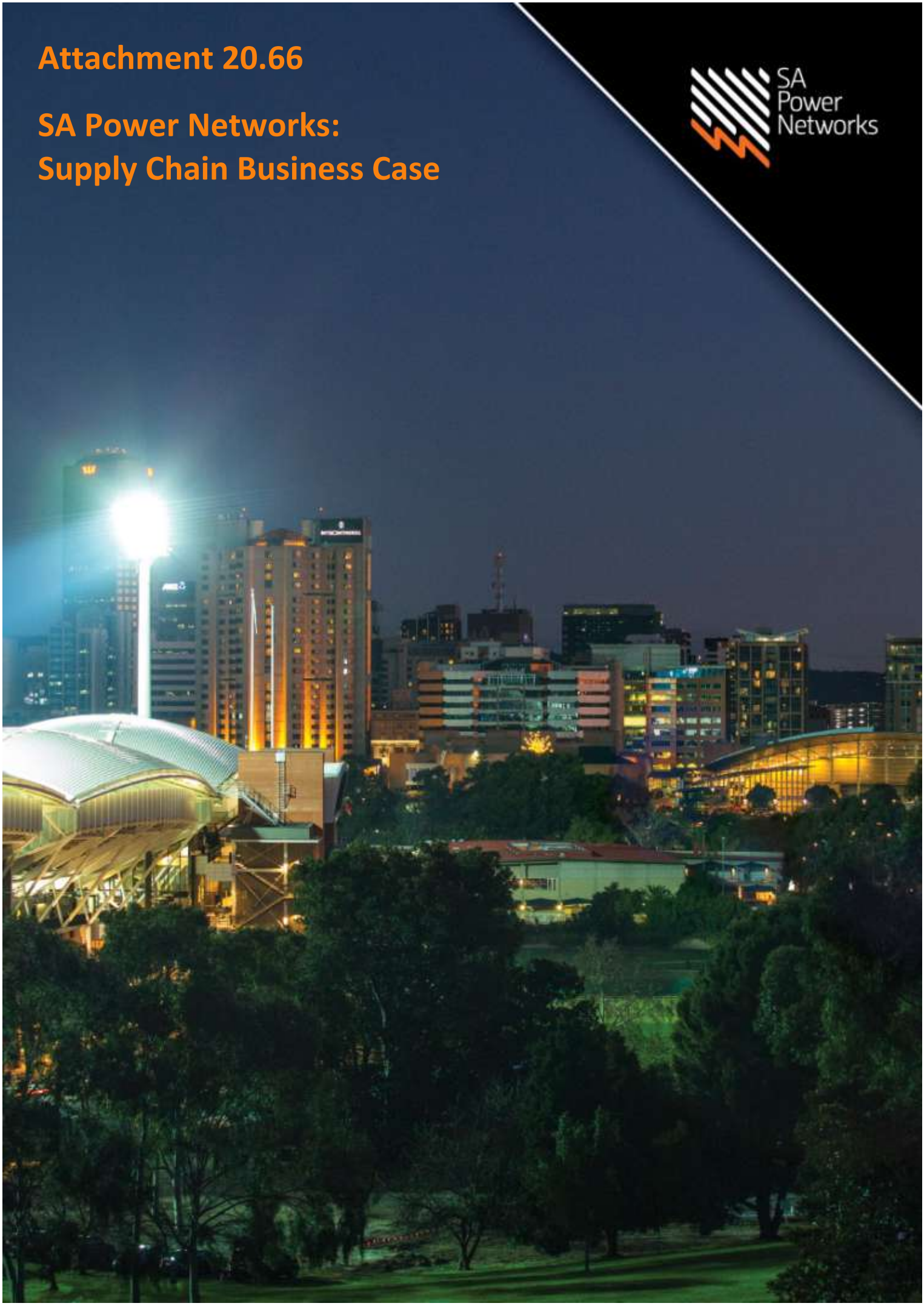
Attachment 20.66

SA Power Networks: Supply Chain Business Case



Business Case

Supply Chain

Project Ref Number : BC05a :

SA Power Networks

www.sapowernetworks.com.au

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1. Executive Summary

In response to the uplift in expenditure and workload for the enterprise coming out of the 2010 – 2015 Regulatory Reset submission, in 2012 Supply Chain become a strategic component at SA Power Networks in the realisation of creating a more customer service focused, safe, cost effective and productive environment in which we can build and operate our network asset. The Supply Chain capability within SA Power Networks is comprised of:

- Procurement – sourcing and purchasing of all materials and services for the company;
- Logistics – The storage, management and transportation of all materials related to the construction and maintenance of the network asset;
- Inventory Planning – the planning and purchasing for components utilised directly in the construction and maintenance of the network asset.

SA Power Networks embarked on a Supply Chain transformation program starting in 2012 and has made significant progress to date implementing foundational capabilities. The transformation program has been the recipient of investments to drive improved capabilities and will continue to derive improvements in customer service, safety, cost effectiveness and productivity from investments in:

- A more highly skilled supply chain workforce;
- Improved process design;
- The logistics network model including field depots, warehousing and material supply model and,
- Technology innovations

Investments in the foundational supply chain capabilities implemented to date have been embedded into the base business planning, with costs for these capabilities being absorbed as part of business as usual.

Customers, and our service to them, are the primary reason we feel that it is necessary to invest in technology to improve SA Power Networks supply chain capability. In any organisation that has a supply chain capability there are always two main drivers for continuous improvement:

1. To provide a higher level of service to your customers. In our business this is manifested in always ensuring we have the right materials, in the right place at the right time to ensure our service delivery teams can safely, quickly and efficiently provide power to our customers. Further leveraging SAP to facilitate the planning, managing and tracking of materials is critical to supporting this effort.
2. Reducing the Supply Chain organisation's "cost to serve". Our supply chain organisation supports a vast team of service delivery personnel with the materials, plant and equipment and services they need to provide power to our customers. We must deliver this support in the most cost efficient way possible so that our customers also benefit from receiving the best value for money for their electricity prices while still receiving the best service possible. Leveraging SAP to improve our ability to manage how we move and track inventory as well as always knowing how we are performing as an organisation is key to providing a more cost effective supply chain delivery model.

The intent of the Supply Chain Business Case is to improve Supply Chain's ability to improve customer service levels, safety performance, cost efficiency and productivity as well as maintaining current reliability levels with an increased level of work and material complexity through better utilisation of SAP and related technologies. The business case explains how business requirements from our Future Operating Model, the increased demand for materials and services and the requirement to support the Reset Regulatory Information Notices form the basis for our technology investments we seek to fund through this submission. Those initiatives are:

- Data analytics to not only measure the performance of the entire supply chain but to more importantly provide a fact-based method for continuously improving our customer service levels, safety performance and supply base performance,
- Automating the management of information relating to supplier performance, contract management and supplier details and.
- Further automating how we manage inventory throughout our network through the implementation of barcoding/RFID/mobility solutions

1.1 Reasons for the Project

1.1.1 Future Operating Model

In 2013, SA Power Networks updated its *Future Operating Model (FOM)* that looks at how the organisation will change through to 2028. The FOM outlines the key drivers that will impact the business over that time, including:

- increased network development and investment;
- increased regulation of network performance;
- the proliferation of distributed energy resources;
- flat or declining energy prices;
- advancement and integration of operations and;,
- a need to serve the changing needs of customers and communities.

As these drivers impact the business, SA Power Networks will require a significant uplift in its supply chain capabilities in order to effectively support the broader enterprise. Specifically, this will mean SA Power Networks building a supply chain that is equipped for:

- increased organisation spend and the associated expansion in capacity to support increased volumes across procurement, inventory and logistics;
- delivering improvements in cost-to-serve while addressing the increased complexity and volume in the materials that will be required to build and maintain the network;
- a more service orientated supply chain with improved convenience, responsiveness and flexibility supporting the field teams working across the network;
- improved collaboration and innovation throughout the supply chain to support integrated planning, operations and logistics between internal stakeholders and external suppliers.

To meet these changing needs, a multi-year Supply Chain transformation program has begun that currently extends to 2015, and is expected to deliver significant capability uplift. In response to the FOM work, Supply Chain has developed the *Supply Chain Strategy 2020* that outlines its vision to become a value creation hub and an enabler to the business in its service oriented objectives. While foundational progress has been made to date, several key areas for development have been identified in order for supply chain to achieve its vision. These include:

- **Stronger supplier collaboration:** sourcing, negotiating and managing stronger supplier agreements, avoiding unnecessary costs and/or delivering more capability for the same cost;
- **Consolidating and controlling purchasing across the organisation:** Purchasing materials and services more efficiently through the selection of items from a catalogue using a convenient user interface along with the electronic workflow for financial and product approvals to drive safety and contract compliance;
- **Improving supply chain performance transparency:** Understanding the supply chain operating efficiency and effectiveness from a fact-based, analytical basis in order to provide insights for performance improvements; and
- **Closer alignment to the business:** Planning and management of materials replenishment to support the construction and maintenance of the electricity network with an automated and integrated system linking the warehouse, engineering, depots and purchasing.

1.1.2 Future Materials Master Complexity

The second driver of this business case is directly related to the level of material complexity that will need to be accurately managed as the network asset becomes more automated. The *Smarter Network Strategy 2014-2015* has defined strategies and initiatives that will "integrate intelligent equipment and systems to manage risk, optimise asset investment, manage reliability and enable the two-way network". The integration of these new technologies will have a direct impact on our supply chain requirements as it will introduce new material components that will need to be managed in addition to the existing material components that must be managed with replacement and maintenance components through the rest of their useful life.

