BUSINESS SA

SA Power Networks Regulatory Proposal 2015-20

January 2015

BusinessSA
South Australia's Chamber of Commerce and Industry

Executive Summary

Business SA's submission highlights the issues raised by our review of the Regulatory Proposal by SA Power Networks (SAPN) covering electricity pricing and performance for 2015-20. Our submission is intended to assist the Australian Energy Regulator (AER) by highlighting areas we believe warrant scrutiny, and representing the views and imperatives of business energy users in South Australia.

Through our ongoing dialogue with businesses, and highlighted by responses to a survey conducted as part of the preparation of this submission, Business SA understands that energy costs are a critical issue for businesses. Significant price increases over the past 5-10 years are hurting businesses, and it is essential that approved expenditures for the next 5 years are lean and efficient, stemming any further price increases and preferably reducing prices.

167 member businesses responded to a recent survey by Business SA where we found:

- 87% want reduced electricity prices as their highest priority
- 8% regard improved reliability as the highest priority, and another 56% the second highest
- Only 4% favour bushfire or traffic risk mitigation or improved service as their highest priority
- 89% are not willing to pay for any increase in reliability, and a further 10% would be willing to sacrifice some reliability for *lower* prices. Only 1% would be prepared to pay for improved reliability.

These results are in stark contrast to the outcomes of SAPN's customer engagement process, which has proposed around $300M in additional "discretionary" spending on bushfire and traffic risk mitigation and customer service initiatives primarily justified from its interpretation of customers' "willingness to pay". We do not consider the outcomes of the SAPN customer engagement process to reflect the true preferences of business consumers.

We are very concerned at the large increases in capital expenditure (up 50% to $2.5Bn over 5 years) and operating expenditure (up 25% to $1.6Bn over the same period) proposed by SAPN. If approved, these proposals would lock in significant additional electricity costs not just over the next 5 years, but beyond as they are incorporated into the *Regulated Asset Base* (RAB) and *Base Year Operating Expenditure* used to calculate pricing in future regulatory periods. We believe that all of SAPN's expenditures should be rigorously evaluated to ensure they are prudent (necessary and cannot be deferred) and efficient (the lowest cost for the best solution). Our comments highlight areas we do not believe meet these criteria.

Our overarching concern is the large increases in both capital and operating expenditure proposed by SAPN. With demand static or falling, we consider it inconceivable that both capital and operating costs could be increasing – this fails the basic "reality check" of efficiency, and will result in deterioration in SAPN's performance against key efficiency benchmarks.

We accept SAPN has an aging network and that parts must be replaced to ensure continuing safe and reliable operation, but this additional replacement capital should *lower* operating costs. Likewise, we accept that SAPN has the lowest customer density in the National Electricity Market (NEM), but see little evidence that new technologies that may be more cost effective at providing supplies in low density areas are being adopted.

A significant portion of SAPN's proposed expenditure we consider "discretionary", in that it could be deferred, made by others, or does not have a clear need in order to meet SAPN's regulated obligations. These expenditures include:

- $221M in bushfire mitigation costs primarily justified through "willingness to pay" results we consider flawed. We accept the need for a high degree of bushfire safety in South Australia, but do not consider the findings of the Victorian Bushfires Royal Commission impose any significant new requirements on SAPN. Where additional actions may be warranted in South Australia, these should be for Government to determine and decide how they will be funded.
- $77M in road safety initiatives such as undergrounding poles at intersections. This expenditure is proposed on the basis that a slim majority (56%) of customers would be willing to pay, and without considering alternative options to achieve improved road safety, nor whether it is electricity or road users that should fund these improvements.
- $353M in IT capital costs, with an additional $44M in ongoing annual operating costs. Our view is that IT investments should lead to *improved* efficiency of operations, not additional costs. Businesses have clearly stated they are satisfied with current levels of performance and service, and are not willing to pay for improvements. Unless IT investments result in improved efficiency, we see little benefit in changing from existing systems. If they do reduce costs, they should be funded by SAPN and paid for through cost savings (at SAPN's risk).

Beyond the discretionary programs highlighted above, we believe there are a number of other factors contributing to inflated capital and operating costs which should be considered:

- Low load density is cited by SAPN as one reason its prices are higher than other states, yet it proposes to spend only $2M on a small trial of new technologies that could offer significant cost reductions in supplying remote loads. Stand Alone Power Systems (SAPS) should be considered wherever augmentation or replacement of low density feeders is considered, and expenditures benchmarked against the cost of providing SAPS as an alternative to traditional network supplies.
- SAPN have proposed $47M to replace the 22 year old submarine cable supplying Kangaroo Island (KI), claiming it is at risk of failure well before its design life of at least 30 years. The previous cable continued to operate to 37 years – 12 years beyond when SAPN claimed it too had reached the end of its economic life.

