruption achieved by both projects. This recommended option incorporates lessons learned from those projects, including:

²⁵ The level of risk post current controls (ie after considering what we currently do to mitigate the risk).

²⁶ The future level of risk once treatments proposed in this option have been implemented.

- limiting the impact on business teams by aligning testing to their business processes and ensuring sufficient time for testing (including industry tests);
- ensuring the appropriate test landscape (environments) and test resources (people, test scripts and strategies) are available without impacting our operational 24 x 7 National Market systems; and
- ensuring availability of AEMO support for pre-cutover testing and cut-over support and Retailers assistance with industry testing.

7. How the recommended option aligns with our engagement.

During our engagement, our customers have been consistent in their view that we must comply with our regulatory obligations and generally maintain our existing levels of service and risk, and manage our assets prudently and cost-effectively ensuring they are fit for purpose.

This project was communicated to our customer groups, but was not identified as a topic warranting deep engagement on tradeoffs, consistent with a desire of our groups to ‘focus on what matters most’ to our customers.

8. Reasonableness of cost and benefit estimates

Costing for this business case has been prepared on a bottom-up basis by creating a fully resourced high-level plan for each option, based on current information provided by AEMO regarding the technical changes they plan to make on their systems to deliver the ESB’s Post 2025 reforms. This estimate has been validated and refined in multiple ways:

- review by our Portfolio and Program delivery teams, who are familiar with the approaches identified and the complexity of the requirements, based on our own experiences of similar sized projects; and
- assessment by our internal technical team using experience gained from successful implementation of our National Market systems in 2021.

A. Appendix A - Risk assessment

ID	Risk scenario	Consequence description	Consequence category	Current Risk (Option 0 – Do Nothing)			Residual Risk (Option 1 – Process Change)			Residual Risk (Option 2a – Deliver only approved Phase 1 activities and Flexible Trading)			Residual Risk (Option 2b – Deliver all in scope changes in 2025-30 RCP)			Residual Risk (Option 2c – Deliver in scope changes over 2 RCPs (2030-35))		
				Consequence	Likelihood	Risk Level	Consequence	Likelihood	Risk Level	Consequence	Likelihood	Risk Level	Consequence	Likelihood	Risk Level	Consequence	Likelihood	Risk Level
1	SA Power Networks is unable to comply with NEM regulatory obligations or is unable to participate in the market or are unable to calculate network charges and produce a network bill for customers.	Network reliability - The operation and reliability of the distribution network is heavily dependent on the data provisioned by our integrated systems and any network reliability issue can, in turn, result in liability and/or increased frequency and duration of network outages for customers	Network - Failure to transport electricity from source to load	4	3	High (7)	4	3	High (7)	3	3	Medium (6)	3	2	Low (5)	3	3	Medium (6)
		Network outage management teams unable to identify, notify and maintain reliability of supply to critical and life support customers. There are potentially catastrophic consequences associated with not being able to identify critical and life support customers. SA Power Networks has more than 22,500 NMIs recorded for life support customers.	Customer - Failure to deliver on customer expectations	4	4	High (8)	4	4	High (8)	2	3	Low (5)	2	2	Low (4)	2	3	Low (5)
		Productivity reduces, tasks are completed slower, impacting cash flows and financial transactions. Potential breach of SLAs resulting in financial impact > \$2m and < \$10m	Safety - Harm to a worker, contractor, or member of the public	5	3	High (8)	5	3	High (8)	5	1	Medium (6)	5	1	Medium (6)	5	1	Medium (6)
		Ability to generate accurate regulatory and reliability reporting, which is heavily dependent on IT systems, could be compromised. Resulting in Regulatory / Financial penalties > \$2m and < \$10m)	Performance and Growth - Financial Impact	4	4	High (8)	4	4	High (8)	4	3	High (7)	3	1	Low (4)	3	3	Medium (6)
		Network reliability - The operation and reliability of the distribution network is heavily dependent on the data provisioned by our integrated systems and any network reliability issue can, in turn, result in liability and/or increased frequency and duration of network outages for customers	Performance and Growth - Financial Impact	4	5	Extreme (9)	4	5	Extreme (9)	4	3	Medium (6)	4	1	Low (5)	4	3	Medium (6)

ID	Risk scenario	Consequence description	Consequence category	Current Risk			Residual Risk			Residual Risk			Residual Risk			Residual Risk		
				(Option 0 – Do Nothing)			(Option 1 – Process Change)			(Option 2a – Deliver only approved Phase 1 activities and Flexible Trading)			(Option 2b – Deliver all in scope changes in 2025-30 RCP)			(Option 2c – Deliver in scope changes over 2 RCPs (2030-35))		
				Consequence	Likelihood	Risk Level	Consequence	Likelihood	Risk Level	Consequence	Likelihood	Risk Level	Consequence	Likelihood	Risk Level	Consequence	Likelihood	Risk Level
		Reputational damage due to customer impacts requiring repeated intervention by ombudsman or regulators	Customer - Failure to deliver on customer expectations	4	4	High (8)	4	4	High (8)	3	3	Medium (6)	3	1	Low (4)	3	3	Medium (6)
		Market Billing – ability to generate billing to Retailers impeded (distribution and transmission billing), placing the main electricity service cash flow at risk and potentially restricting business operations. Total loss of trust in our billing systems.	Performance and Growth - Financial Impact	4	4	High (8)	4	4	High (8)	3	3	Medium (6)	3	1	Low (4)	3	3	Medium (6)
		Legacy market access controls may be more easily breached, allowing access to customer data and disruption of other market interactions	Technology and Data – Disruption of access to, or use of systems	4	5	Extreme (9)	4	5	Extreme (9)	3	3	Medium (6)	3	2	Low (5)	3	3	Medium (6)
			Technology and Data – Unauthorised access or disclosure of information	5	5	Extreme (10)	5	5	Extreme (10)	3	3	Medium (6)	3	2	Low (5)	3	3	Medium (6)
		Failure to effectively deliver change objectives and benefits	Scope of Industry Change Delivery - Failure to effectively deliver project objectives and benefits	4	4	High (8)	4	4	High (8)	4	3	High (7)	4	1	Low (5)	4	2	Medium (6)
		Inability to effectively deliver required regulatory changes in a timely manner;																
		Inability to deliver on the timelines for other participants, impacting their customers	Schedule of Industry Change Delivery – Failure to meet industry change milestones	4	4	High (8)	4	4	High (8)	4	3	High (7)	4	1	Low (5)	4	2	Medium (6)
			Overall			Extreme			Extreme			High			Medium			Medium

B. Appendix B – Cost models

Option	Files
Option 2a	5.12.29 ESB AEMO Changes Addendum Estimate – Option 2a – Deliver only approved AEMO Phase 1 activities and Flexible Trading.xlsx
Option 2b	5.12.29 ESB AEMO Changes Addendum Estimate – Option 2b – Deliver all in scope changes in 2025-30 RCP.xlsx
Option 2c	5.12.29 ESB AEMO Changes Addendum Estimate – Option 2c Preferred – Deliver in scope changes over two RCPs (2025-35).xlsx