The *Smarter Network Strategy 2014-2015* defined the following initiatives that will have a direct material impact on the supply chain network:

- **Substation remote monitoring and control –** deployment of monitoring and control to all substations over the next 10 years in order to manage the risk of critical asset failure and optimise asset investment.
- **HV Switches** – a coordinated program to install switches to manage reliability in the worst performing areas of our network, manage bushfire risk through deployment of SCADA in bushfire risk areas and expanding our back-up protection coverage.
- **LV Monitoring** – proactive and selective monitoring of the LV network to improve our knowledge of the LV network.
- **Voltage control –** deploying telecommunications to a targeted subset of smart ready meters being installed as part of the Demand Side Participation (DSP) program in order to proactively monitor the power quality in the low voltage network.

While there will be a small addition of labour resources to physically manage these volumes, most of the requirements will be handled through the implementation of technology to ensure the materials are received, stored, transported and issued to work orders more efficiently and accurately. Technology relating directly to B2B transactions with suppliers, radio frequency, barcode scanning and mobility solutions and additional functionality with the SAP Warehouse Management module would more efficiently facilitate the management of the increase in materials items compared to increasing the workforce to manage these items manually.

1.1.3 Reset Regulatory Information Notice requirements

As reporting for the Reset Regulatory Information Notice is enabled, the supply chain organisation will be required to track an increased level of materials information than is currently managed. Currently, network asset material components are represented with varying levels of detail within SAP:

- Approximately 90-95%* of powerline asset material components represented by about 3,000 material master records
- Approximately 40-50%* of substation asset material components represented by about 2,000 material master records
- 0% of telecommunications asset material components are represented by material masters

* based on estimations from the Inventory Planning Manager

As enterprise asset management increases for the network asset and the usage of compatible units, including the labour components, continues to facilitate standard designs, material masters, service masters and outline agreements represented in SAP will play a significant role in capturing the actual operational data required to support the Regulatory RINs reporting. This information will be required to be managed in increasing volumes and complexity within supply chain as these

materials, services and contracts continue to be necessary to support the planned automation and maintenance of the network.

1.2 Business Options Considered

To address the key areas requiring improvement, a range of IT investments have been evaluated by external supply chain experts such as AT Kearney, SAP and Ernst & Young. The options considered align with the *IT Strategic Plan 2013-2017* and the *SA Power Networks 7 Year Value Roadmap*. The following have been determined as the areas requiring technology investment through the reset submission:

- Supplier Information and Performance Management;
- Supply Chain performance analytics: supply chain analytics (procurement, warehousing, logistics and inventory analytics); and
- Materials planning and management: SAP WM logistics execution improvements; RF scanning; B2B transaction.

This business case has considered three options to deliver part or all of these IT investments:

- Option 1 – "Do Nothing". Manually manage the impacts on the logistics network of fulfilling the supply chain vision as well as network automation and increased maintenance and Regulatory Reset RINs requirements.
- Option 2 – "Slightly Strengthened Capability". Builds on current capability by implementing Supplier Management and Supply Chain performance analytics.
- Option 3 - "Strengthened Capability". Investment in SAP and related technology solutions, process and governance to fulfil the Supply Chain Strategy through 2020 and position Supply Chain beyond 2020.

Table 1 - Summary of Supply Chain IT Business Case Investment Option Components

Area	IT Investment	**Option 1** – Do Nothing	**Option 2** – Slightly Strengthened Capability	**Option 3** – Strengthened Capability
Supply Management	Supplier Information and Performance Management	✗	✓	✓
Supply chain performance analytics	Supply chain analytics	✗	✓	✓
Materials planning and management	SAP WM Logistics Execution improvements	✗	✗	✓
	RF Scanning	✗	✗	✓
	B2B transactions	✗	✗	✓

All options and their associated investments are detailed in Section 4.

1.3 Recommended Option

"Strengthened Capability" (Option 3) is the preferred option as it is expected to significantly reduce the risks to the organisation as well as improving the supply chain capabilities to support the organisation in delivering a strengthened customer experience at a cost that is more palatable than the Option 1 and Option 2.

Table 2 - Overall appraisal breakdown ($ Real 2013/14)

Option	Cost	Benefits	NPV[1]	Overall Risk Rating	Benefits
1. Do Nothing	$5.43M	$0	$-4.11M	Moderate-High	N/A
2. Slightly Strengthened Capability	$1.53M	$0.293M	$-1.03M	Low	Tangible /Intangible
3. Strengthened Capability	$4.31M	$4.41M	$-0.37M	Low	Tangible /Intangible

[1] Discount Rate of 5.44%, base year 2013/14

Option 1

During the next regulatory reset period the materials volume and complexity is expected to increase to support the automation of the network as well as the expanded requirement to maintain the existing asset. The volume of material throughput and the number of material masters (Stockkeeping units) has a direct impact on the number of FTEs required to ensure the movement of these materials are recorded accurately within SAP. To support this higher level of material activity, under the "Do Nothing" option Supply Chain procurement and logistics costs are expected to increase by approximately $253,000 / year as more frequent stock counts will be necessary along with the transactional data entry and supplier contract management.

While the "Do Nothing" option will be able to deliver on the increased volume and complexity of material transactions, it will not be able to address the requirement to continue to hold a higher level of inventory across the depots to support emergency supply restoration events. It is anticipated that the expected savings of approximately $922,000 in less inventory that can be achieved through the "Strengthened Capability" option will not materialise as it will be necessary to continue to hold higher levels of inventory to support emergency supply restoration events as the level of inventory accuracy will not be as high under the "Do Nothing" option as it would be under the "Strengthened Capability" option.

Finally, the "Do Nothing" option will not deliver the level of data analysis that will support providing the required information for the Regulatory Reset RINs activities and also to provide useful insights into the "cost-to-serve" of the supply chain function. Gathering and analysing this information through a single, integrated method will make it possible to continuously improve the capability as well as benchmark against other electricity distributors in regards to procurement, warehousing and logistics and inventory planning and utilisation. Without this technology in place the supply chain organisation anticipates it will spend an additional $133,000 yearly on additional resources to perform these same activities manually.

Option 2
Requires investment in technology to deliver components of the Supply Chain Strategy through to 2020 and position Supply Chain beyond 2020. This option comprises the implementation of nine Supply Chain IT initiatives across the two areas for improvement:

1. Supply management: supplier information and performance management;
2. Supply Chain performance analytics: supply chain analytics; and

Option 3 comprises a suite of technology investments that builds on Supply Chain's current foundational capabilities and addresses the key business drivers identified in the Future Operating Mode 2014-2018. Further, Option 3 investments support the strategic drivers for the business through to the next regulatory reset period and lay the foundation for incrementally implementing further capabilities as necessary.

To achieve the specified objectives a total cost of **$1.53m** is required over the investment period 2015/16 to 2020/21 of which **$1.39m** is required for the 2015-2020 Regulatory Control Period.

Option 3

It is recommended that SA Power Networks implement the IT investments as detailed in "Strengthened Capability" (Option 3). This option will provide:

- The technology basis to manage the additional volume and complexity that will need to be managed across all 27 depots in the logistics network,
- insight and flexibility to optimise current Supply Chain operations through to the next regulatory period and lay the foundation for incrementally implementing further capabilities as needed,
- a single integrated view based on SAP transactional data of actual material movements to support the Regulatory Reset RINs information requirements
- a consolidated method and technology base for managing all supplier information and utilising it throughout the entire business

As well as the direct benefits that have been modelled, the benefits assessment of Option 3 indicate significant contributions to helping supply chain achieve its customer service and collaborative planning objectives, which will lead to indirect benefits across the organisation. In particular, some of the additional indirect benefits of Option 3 include:

- Real time and accurate visibility of materials, including transformers, conductors etc., throughout the supply chain, thereby enabling logistics personnel to respond more effectively to field team requirements for critical spares during network restoration events;
- Improved customer service for planned work by ensuring the right materials are in the right place at the right time thereby ensuring no loss of productivity by the field service teams through unnecessary deliveries, or additional time waiting in the warehouses;
- Integration of procurement and delivery information with suppliers providing better planning information for warehousing and logistics, allowing suppliers to assist in controlling inventory planning;
- Reduce the risk of working with non-compliant suppliers as they will have the ability to self manage their insurances and certifications through a web/mobility interface at their convenience;
- Provide a single, consolidated view of all supplier performance for sourcing negotiations and suppliers performance management including contract information, quotes, KPIs, qualitative feedback, certificates, insurance, regulatory compliance and financials;

- Creation of a consolidated view of actual supply chain performance for inclusion of Regulatory Reset RINs reporting;
- Consolidation and insight development of supply chain trends across procurement, logistics and materials planning for benchmarking against other electricity distributors within Australia;
- Reporting of supply chain trends, productivity and utilisation across transportation, material management, warehouse utilisation, supplier delivery and quality performance, depot network inventory performance and;

Provide a consolidated, integrated view of the enterprise-wide performance of the supply chain activities using the transactional data as it resides in SAP without external resources such as spreadsheets. The business risk under Option 3 is significantly reduced as this option delivers technology to support portions of the strategic direction outlined in the Supply Chain Strategy 2020, and the associated capability uplift. The risks associated with implementing these investments include IT and project risks resulting in potential delays in benefits realisation. As the recommendation provides the least amount of risk to the organisation, the most viable option for SA Power Networks is to implement Option 3 – "Strengthened Capability".