  Our first concern is that there appears to be no clear view on the level of supply security appropriate for KI. A cable fault would result in disrupted supplies for up to 12 months, yet they propose to replace the cable with another that would provide equivalent security – noting that 85% of cable faults are due to "external factors" (damage) and not age. Standby generators installed on the island are not suitable for providing long-term backup in the event of a serious outage.

  We consider the true condition of the cable, and options to improve security of supply need to be rigorously re-assessed. This should include diesel generators capable of supporting the load for a year in the event of serious cable damage, and renewable (wind and solar) options that we estimate could cut diesel usage by 40-50%, and provide clean energy and grid support even with the cable operational.
- Significant additional operating costs are proposed without what we consider to be a direct linkage to a new or changed regulatory requirement on SAPN. We believe justifications based on loose definitions of "good industry practice", or on regulatory documents such as the SRMTP developed by SAPN internally, warrant detailed scrutiny.

- Unit costs for common activities such as replacing poles and overhead conductor are at the upper end of the range we would consider reasonable, and do not appear to allow for any economies of scale from the significant increase in replacement expenditure proposed by SAPN.

Lastly, the figures SAPN is proposing for parameters linked to the business environment that are used to calculate prices we consider to be unreasonable. These figures include:

- Wages growth of 4.25% pa, plus an additional 1% superannuation and $700 annual electricity rebate to be provided to SAPN employees under its EBA. We consider this excessive, beyond what is efficient, and beyond the norm for other sectors of the South Australia economy.
- An "equity beta" figure of 0.82 proposed by SAPN rather than the figure of 0.7 recently used by the AER for a similar NSW business. We do not believe SAPN is a more risky business, and that this figure artificially inflates the reasonable returns to the business on its capital investments.
- A weighted average of a number of "return on equity" models which would result in increased capital cost allowances (*Weighted Average Cost of Capital* or WACC*).* We consider the approach previously used by the AER to be reasonable and appropriate.
- Materials price escalators are calculated using an accepted methodology, but we note there have been significant drops in global prices since SAPN prepared its forecasts, and we support updating these forecasts to reflect the new subdued global commodities outlook.

We trust these comments are useful to the AER in highlighting specific issues on which to focus whilst conducting its review of SAPN's regulatory proposal, and in outlining the needs and preferences of business consumers regarding electricity costs and service. Should you wish to discuss or clarify any aspect of this submission, please contact Rick Cairney, Director of Policy, Business SA on (08) 8300 0060 or rickc@business-sa.com.

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1 Introduction

Business SA is pleased to provide this submission to the Australian Energy Regulator (AER) in response to SA Power Networks' 2015-20 regulatory proposal published in November 2014. The intention of this submission is to outline the perspectives and concerns of businesses in South Australia as they relate to the delivery of electricity distribution network services over the next 5 years.

Business SA has engaged Ben Kearney & Associates (with Merz consulting engineers) to assist in preparing this submission. We have reviewed SA Power Networks' (SAPN) regulatory proposal and supporting documents, and offer a critique of a number of areas where we consider the AER should direct particular focus in assessing SAPN's submission. Our perspectives are based on an ongoing dialogue with South Australian businesses regarding their energy needs, a survey of member businesses relating to the proposal, and our thorough understanding of the challenging business environment in South Australia.

Our primary aim is to ensure all SAPN's proposed spending is efficient and that the AER focuses its regulatory powers on achieving outcomes consistent with the needs of South Australian businesses. We are acutely aware of the impact the rising costs of electricity have had on business in recent years and we want to ensure electricity prices are kept as low as possible to achieve the levels of service required by business.

This project was funded by the Consumer Advocacy Panel (www.advocacypanel.com.au) as part of its grants process for consumer advocacy projects and research projects for the benefit of consumers of electricity and natural gas. The views expressed in this document do not necessarily reflect the views of the Consumer Advocacy Panel or the Australian Energy Market Commission.

1.1 Background

As South Australia's peak Chamber of Commerce and Industry, Business SA is South Australia's leading business membership organisation. We represent thousands of businesses through direct membership and affiliated industry associations. These businesses come from all industry sectors, ranging in size from micro-business to multi-national companies. Business SA advocates on behalf of business to propose legislative, regulatory and policy reforms and programs for sustainable economic growth in South Australia.

The AER is a Federal Government authority operating under the *Competition and Consumer Act 2010.* The AER regulates electricity networks and natural gas pipelines by setting the maximum prices that the network owners can charge, or the maximum amount of revenue they can earn. Network businesses submit proposals to the AER on their required revenues. The AER then reviews the proposals and makes decisions with reference to factors including:

- projected demand for electricity and natural gas;
- age of infrastructure;
- operating and financial costs; and
- network reliability and safety standards.