2. Reasons

2.1 Background

Following on from the 2010 -2015 Regulatory Reset submission, the significant uplift in expenditure and workload throughout the business was a key driver in the formation of a Supply Chain department in 2012. Supply Chain was formed as a single organisational unit comprised of procurement, logistics and inventory planning capabilities. Throughout 2012 and 2013 a Supply Chain Transformation Program was initiated to address the efficiencies needed to deliver the services required with minimal expansion on headcount. During this time the transformation program established foundational supply chain capabilities including:

- Reorganising the procurement function from a supplier contract-based method of strategic sourcing to a category-based methodology where individuals are responsible for managing a portfolio of like materials or services (category) instead of a portfolio of individual supplier contracts;
- Implementing baseline procurement data analysis capabilities to start to understand the value of overall spend and supplier segmentation for use in strategic sourcing events
- Gaining visibility of all materials within SAP at 6 depots within Adelaide and 2 larger regional depots;
- Reducing the complexity of managing the supply chain within SAP by reducing the SAP plant structure from 11 plants to 1 and;
- Commencing cultural change required across SA Power Networks for streamlined procurement.

These efficiencies have been embedded into the base plan, with costs for these capabilities being absorbed as part of business as usual. In addition, The *Future Operating Model* highlights the need for a significant uplift in current supply chain capabilities in order to manage the impact of these business drivers. A number of initiatives have been identified as part of this uplift, and these fall into two categories:

a) Initiatives that will be completed without being submitted as part of the Supply Chain Regulatory Reset submission, as the benefits will cover the costs before the reset period is completed. These include:

- Stronger supplier collaboration: sourcing, negotiating and managing stronger supplier agreements that will add value by directly reducing the cost of materials and services, avoiding unnecessary costs and/or delivering more capability for the same cost;
- Consolidating and controlling purchasing across the organisation: Purchasing materials and services more efficiently through the selection of items from a catalogue using a convenient user interface along with the electronic workflow for financial and product approvals to drive safety and contract compliance;

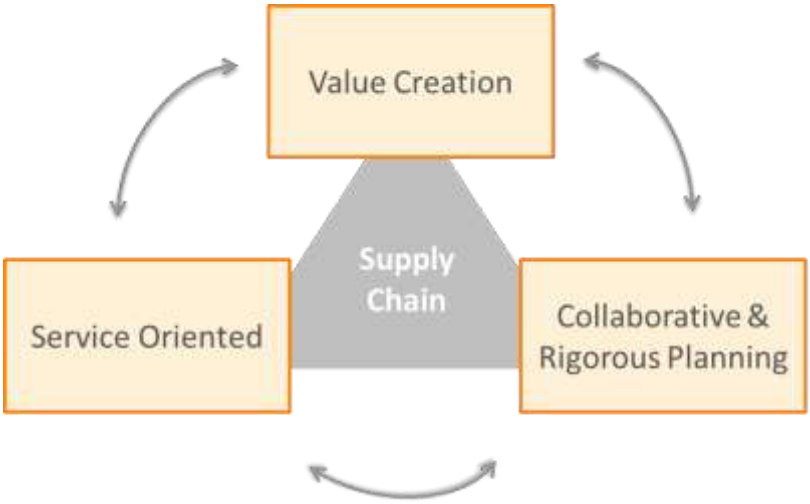
b) Initiatives that are detailed in this business case, as the benefits have a longer term deliverable outside of the 2015 -2020 reset period.

Supply Chain Strategy 2020

In response to these challenges, Supply Chain has developed a vision to become a value creation hub for cost efficiency and an enabler to the business in its service oriented objectives. This vision identifies the key challenges and opportunities that will shape business processes across the supply chain over the next 5 years. To deliver on its objectives, the *Supply Chain Strategy 2020* has identified three key improvement areas:

1. **Value creation:** Increase the benefits derived from our Supply Chain operations and reduce the overhead cost and deepen our understanding of where further value can be created through increased usage of data analytics;
2. **Service oriented:** Increase Supply Chain efficiency through a service oriented approach to supporting Field Services depots; and
3. **Collaborative & rigorous planning:** Become more flexible in supporting our organisation to adapt to the customer base, improved network planning and integration with suppliers e.g. B2B, end-to-end planning, self-service procurement.

Figure 1 - Supply Chain Strategy 2020



While reasonable progress has been made to date in establishing key foundational capabilities, there is still a requirement for additional investment to support Supply Chain in achieving its vision. The *SA Power Networks Strategic Plan 2014 – 2018* has identified that "to be the cost efficient service provider" is a significant business objective with a direct impact on the Supply Chain through to 2018. Achieving the Supply Chain 2020 vision by addressing the key improvement areas will support the business into the future as it strives to meet its strategic objectives.

A fundamental challenge highlighted in the Supply Chain strategy is to centralise activities that are currently performed by the business outside of the Supply Chain function, to gain efficiencies and improve governance. Further, Supply Chain has the opportunity to realign and optimise end-to-end processes through the adoption of IT investments commensurate with improved operational performance.

2.2 Objectives

The primary intent of the Supply Chain vision is to effectively support the business in its customer oriented and cost effective objectives. Achieving this vision will support the strategic drivers for the business through the next regulatory reset period and lay the foundation for incrementally implementing further capabilities as necessary. The *Supply Chain Strategy 2020* is built upon three pillars which translate to specific operational objectives as detailed in Table 3 – Supply Chain Operational Objectives.

Table 3 - Supply Chain Operational Objectives

Key Area	Objectives
Value Creation	*Financial objectives* • Reduce the cost of materials and services • Increase percentage spend under management • Maximise value of Supply Chain resources • Increase net working capital utilisation • Generate target year on year savings *Internal processes objectives* • Establish an integrated strategic sourcing process • Increase utilisation of Supply Chain technologies • Enable full supplier lifecycle management, including discovery, on-boarding, maintenance, and retirement • Establish a document management framework • Increase percentage of materials catalogued • Measure and report 'Maverick Spend'
Service Oriented	*Customer objectives* • Build an efficient, service-oriented network for materials distribution • Centralising the Supply Chain function while maintaining alignment with business units • Reduce lead time on products and services • Align catalogue with internal customer demand

Key Area	Objectives
Collaborative and Rigorous Planning	*Internal processes objectives* • Increase utilisation of information stored in SAP to facilitate performance improvements • Rationalise and automate the planning and management of materials to support construction and maintenance of the Network • Integrate processes with suppliers (B2B communication) • Implement whole of life Supplier Relationship Management • Improve longer term materials demand forecast *Learning and growth objectives* • Increase quality of workforce to support fulfilment of strategic and internal • Set-up access to external/internal research, consulting assistance and technology tools • Set-up development and retention plan

The intent of the Supply Chain Business Case is to improve Supply Chain's ability to improve customer service levels, safety performance, cost efficiency and productivity through better utilisation of SAP and related technologies. The enhancement of current Supply Chain systems will address key areas for continued improvement:

- Understanding the Supply Chain operating efficiency and effectiveness from a fact-based analytical basis utilising information stored within SAP to provide insights for performance improvements;
- Planning and management of the replenishment of materials to support the construction and maintenance of the electricity network in a more automated, rationalised and integrated system linking the warehouse, engineering, depots and purchasing; and

The Supply Chain Business Case addresses key IT investments across the areas of focus:

1. Supplier Information and Performance management;
2. Supply chain performance analytics: Supply chain analytics (warehousing, logistics and inventory analytics); and
3. Materials planning and management: SAP WM logistics execution improvements; RF scanning; and B2B transaction.

2.3 Key focus areas

To this extent, key focus areas have been identified with the underlying reasoning supporting their strategic importance summarised as follows:

1. Supply management;
2. Supply chain performance analytics; and
3. Materials planning and management.

1. Supply management

Supply management relates to processes and activities around the purchase of services and materials, and the related suppliers, across the organisation. SA Power Networks' existing supply management lacks sufficient integration across processes both within Procurement and across the business. The resulting practices have led to:

- Manual processes for supplier performance management;
- Inappropriate supplier information as a result of a lack of a centralised document control system for all information pertaining suppliers;
- Lost opportunity through contract non-compliance as a result of a lack of a centralised online contract database for visibility of T&Cs and tracking of rebates, discounts etc.; and
- Inability to effectively manage forecast increase in spend and volume, or increased specification variety reducing strategic sourcing effectiveness.

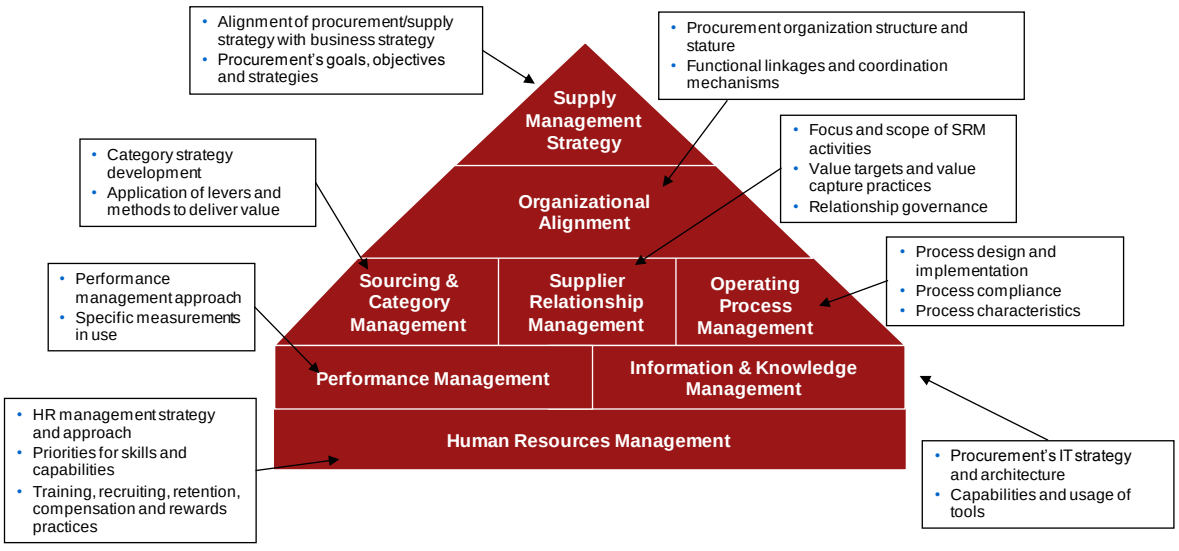
2. Supply chain performance analytics

Data analytics is foundational to help drive continuous improvement initiatives and is critical to support the thinking and rationale to trends, strategies, and future opportunities. SAP is the foundation system by which Supply Chain conducts transactional processes and stores historical and forecasting information. The extraction of data from SAP is not currently efficient or useable and has resulted in:

- Inefficient and incomplete supplier performance management
- Lost opportunities in reducing spend
- Inefficient and manual processes in gathering supply chain performance information; and
- Inadequate visibility across procurement, logistics, inventory and warehouse management.

Investing in supply chain performance analytics and supply management technologies will significantly contribute to improving the overall performance of the procurement area of Supply Chain. In May, 2012 professional services company AT Kearney was engaged to perform a diagnostic on the operations of the procurement area. They conducted their *"Assessment of Excellence in Procurement" (AEP)* survey within our organisation to determine the effectiveness of procurement within the company. They survey benchmarked our procurement performance against 200 other procurement organisations. The survey covered key areas of procurement as outlined in this diagram:

A.T. Kearney's House of Purchasing and Supply^{SM}



The survey results indicated that SA Power Networks is in the 4th quartile in the areas of Supplier Relationship Management and Information & Knowledge Management as shown in this figure:

Since the survey was conducted in May, 2012, progress has been made to improve our performance in the areas of Supplier Relationship Management and Information and Knowledge Management. It is anticipated that by implementing the recommended investments in the Supply Management and Supply Chain Performance Analytics the performance of the procurement function as measured by the AT Kearney AEP survey would improve to:

This improvement would have our relative performance against all participants move up to the 2nd quartile in the areas of Supplier Relationship Management and Information and Knowledge Management.

3. Materials planning and management

SA Power Networks currently has 27 depots state-wide, with additional depots planned for the near future. In the early 1990s, store persons were removed from each depot which meant a lack of visibility of materials held at each location without inventory personnel available to maintain systems and update records. In 2013, a business case to place stores persons back in key depots was approved, and this has resulted in the materials at 8 depots now being visible through SAP.

Despite these improvements there is a need to continue to roll out inventory visibility across all depots and enable the automation of inventory movements, inventory planning and replenishment. These improvements will address the current gaps in capabilities:

- Excessive on-hand inventories, obsolescence and low inventory turns and the inability to transfer excess materials from one depot to another;
- Poor utilisation of resources required for frequent physical and cycle stock counts;
- Additional waiting times and loss of productivity by the field services teams as a result of unavailability of materials at depots
- Longer than necessary lead times on materials and excessive freight costs;
- Inflexibility to respond to mix and volume changes in materials impacting on delivery to the end customer for planned work or supply restoration; and
- Lack of fast and efficient inventory availability determination during supply restoration events.

2.4 Relationship to Business Strategies and Programs

The project contributes to the achievement of corporate strategic objectives as described below.

Table 4 - Contribution to Corporate Strategic Objectives

Corporate Strategic Objective	Contribution
Delivering on the needs of our shareholders, by achieving our target returns, maintaining the business' risk profile, and protecting the long term value of the business	• Supply chain analytics – improved inventory visibility and planning of materials across the depot network will ensure optimised level of inventory and appropriate supply to meet operational requirements. • Supplier information and performance management – establishing whole of life supplier performance management across the Supply Chain will maintain the business' risk profile.
Providing customers with safe, reliable, value for money electricity distribution services, and information that meets their needs	• Supply chain analytics – improved inventory visibility will ensure appropriate supply for operational requirements to meet customer obligations SAP WM logistics execution improvements – the implementation of SAP WM logistics will deliver efficiency, improved accuracy and on-time deliveries to meet customer service levels
Ensuring that our workforce is safe, skilled and committed, and that our resourcing arrangements can meet our work program needs	• Supply chain performance analytics – improved supply chain analytics will facilitate data gathering and report generation without significant ad hoc effort improving the effectiveness of the supply chain
Maintenance and development of key capabilities that will help sustain our success into the future	• Supply chain analytics – improved inventory visibility will enable improved accuracy in forecasting operational requirements to meet current and future customer obligations • SAP WM logistics execution improvements – the implementation of SAP WM logistics will facilitate load and truck planning to manage dynamic nature of moving materials as requirements change • RF scanning hardware – upgrade and extension of RF technologies at Angle Park and through the logistics network to more efficiently track and trace the value and disposition of materials used to construct and maintain the electricity network

The project aligns with corporate core areas of focus as described below.

Table 5 - Contribution to Corporate Core Areas of Focus

Corporate Core Areas of Focus	Contribution
Energised and responsive customer service	• Supply chain performance analytics – improved inventory performance visibility will enable improved accuracy in forecasting operational requirements to meet current and future customer obligations • SAP WM logistics execution improvements – the implementation of SAP WM logistics will facilitate load and truck planning and ensure responsiveness to customer requirements
Excellence in asset management and delivery of service	RF scanning – upgrade and extension of RF technologies will enable more efficient disposition of materials used to construct and maintain the electricity network
Growth through leveraging our capabilities	• Supply chain performance analytics – improved supply chain analytics will support and inform strategic decision making
Investing in our people, assets and systems	• Leveraging technology delivers value across multiple fronts: efficiency gains related to moving away from manual processing, improved supplier relationships because information is more readily exchanged, and supplier engagements are conducted in a more timely and efficient manner.

The project aligns with IT strategic objectives as described below.

Table 6 - Contribution to IT Strategic Objectives

IT Strategic Objective	Contribution
Ensure technology, systems and processes support SA Power Networks long-term business direction	This business case is aligned to the *Future Technology Operating Model (FTOM)* through utilising SAP's Supply Chain capabilities to its full potential, and reducing difficulties in accessing and processing essential business information (e.g. from supply chain performance analytics improvements)
Ensure IT governance, planning and reporting are aligned with SA Power Networks strategy	All supply chain IT investments are expected to support the IT strategy of leveraging SAP as our core enterprise solution
Partner with other business departments to deliver value through technology	Key elements of the business case are to introduce supply chain analytics to enable business departments to effectively manage materials and services spend
Ensure our people are informed and engaged, and have the right skills aligned with business objectives	Technology enabled Supply Chain solutions will facilitate consistent levels of services provided to business customers
Improve efficiency of our processes in line with good industry practices	Implementation of the Supply Chain Business Case will enable SA Power Networks to achieve efficiency levels in line with good industry practices and provide the capability to support the increased stream of capital work

3. Scope

The scope of requirements for Supply Chain IT investments has considered various factors including the current and forecast maturity of the logistics and inventory functions; existing systems and capabilities; and key drivers for change. The Business Case scope is limited to two key areas of focus comprising a total of five in scope IT investments. The IT investments that are specifically out of scope of this Business Case include quality management technologies, supplier risk management, manufacturing scheduling and control, advanced logistics optimisation and procurement.

Table 7 - In-Scope IT Investments

In-Scope	
1. Supply Management	• Supplier information and performance management
2. Supply Chain Performance Analytics	• Supply chain analytics
3. Materials Planning and Management	• Integrated logistics execution • Radio frequency / barcode scanning • B2B supplier integration

1. Supply management

A key area of focus is to manage the supply of goods and materials across the Supply Chain so that business risk is minimised while sustaining the value delivery of our supplier relationships. Since 2012, the procurement function has embarked on a transformation program to move from a contract-based approach to sourcing materials and services to a category based focus. The increase in value delivery has been without any investment in IT to improve the effectiveness of Supply Chain in managing the supply base.

The business is reviewing and transforming procurement operations, including its procurement processes and technology tools. Sustaining value delivery from supply management will be achieved through leveraging technology to:

- Provide a centralised and consolidated view of all supplier data and activities;
- Provide an online standardised supplier self-registration process; and
- Enable the definition, selection, and monitoring of KPIs to provide an integrated and comprehensive view of supplier performance.

2. Supply chain performance analytics

SA Power Networks has historically underleveraged the information contained within SAP and other internal and external sources that is critical in delivering sustained value to the organisation. As the business continues to expand its utilisation of SAP as the primary store for enterprise information, Supply Chain will be able to leverage data to provide insights into performance, perform root cause diagnostics, provide data from which to benchmark the supply chain operations against other electricity distributors in Australia and identify efficiency opportunities by drilling down into low level transactional information. Further investment in IT capabilities to extract and share meaningful information across systems will enable SA Power Networks to make timely and forward-looking decisions.

In addition, supply chain analytics will form the technology basis for providing the actual supply chain data required to support the Regulatory Reset RINs information requirements.

The key objectives of supply chain performance analytics are as follows:

- Provide detailed visibility of demand, supply, and on hand inventory quantities across the supply network;
- Improve inventory investment performance management
- Improve warehouse and logistics performance management;
- Provide a basis from which to benchmark the supply chain operations against other electricity distributors and;
- Provide a single integrated reporting platform from which actual supply chain operations data can be incorporated into the Regulatory Reset RINs data.

3. Materials planning and maintenance

A major requirement in building a service-oriented materials and logistics capability is a well-integrated Supply Chain function that focuses on driving efficiencies with the use of technology to better serve customers. In the past year, there has been progress to extend SAP's Materials Requirements Planning (MRP) capability to planning materials across all metro and selected regional depots. In addition, stores persons have been placed at 8 depots, improving the management and visibility of materials.

While foundational capabilities have been deployed across these 8 depots, there is continued investment required across all locations to improve inventory movement transactional recording, and for further utilization of SAP. Extending Radio Frequency/barcoding/mobility across all depots will improve inventory visibility critical to managing, and replenishing materials. Supplier collaboration through B2B technologies will provide the ability to collaborate with suppliers in managing inventory across the internal network. The key objectives for materials planning and maintenance technologies are as follows:

- Optimise SAP logistics execution and reduce logistics expenditure (run automated MRP to generate orders);
- Implement Radio Frequency (RF) scanning hardware across all depots; and
- Provide collaborative B2B transactions.

Table 8 - Out of Scope IT Investments

Out of scope
• Quality management • Supplier risk management • Advanced Planning and Optimisation • Manufacturing scheduling and control • Transportation Planning and Optimisation • Spend analytics • Self Service Procurement • eSourcing

4. Business Options

The business case has considered three options: Option 1 – "Do nothing", Option 2 – 'Slightly Strengthened Capability" and Option 3 – "Strengthened Capability" Investment as summarised in Table 11.

Table 9 - Summary of Business Case Options

Area	IT Investment	**Option 1** – Do Nothing	**Option 2** – Slightly Strengthened Capability	**Option 3** – Strengthened Capability
Supply management	Supplier Information and Performance Management	✗	✓	✓
Supply chain performance analytics	Supply chain analytics	✗	✓	✓
Materials planning and management	SAP WM Logistics Execution improvements	✗	✗	✓
	RF Scanning	✗	✗	✓
	B2B transactions	✗	✗	✓

Further details of the three options and the results of analysing each one are provided in the sections that follow.

Each of the three options has been evaluated with regard to the following attributes:

- Estimated delivery and recurrent costs derived from external cost estimates from suitable suppliers;
- Costing assumptions;
- Estimated or measured intangible and tangible benefits supported by an assessment of current practices and benchmark reports;
- The schedule and sequence of implementation; and
- Major business risks and disbenefits.

Each of these attributes is identified and described in each option as appropriate.

4.1 Option 1 – Do Nothing

Description: The "Do Nothing" option is to manually manage the impacts on the logistics network of fulfilling the supply chain vision as well as network automation and increased maintenance and Regulatory Reset RINs requirements.. This involves maintaining the existing systems and processes from now to the next regulatory period, while making no supply chain IT enhancements, and increasing FTEs and inventory working capital as required to handle the material volume and complexity that is expected to come through the supply chain network.

In the "Do Nothing" assessment, we have assessed the degree to which the present systems and processes meet the business requirements, and evaluated the major risks with using the current, unmodified operating model to support business requirements.

Table 10 - Summary of Option 1 ($ Real 2013/14)

Option	Cost	Benefits	NPV[1]	Overall Risk Rating	Benefits
Do Nothing	$5.43M	$0	$-4.11M	Moderate-High	N/A

[1] Discount Rate of 5.44%, base year 2013/14

4.1.1 Option 1 Delivery Costs

Not applicable as option 1 is to do nothing.

4.1.2 Option 1 Recurrent Costs

Under Option 1, there will need to be an increase in personnel costs to manage the increased transactions as well as an increase in current inventory to account for the level of inventory inaccuracy that will occur at those depot locations where there will be no personnel to record the movement of materials.

Table 11 - Option 1 Forecasted Cost ($M Real 2013/14)

Business Unit	2015/16	2016/17	2017/18	2018/19	2019/20	Total 2015/16 - 2019/20	2020/21	Total
Labour	-	0.193	0.386	0.386	0.386	**1.352**	0.386	**1.738**
Materials	0.115	0.346	0.576	0.807	0.922	**2.766**	0.922	**3.688**
TOTAL	**0.115**	**0.539**	**0.962**	**1.193**	**1.308**	**4.118**	**1.308**	**5.426**

4.1.3 Option 1 Recurrent Cost Assumptions

The increased cost is based on:

- An increase in the volume of materials and complexity of material masters that will have to be managed in support of automating the network and increased maintenance on the network.
- Holding inventory above what would be necessary if SAP could be deployed at the 11 smaller regional depots in the network. SAP can only be deployed to manage the inventory if it is possible to record the inventory movement transactions. It is estimated that approximately would be removed as part of the effort to deploy SAP to these depots as well as managing to keep the inventory levels at a more efficient operating level once SAP is installed and managing the inventory.
- Holding more inventory than would be necessary across the network of depots as reorder points for non-project stock would need to be on average 8% higher than if technology was deployed to augment personnel recording inventory movement transactions. Holding more inventory will also incur indirect carrying costs throughout the network.
- An additional Supply Chain data analyst will be required half time to extract, consolidate, validate and develop SAP transactional data into information that can be supplied to support the Regulatory Reset RINs requirement.
- An additional 2 General Skilled Worker storemen will be required to perform cycle and stock counts at regular intervals at the 11 depots within the network that will not have fulltime storemen onsite to perform these counts.
- An additional contract officer will be necessary within procurement to manage the volume of manual transactions necessary to adequately maintain the additional supplier information associated with the increased volume and complexity of new materials.

4.1.4 Option 1 Expected Benefits

The benefits of implementing Option 1 are outlined here:

Table 12 - Summary of Benefits by IT Investment Area

Area	Benefit
Supply management	Enable the full supplier management of information for supplier add, change and delete transactions.
Supply chain performance analytics	This area will not benefit from this option.
Materials planning and management	• Improved visibility of inventory reduces the carrying costs of excess inventory • Reduction in stock counts across all depots with improved accuracy in inventory reducing the number of stock counts • Improved customer service for planned work by ensuring the right materials are in the right place at the right time; assists with minimising loss of productivity by field service teams through the unnecessary truck rolls.

4.1.5 Option 1 Expected Disbenefits

The disbenefits of not implementing the stated supply chain IT investments are outlined below.

Table 13 - Summary of Disbenefits by Investment Area

Area	Disbenefit	**Consequence Description**
Supply management	While it will be possible to maintain supplier information manually there will still be an inability to track supplier performance and information will impact the delivery of supply requirements	• Potential failure to detect interruption to supply • Inadequate review of supplier financial and technical qualifications resulting in failure to perform to standard or supplier going out of business

Area	Disbenefit	Consequence Description
Supply chain performance analytics	Inability to quickly gain visibility of supply chain performance limits the ability to intelligently interpret data for strategic decision making and increase reliance on resource-intensive data mining	• Reliance on resource-intensive data mining to retrieve accurate information
Materials planning and management	Limited visibility of inventory across depots	• Material/ product shortages and increased expediting and freight costs • Higher potential for depots without store men or technology to record transactions to either be out of stock of critical supply restoration materials • No ability across 11 of the 27 field service depots to provide real time accurate inventory information to support being able to provide accurate updates to customers • Longer than necessary lead times • Excessive on-hand inventories and obsolescence and lower inventory turns • Poor utilisation of resources and lack of resources when needed • Inventory across the network not recorded or visible on SAP is not reflected on profit and loss statements, hence inventory as an asset is undervalued.

4.1.6 Option 1 Timescale

Not applicable as option 1 is to do nothing.

4.1.7 Option 1 Major Business Risks

The following risk assessment has been conducted in accordance with SA Power Networks' corporate risk framework, including the application of appropriate qualitative measures of likelihood and consequence, and the resulting overall risk rating as defined in Table 14.

Major business risks of not proceeding with the proposed Supply Chain IT investments are as follows:

Table 14 - Major Business Risks of Not Proceeding with the Project

Risk ID	Area	Risk Description (Risk Line Item)	**Consequence Description**	**Likelihood**	**Consequence**	**Rating**
1	Supply management	Heightened exposure to contractual risk due to inability to locate and track business critical contracts	• Exposure to information security, access and privacy risk including unauthorised access to company, supplier or customer information • Potential failure of either party to fulfil conditions of contract • Inability to define the business relationship and transactions between SA Power Networks and suppliers • Inability to locate and analyse contracts results in poor internal controls leading to cost leakage and inability to track contract compliance	Almost Certain (5)	Moderate (3)	High (8)
2	Supplier chain performance analytics	Failure to adequately track supplier performance and information impacting the ability to meet customer obligations	• Inability to detect poor supplier performance impacting end customers (resulting in work delays, service failure, rework increased expediting cost etc.)	Likely (4)	Moderate (3)	High (7)

Risk ID	Area	Risk Description (Risk Line Item)	**Consequence Description**	**Likelihood**	**Consequence**	**Rating**
3		Poor management reporting resulting from the inability to retrieve supply chain performance information	• Ill-supported strategic decision making	Likely (4)	Moderate (3)	High (7)
4	Materials planning and management	Inflexibility to respond to mix and volume changes in materials impacting on the delivery to the end customer for either planned work or supply restoration	• Lack of true integration among business partners, both internal and external, in the value chain • Potential supply interruption leading to delays in delivering planned customer work or restoring supply to customers • Potential loss of productivity by field services teams as a result of unavailability of materials leading to unnecessary deliveries or additional waiting times • Inability to manage growth in volume and SKU complexity	Almost Certain (5)	Moderate (3)	High (8)

4.2 Option 2 – Slightly Strengthened Capability Investment

Description: Option 2 details the investment in technology to deliver components of the Supply Chain Strategy through to 2020 and position Supply Chain beyond 2020. This option comprises the implementation of nine Supply Chain IT initiatives across the two areas for improvement:

3. Supply management: supplier information and performance management;
4. Supply Chain performance analytics: supply chain analytics; and

Option 3 comprises a suite of technology investments that builds on Supply Chain's current foundational capabilities and addresses the key business drivers identified in the Future Operating Mode 2014-2018. Further, Option 2 investments support the strategic drivers for the business through to the next regulatory reset period and lay the foundation for incrementally implementing further capabilities as necessary. To achieve the specified objectives a total cost of **$1.53m** is required over the investment period 2015/16 to 2020/21 of which **$1.39m** is required for the 2015-2020 Regulatory Control Period.

Table 15 - Summary of Option 2 ($ Real 2013/14)

Option	Cost	Benefits	NPV[1]	Overall Risk Rating	Benefits
Slightly Strengthened Capability	$1.53M	$0.293M	$-1.03M	Low	Tangible /Intangible

[1] Discount Rate of 5.44%, base year 2013/14

4.2.1 Option 2 Delivery Costs

The table below is a summary of the project delivery costs. Please refer to the Financial Models in Appendix A for a detailed view of these costs.

To achieve the specified objectives, the capital delivery and change management costs of ***$1.18M*** have been estimated. The total is split between IT and non-IT capital costs as follows:

Table 16 – Capital Project Delivery and Change Management Costs by Business Unit ($ Real 2013/14)

Business Unit	2015/16	2016/17	2017/18	2018/19	2019/20	Total 2015/16 - 2019/20	2020/21	Total
IT Delivery and Change Mgmt	0.290	0.295	0.170	0.169	-	**0.923**	-	**0.923**
Non-IT Delivery and Change Mgmt	0.099	0.100	0.029	0.029	-	**0.256**	-	**0.256**
TOTAL CAPITAL	**0.388**	**0.394**	**0.199**	**0.198**	**-**	**1.179**	**-**	**1.179**

Table 17 – Capital Project Delivery and Change Management Costs by Initiative ($ Real 2013/14)

Project Name	2015/16	2016/17	2017/18	2018/19	2019/20	Total 2015/16 - 2019/20	2020/21	Total
Supply Management	0.000	0.000	0.199	0.198	0.000	**0.396**	0.000	**0.396**
Supply Chain - Performance Analytics	0.388	0.394	0.000	0.000	0.000	**0.782**	0.000	**0.782**
TOTAL CAPITAL	**0.388**	**0.394**	**0.199**	**0.198**	**0.000**	**1.179**	**0.000**	**1.179**

For a detailed view of capital and operating costs by IT and non-IT refer to

4.2.2 Option 2 Delivery Cost Assumptions

The delivery costs for Option 2 consists of build, project management, design, test/rollout, and organisational change management:

Build cost assumptions:

- Build cost assumptions can be found in the embedded finance model spreadsheets in the Appendix

Other assumptions for <u>on-premise</u> solutions:

- Project management: 15% of design, build, test/rollout and organisational change management costs
- Design : 25% of build cost
- Test/rollout : 40% of build cost
- Organisational change management costs : 60% of build cost

4.2.3 Option 2 Opex Step Change

The table below outlines the IT Opex step change associated with software subscription costs. There is no labour opex step change required to support the investment.

Table 18 - Opex Step Change ($ Real 2013/14)

Project Name	2015/16	2016/17	2017/18	2018/19	2019/20	Total 2015/16 - 2019/20	2020/21	Total
Supply Management	-	-	-	0.070	0.141	**0.211**	0.141	**0.352**
Supply Chain - Performance Analytics	-	-	-	-	-	**-**	-	**-**
TOTAL OPEX	**-**	**0.070**	**0.141**	**0.211**		**0.141**	**0.141**	**0.352**

4.2.4 Option 2 Recurrent Cost Assumptions

- **Supplier information and performance management:** Licensing costs $0.14M p.a.

4.2.5 Option 2 Expected Benefits

The benefits from the investments in Option 3 are detailed as follows:

Table 19 - Expected Benefits

1. Supplier Info and Performance Management

Outcome / Benefit Type	Benefit effect	Benefit	Measure	Expected Benefits Timing	Annual Value ($)
Tangible Benefit	Direct	Standardized supplier self-registration process with supplier qualification and automatic master data creation with mandatory information, attachments with expiration dates, automatic scoring of inputs	No. of FTE required to register suppliers	Ongoing from 2018	75,000
Outcome	N/A	Enable the centralised viewing of supplier products, services, performance metrics, certifications, insurances and relationship milestone information for internal employees so they can make purchase more goods and services through qualified and contracted suppliers.	N/A	The benefits would first need to be baselined for at least 1 year after implementation is complete and the implementation is embedded within the organisation. Estimate benefit realisation 3-5 years out from start of implementation.	N/A
Intangible Benefit	Indirect	Reduce the risk of working with non-compliance suppliers as they will have the ability to self manage their insurances and certifications through a web/mobility interface at their convenience	N/A		
Outcome	N/A	Provide a web/mobility-based interface for suppliers to increase their ability to conveniently manage their information and transactions as well as provide qualitative performance feedback for performance management.	N/A	The benefits would first need to be baselined for at least 1 year after implementation is complete and the implementation is embedded within the organisation. Estimate benefit realisation 3-5 years out from start of implementation.	N/A

Outcome / Benefit Type	Benefit effect	Benefit	Measure	Expected Benefits Timing	Annual Value ($)
Outcome	N/A	Provide a single, consolidated view of all supplier performance for sourcing negotiations and supplier performance management including contract information, quotes, KPIs, qualitative feedback, certificates, insurance, regulatory compliance and financials.	N/A	N/A	N/A

2. Supply chain performance analytics: supply chain analytics

Benefit Type	Benefit effect	Benefit	Measure	Expected Benefits Timing	Annual Value ($)
Intangible Benefit	Indirect	Reporting of supply chain trends, productivity and utilisation across transportation, material management, warehouse utilisation, supplier delivery and quality performance, depot network inventory performance for more informed decision making	N/A	N/A	N/A
Outcome	N/A	Creation of a consolidated view of actual supply chain performance for inclusion of Regulatory Reset RINs reporting.	N/A	N/A	N/A
Intangible Benefit	Indirect	Consolidation and insight development of supply chain trends across procurement, logistics and materials planning for benchmarking against other electricity distributors within Australia to inform decisions on continuous improvement initiatives.	N/A	N/A	N/A

4.2.6 Option 2 Expected Disbenefits

Refer to 4.2.8 Option 2 – Major business risks.

4.2.7 Option 2 Timescale

Table 20 – Option 2 Project Timescale

Area	IT Investment	FY15	FY16	FY17	FY18	FY19	FY20
Supply Management	Supplier Information Management						
Supply Chain Analytics	Supply Chain Analytics						

4.2.8 Option 2 Major Business Risks

Major business risks of this option are as follows.

Table 21 - Major Business Risks Associated with Option 2

Risk ID	Area	Risk Description (Risk Line Item)	Consequence Description	Likelihood	Consequence	Rating
1	Technology	IT risk in planning and delivery	• Delay in system implementation and benefits realisation	Unlikely (2)	Minor (2)	Low (4)
2		Business change risk of new systems and processes	• A combination of old and new practices resulting in difficulties in realising procurement benefits	Unlikely (2)	Moderate (3)	Low (5)

4.3 Option 3 – Strengthened Capability Investment

Description: Option 3 details the investment in technology to deliver components of the Supply Chain Strategy through to 2020 and position Supply Chain beyond 2020. This option comprises the implementation of nine Supply Chain IT initiatives across the three areas for improvement:

- Supply management: supplier information and performance management;
- Supply Chain performance analytics: supply chain analytics; and
- Materials planning and management: SAP WM logistics execution; RF scanning; and B2B transactions.

Option 3comprises a suite of technology investments that builds on Supply Chain's current foundational capabilities and addresses the key business drivers identified in the Future Operating Mode 2014-2018l. Further, Option 3 investments support the strategic drivers for the business through to the next regulatory reset period and lay the foundation for incrementally implementing further capabilities as necessary. To achieve the specified objectives a total cost of **$4.3m** is required over the investment period 2015/16 to 2020/21 of which **$4.1m** is required for the 2015-2020 Regulatory Control Period.

Table 22 - Summary of Option 3 ($ Real 2013/14)

Option	Cost	Benefits	NPV[1]	Overall Risk Rating	Benefits
Strengthened Capability	$4.31M	$4.41M	$-0.372M	Low	Tangible /Intangible

[1] Discount Rate of 5.44%, base year 2013/14

4.3.1 Option 3 Delivery Costs

The table below is a summary of the project delivery costs.

To achieve the specified objectives, the capital delivery and change management costs of $3.96M have been estimated. The total is split between IT and non-IT capital costs as follows:

Table 23 – Capital Project Delivery and Change Management Costs by Business Unit ($ Real 2013/14)

Business Unit	2015/16	2016/17	2017/18	2018/19	2019/20	Total 2015/16 - 2019/20	2020/21	Total
IT Delivery and Change Mgmt	1.373	1.388	0.170	0.169	-	**3.100**	-	**3.100**
Non-IT Delivery and Change Mgmt	0.399	0.403	0.029	0.029	-	**0.859**	-	**0.859**
TOTAL	**1.772**	**1.791**	**0.199**	**0.198**	**-**	**3.960**	**-**	**3.960**

Table 24 – Capital Project Delivery and Change Management Costs by Initiative ($ Real 2013/14)

Project Name	2015/16	2016/17	2017/18	2018/19	2019/20	Total 2015/16 - 2019/20	2020/21	Total
Supply Management	-	-	0.199	0.198	-	**0.396**	-	**0.396**
Supply Chain - Performance Analytics	0.388	0.394	-	-	-	**0.782**	-	**0.782**
Supply Chain - Materials Management and Planning	1.384	1.397	-	-	-	**2.781**	-	**2.781**
TOTAL CAPITAL	**1.772**	**1.791**	**0.199**	**0.198**	**-**	**3.960**	**-**	**3.960**

For a detailed view of capital and operating costs by IT and non-IT refer to

4.3.2 Option 3 Delivery Cost Assumptions

The delivery costs for Option 3 consists of build, project management, design, test/rollout, and organisational change management:

Build cost assumptions:

- Build cost assumptions can be found in the embedded finance model spreadsheets in the Appendix

Other assumptions for <u>on-premise</u> solutions:

- Project management: 15% of design, build, test/rollout and organisational change management costs
- Design : 25% of build cost
- Test/rollout : 40% of build cost
- Organisational change management costs : 60% of build cost

4.3.3 Option 3 Opex Step Change

The table below outlines the IT Opex step change associated with software subscription costs. There is no labour opex step change required to support the investment.

Table 25 - Opex Step Change ($ Real 2013/14)

Project Name	2015/16	2016/17	2017/18	2018/19	2019/20	Total 2015/16 - 2019/20	2020/21	Total
Supply Management	-	-	-	0.070	0.141	**0.211**	0.141	**0.352**
Supply Chain - Performance Analytics	-	-	-	-	-	**-**	-	**-**
Supply Chain - Materials Management and Planning	-	-	-	-	-	**-**	-	**-**
TOTAL OPEX	**-**	**0.070**	**0.141**	**0.211**		**0.141**	**0.141**	**0.352**

4.3.4 Option 3 Recurrent Cost Assumptions

- **Supplier information and performance management:** Licensing costs $0.14M p.a.

4.3.5 Option 3 Expected Benefits

The benefits from the investments in Option 3 are detailed as follows:

Table 26 - Expected Benefits

3. Supplier Info and Performance Management

Outcome / Benefit Type	Benefit effect	Benefit	Measure	Expected Benefits Timing	Annual Value ($)
Tangible Benefit	Direct	Standardized supplier self-registration process with supplier qualification and automatic master data creation with mandatory information, attachments with expiration dates, automatic scoring of inputs	No. of FTE required to register suppliers	Ongoing from 2018	75,000
Outcome	N/A	Enable the centralised viewing of supplier products, services, performance metrics, certifications, insurances and relationship milestone information for internal employees so they can make purchase more goods and services through qualified and contracted suppliers.	N/A	The benefits would first need to be baselined for at least 1 year after implementation is complete and the implementation is embedded within the organisation. Estimate benefit realisation 3-5 years out from start of implementation.	N/A
Intangible Benefit	Indirect	Reduce the risk of working with non-compliance suppliers as they will have the ability to self manage their insurances and certifications through a web/mobility interface at their convenience	N/A		
Outcome	N/A	Provide a web/mobility-based interface for suppliers to increase their ability to conveniently manage their information and transactions as well as provide qualitative performance feedback for performance management.	N/A	The benefits would first need to be baselined for at least 1 year after implementation is complete and the implementation is embedded within the organisation. Estimate benefit realisation 3-5 years out from start of implementation.	N/A

Outcome / Benefit Type	Benefit effect	Benefit	Measure	Expected Benefits Timing	Annual Value ($)
Outcome	N/A	Provide a single, consolidated view of all supplier performance for sourcing negotiations and supplier performance management including contract information, quotes, KPIs, qualitative feedback, certificates, insurance, regulatory compliance and financials.	N/A	N/A	N/A

4. Supply chain performance analytics: supply chain analytics

Benefit Type	Benefit effect	Benefit	Measure	Expected Benefits Timing	Annual Value ($)
Intangible Benefit	Indirect	Reporting of supply chain trends, productivity and utilisation across transportation, material management, warehouse utilisation, supplier delivery and quality performance, depot network inventory performance for more informed decision making	N/A	N/A	N/A
Outcome	N/A	Creation of a consolidated view of actual supply chain performance for inclusion of Regulatory Reset RINs reporting.	N/A	N/A	N/A
Intangible Benefit	Indirect	Consolidation and insight development of supply chain trends across procurement, logistics and materials planning for benchmarking against other electricity distributors within Australia to inform decisions on continuous improvement initiatives.	N/A	N/A	N/A

5. Materials planning and management: SAP WM logistics execution; RF scanning; and B2B transactions

Benefit Type	Benefit effect	Benefit	Measure	Expected Benefits Timing	Annual Value ($)
Tangible (Cost Avoidance)	Direct	Improved inventory visibility reduces the carrying costs of excess inventory (e.g. cost of money, taxes and insurances, warehousing expenses, handling, inventory control, obsolescence, deterioration)	Total inventory value, % reduction in inventory, carrying cost of inventory	Ongoing from 2017	53,760
Tangible (Future Cost Avoidance)	Direct	Reduction in number of stock counts across all depots	Total FTE allocated to stock counting, % time spent stock counting across 27 depots	Ongoing from 2017	107,823
Outcome	Direct	Reduction in time spent on data entry and following up order numbers across all depots	N/A	N/A	N/A
Tangible (Cost Avoidance)	Direct	Field-based crews to record inventory movement transactions in remote depots where no storeperson exists.	Inventory tracking technology will be used to ensure this inventory does not creep back up to pre-SAP inventory tracking at depot due to inaccurate or non-existent inventory transactions. Assume 11 smallest depots without storemen (Gumeracha, Cleve, Yorketown, Kingscote, Naracoorte, Barmera, Ceduna, Streaky Bay, Bordertown, Wudinna, Whyalla) will remove inventory post 2015/2016 depot cleanup. Benefits based on estimates derived from depots already cleaned up via Inventory Visibility WMP project.	Ongoing from 2017	420,673

Benefit Type	Benefit effect	Benefit	Measure	Expected Benefits Timing	Annual Value ($)
Tangible (Cost Avoidance)	Direct	Reduction of depot-based inventory due to more accurate inventory tracking and therefore less need to hold more inventory at higher re-order points.	2014 depot-based inventory levels from Inventory Visibility project depot network inventory total of approximately $6.4M. Assume average stock depot inventory levels of non-project stock could reduce by an average of 8%.	Ongoing from 2017	448,000
Outcome	Indirect	Improved customer service for planned work by ensuring the right materials are in the right place at the right time; ensures no loss of productivity by the field service teams through unnecessary truck rolls, or additional time waiting in the warehouses.	N/A	N/A	N/A
Outcome	Indirect	Increased ability to adapt to changing materials planning and management requirements to accommodate external business drivers: - Integration of procurement and delivery information with suppliers providing better planning information for warehousing and logistics; - Better planning visibility of consignment inventory, reducing our inventory investment while maintaining high customer service levels; and - Providing foundational technology capabilities for supplier integration and depot inventory management.	N/A	N/A	N/A

4.3.6 Option 3 Expected Disbenefits

Refer to 4.3.8 Option 3 – Major business risks.

4.3.7 Option 3 Timescale

Table 27 - Project Timescale

Area	IT Investment	FY15	FY16	FY17	FY18	FY19	FY20
Supply Management	Supplier Information Management						
Supply Chain Analytics	Supply Chain Analytics						
Materials Planning & Management	RF Scanning						
	B2B Transactions						

Legend

Implementation

Deployment

4.3.8 Option 3 Major Business Risks

Major business risks of this option are as follows.

Table 28 - Major Business Risks Associated with Option 3

Risk ID	Area	Risk Description (Risk Line Item)	**Consequence Description**	**Likelihood**	**Consequence**	**Rating**
1	Technology	IT risk in planning and delivery	• Delay in system implementation and benefits realisation	Unlikely (2)	Minor (2)	Low (4)
2		Business change risk of new systems and processes	• A combination of old and new practices resulting in difficulties in realising procurement benefits	Unlikely (2)	Moderate (3)	Low (5)

5. Investment Appraisal

5.1 Investment Appraisal

Table 29 - Investment Appraisal Breakdown

Option	Measure Type	Value
1. Do Nothing	NPV (Net Present Value)	$-4.11M
	Payback Period	NA
2. Slightly Strengthened Capability	NPV (Net Present Value)	$-1.03M
	Payback Period	NA
3. Strengthened Capability Opt3	NPV (Net Present Value)	$-0.39M
	Payback Period	6 years

High Level Summary of Options

The three options outlined in this Business Case are:

- Option 1 - "Do Nothing"
- Option 2 – "Slightly Strengthened Capability" Investment
- Option 3 – "Strengthened Capability" Investment

Table 30 - Overall Appraisal Breakdown ($ Real 2013/14)

Option	Cost	Benefits	NPV[1]	Overall Risk Rating	Benefits
1. Do Nothing	$5.43M	$0	$-4.11M	Moderate-High	N/A
2. Slightly Strengthened Capability	$1.53M	$0.293M	$-1.03M	Low	Tangible /Intangible
3. Strengthened Capability	$4.31M	$4.41M	$-0.37M	Low	Tangible /Intangible

[1] Discount Rate of 5.44%, base year 2013/14

6. Recommendation

6.1 Summary of Recommendation

A detailed options analysis has been undertaken, with Table22 summarising the overall findings. "Strengthened Capability" (Option 3) is the preferred option as it is expected to deliver the highest NPV benefits, while significantly reducing the risks to the organisation as well as improving the supply chain capabilities to support the organisation deliver a strengthened customer experience. This option will provide insight and flexibility to optimise current Supply Chain operations through to the next regulatory period and lay the foundation for incrementally implementing further capabilities as needed.

6.2 Alignment to Strategic Objectives

Option 3 will enable Supply Chain to streamline and integrate existing processes in line with the direction of its vision through to 2020: value creation; service oriented; and collaborative and rigorous planning. Achieving visibility and control of the Supply Chain through investment in technology and capabilities will also support the business in meetings its strategic objectives of being "a cost efficient provider".

Furthermore, the Option 3 addresses the broader strategic objectives across the organisation, which can be summarised as follows:

- The initiatives satisfy the Strategic Corporate, Business Unit and IT plans;
- The initiatives satisfy regulatory requirements for National Electricity Rules;
- The successful implementation of this recommendation will improve the supply of electricity by enabling the timely, accurate, and cost effective provision of materials and services to support network reliability, safety and capacity; and
- Supply Chain improvement will have a positive impact across the organisation which will indirectly benefit internal and external customers.

7. Document Authorisation and History

References

The following documents were referenced in completion of this document:

Ref	Document Name	Date	Version	Author
1	SA Power Networks 7 Year SAP Value Roadmap	15 Nov 13	1.2	SAP/ SA Power Networks
2	IT Strategic Plan 2013 to 2017	18 Apr 13	1.1	SA Power Networks
3	"Transforming material supply chain for US electric utilities: Material logistics benchmark study 2011"	March 2012		Price Waterhouse Coopers
4	Supply Chain Strategy 2020	January 2014		SA Power Networks
5	Future Operating Model 2014 - 2028	2014		SA Power Networks
6	SA Power Networks Strategic Plan 2014 - 2018	November 2013		SA Power Networks
7	Smarter Network Strategy 2014-2015			SA Power Networks
8	Assessment of Excellence in Procurement (AEP) Survey			AT Kearney

Acronyms and Abbreviations

Acronym / Abbreviation	Definition
FOM	Future Operating Model
SAP WM	SAP Warehouse Management
B2B	Business to Business
NPV	Net present value
SAP MRP	SAP Materials Requirements Planning
T&Cs	Terms and conditions

Acronym / Abbreviation	Definition
RF	Radio frequency
FTE	Full time equivalent
LE	Logistics Execution
SRM	Supplier Relationship Management

Appendix A FINANCIAL ASSESSMENT

A.1 OPTION 2 COST DETAIL

Table 31 – Option 2 Capital and Operating Cost Details ($ Real 2013/14)

Project Name	Bus Unit	Cost Type	2015/16	2016/17	2017/18	2018/19	2019/20	2015/16 - 2019/20	2020/21	Total
Supply Management	IT	Capex	-	-	$170K	$169K	-	**$339K**	-	**$339K**
		Opex	-	-	-	$70K	$141K	**$211K**	$141K	**$352K**
	Non-IT	Capex	-	-	$29K	$29K	-	**$57K**	-	**$57K**
		Opex	-	-	-	-	-	**-**	-	**-**
Supply Chain - Performance Analytics	IT	Capex	$290K	$295K	-	-	-	**$584K**	-	**$584K**
		Opex	-	-	-	-	-	**-**	-	**-**
	Non-IT	Capex	$99K	$100K	-	-	-	**$198K**	-	**$198K**
		Opex	-	-	-	-	-	**-**	-	**-**
Supply Chain - Materials Management and Planning	IT	Capex	$1,084K	$1,094K	-	-	-	**$2,177K**	-	**$2,177K**
		Opex	-	-	-	-	-	**-**	-	**-**
	Non-IT	Capex	$300K	$303K	-	-	-	**$604K**	-	**$604K**
		Opex	-	-	-	-	-	**-**	-	**-**
TOTAL	**IT**		$1,373K	$1,388K	$170K	$239K	$141K	$3,311K	$141K	**$3,452K**
TOTAL	**Non-IT**		$399K	$403K	$29K	$29K	-	$859K	-	$859K
TOTAL			**$1,772K**	**$1,791K**	**$199K**	**$268K**	**$141K**	**$4,171K**	**$141K**	**$4,311K**

Appendix B NER EXPENDITURE OBJECTIVES CONTRIBUTION

The project achieves the National Electricity Rules Expenditure objectives as described below.

Table 23 - Contribution to the National Electricity Rules Expenditure Objectives

National Expenditure Objectives	Contribution
Meet or manage expected demand over the period (NB: this is community demand for electricity not demand for IT Services)	• Improved inventory visibility will enable improved accuracy in forecasting operational requirements to meet current and future customer obligations
Comply with regulatory obligations	• Implementing improved supplier performance analytics and a central contract repository will enable the business to monitor compliance with legal and regulatory requirements
Maintain the quality, reliability and security of supply of services provided by SA Power Networks	• Detailed visibility of inventory quantities across the entire supply network ensures appropriate supply of materials needed to provide optimal asset maintenance and reliability • Implementation of SAP WM logistics will facilitate load and truck planning and ensure quality, reliability and security of supply of services
Maintain the reliability and security of the distribution system i.e. the electricity networks.	• Technology enabled inventory management solutions provide timely, traceable, and cost effective material tracking that supports the efficient replenishment or refurbishment of electricity assets (especially during supply restoration events) and contributes to the reliability and safety of the electricity network

Appendix C NER EXPENDITURE CRITERIA ACTIVITIES

The project achieves the National Electricity Rules Expenditure criteria as described below.

Table 32 - Activities to Meet the National Electricity Expenditure Criteria

National Expenditure Criteria	Activity
Efficient cost of achieving the objective(s)	• The "Do Nothing" option has been assessed in detail by the business to understand the key business risks associated with maintaining the status quo (Section 4.1.7) • External cost estimates from suitable suppliers have been sought to provide indicative cost estimates of the proposed IT investments • External expert advice has been sought from consultants to provide an assessment on the IT initiatives to improve procurement performance, and transform supply management processes • A.T. Kearney has conducted verification modelling to ensure the quality of the costing models used in business case
Cost of a prudent operator	• Assessment of SA Power Networks against industry peers and similar industries indicate the increasing uptake of Supply Chain technologies to gain efficiencies across the Supply Chain • The utilisation of logistics and inventory technologies is prevalent across most industries in Australia. However, this technology, although robust, is only beginning to emerge within the distribution network sector • Implementation of the Supply Chain Business Case will enable SA Power Networks to achieve efficiency levels in line with SA Power Networks' peers
Realistic expectation of forecast and cost impact	• External pricing estimates have been obtained from to provide a realistic expectation of forecast costs • Extensive consultation with Supply Chain, business users and IT has been undertaken to ensure the expected benefits and costs have been fully scoped and reflective of risks involved • Expected benefits derived from IT investments have been identified based on a detailed assessment of current processes and systems • A.T. Kearney has applied benefits realisation estimates from their electricity distributor client

National Expenditure Criteria	Activity
	base to validate expected benefits

Appendix D RISK RATING DETAIL

The SA Power Networks' risk management framework defines the following quantitative measures of likelihood and consequence that are in turn used to determine the risk rating. The detailed risk assessment instructions are available on the SA Power Networks Intranet site.

Risk Likelihood Rating

Rating	Descriptor	Description	Probability	Indicative Frequency
5	Almost Certain	Is expected to occur	96 – 100%	At least one event per year
4	Likely	It will probably occur	81 – 95 %	One event per year on average
3	Possible	May occur	21 – 80%	One event per 2 – 10 years
2	Unlikely	Not likely to occur	6 – 20%	One event per 11 – 50 years
1	Rare	Most unlikely to occur	0 – 5%	One event per 51 – 100 years

Risk Consequence Rating

Rating	1 Minimal	2 Minor	3 Moderate	4 Major	5 Catastrophic
Financial	Less than $100,000	$100,000 or more, but less than $1m	$1m or more, but less than $10m	$10m or more, but less than $100m	$100m or more
OH and S	Incident but no injury	Medical treatment only	Lost time injury	Death or Permanent Disability	Multiple Fatalities
Environment	Brief spill incident. No environmental damage.	Minor spill. Pollutant on site. No environmental damage.	Escape of pollutant causing environmental damage	Significant pollution on and off site < $0.5 m	Long term environmental damage
Reputation / Customer Service	Localised customer complaints	Widespread customer complaints or Complaints to Ombudsman or Regulator	Intervention by the Ombudsman or Regulator	Repeated intervention by the Ombudsman or Regulator	Loss of Distribution Licence
	Adverse regional media coverage	Adverse State media coverage	Adverse media campaigns by customers, media, industry groups	Severe negative impact on both regulated and un-regulated businesses	Loss of Distribution Licence
Legislative and Regulatory	Minor breaches by employees resulting in customer complaints or publicity	Act or Code infringements resulting in minor fines	Severe Company or Officer fines for Act or Code Breaches	Prison sentences for Directors or Officers	Loss of Distribution Licence
	ACCC require apology and / or corrective advertising	ACCC require special offer be made to all customers / suppliers	ACCC minimum level penalties	ACCC moderate level penalties	ACCC maximum level penalties
	Directors / Officers given minimum fines	Directors / Officers given moderate fines	Directors / Officers given severe fines	Directors / Officers given prison sentences	Loss of Distribution Licence

Rating	1 Minimal	2 Minor	3 Moderate	4 Major	5 Catastrophic
Organisational	Absorbed without additional management activity	Absorbed with minimal management activity	Significant event which requires specific management	Critical event which can be endured with targeted input	Disaster which can cause collapse of the business
Reliability	2000 customers without supply for a min. of 12 hours (i.e., a medium size urban feeder)	10,000 customers without supply for a min. of 24 hours (i.e., a major storm related outage or a major substation outage)	Up to 40,000 customers without supply for a min. of 48 hours (i.e., major multiple zone substation coincident outages)	Over 40,000 customers without supply for longer than 48 hours (i.e., major geographical areas off supply)	Adelaide CBD without supply for longer than 24 hours

Level of Risk Matrix

Likelihood (Probability)	Threat Consequences				
	Minimal (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Almost Certain (5)	Medium	High	High	Extreme	Extreme
Likely (4)	Low	Medium	High	High	Extreme
Possible (3)	Low	Low	Medium	High	High
Unlikely (2)	Negligible	Low	Low	Medium	High
Rare (1)	Negligible	Negligible	Low	Low	Medium