Decisions generally apply for five years, and determine the allowable capital and operating costs for the network businesses, which flows into price outcomes during the five year period.

In summary, the AER's role is to promote the efficient investment in and use of energy services for the long term interests of consumers as enshrined in the National Electricity and Gas Laws.

SA Power Networks (formerly ETSA) is owned by the Hong Kong based 'Cheung Kong' group and ASX listed Spark infrastructure and manages and operates South Australia's electricity distribution network (the poles and wires).

1.2 The needs of South Australian businesses

South Australian business, particularly manufacturing, has developed on a foundation of competitive costs, including a reliable supply of inexpensive energy. The increases in electricity costs faced by South Australian businesses over the past 5 years have been substantial and threatened the viability of many energy intensive businesses, particularly in South Australia's key export sectors of irrigated agriculture and food and beverage manufacturing. Considering the pending structural change in South Australia's economy faced by the exit of auto-manufacturing in 2017, it is important that the costs of energy do not add further to the already uncompetitive cost base in South Australia compared with our international competitors.

In January 2015, Business SA surveyed its membership on the impact of electricity prices and their views on what SA Power Networks' priorities should be for future expenditure and savings over 2015-20. The 167 responses to this survey was exceptional and demonstrated a genuine interest and need from businesses for a reduction in the cost pressure experienced by significant electricity price rises since 2009. The following summary of survey results is derived from members across these key industries with a median employee number of 12:

- Manufacturing – 26%
- Services (excluding Health) – 22%
- Retail – 13%
- Health Services – 8%
- Agriculture – 7%
- Other Industrial – 8%
- Wholesale – 8%
- Hospitality – 5%
- Construction – 2%

1.2.1 Priorities for business

Businesses ranked the following measures in terms of most to least important priorities for SA Power Networks over the next five years:

- Reduce electricity prices – 87% ranked as most important priority
    - Of those selecting something other than "reduce electricity prices" as their first priority, 71% selected it as their second highest priority.
    - Less than 1% ranked this as the lowest or second lowest priority
- Spend on measures to improve reliability – 8% ranked as most important priority
    - 56% ranked this as their second highest priority
- Spend on measures to improve road safety - 2% ranked as most important priority

    - 40% ranked this their lowest priority
- Spend on measures to mitigate bushfires – 2% ranked as most important priority
- Spend on measures to improve customer service - 2% ranked as most important priority
    - 47% ranked this their lowest priority

As discussed later in this submission, these results clearly demonstrate the highest priority and preference of business consumers in South Australia is for the lowest possible electricity price. Reliability is also a significant issue, but behind price. These results reflect the concerns and needs of businesses in South Australia we have ascertained through our ongoing dialogue, and highlight the real difficulties that rapidly increasing energy costs have created for businesses.

1.2.2 Price / service trade-off

Businesses gave the following preferences in terms of the trade-off between level of service (reliability) and price for electricity:

- Reliability is about right and not willing to pay more – 89%
- Can sacrifice some reliability for a lower price – 10%
- Want better reliability and willing to pay more - 1%

These results accord with previous surveys conducted by both Business SA in terms of satisfaction with SA Power Networks' reliability and a general unwillingness to trade off reliability for price.

1.2.3 Recent energy cost increases

Businesses' report their electricity costs have increased by the following amounts since 2009:

- 20-40% - 39%
- 40-60% - 27%
- 60-80% - 15%
- >80% - 12%
- < 20% - 7%

While there is some disparity in these figures, an increasing number of businesses have made investments in solar power to offset the significant rise in electricity prices. However, the caveat to that statement is that many businesses are finding that even with solar power, the move to capacity based tariffs is amplifying the significant price pressure from network charge increases.

1.2.4 Impact of rising energy costs

Finally, businesses were asked to comment on the actual impact of rising electricity costs on their business since 2009. The businesses tell the story best when they tell it themselves and we provide a selection of their comments below:

Food and beverage wholesaler with 24 employees;

"We have freezers & chillers which has meant prices have had to be increased where they can and absorbed in other cases. This has meant an overall lowering of the profitability of the company and restricts us from potentially spending money in other areas such as employment and plant & equipment."

Manufacturer with 4 employees;

"The impact has been very significant. We put solar panels on our business only to find that we were faced with even higher charges such as kVa. We have had to change the way that we manufacture and how many machines we can run at one time just to keep our business viable. In 2012 we reduced our staff levels down to 3 just to keep our costs down. It has taken 12 months for our retailer to sort out our bills and we are constantly looking at ways to reduce our energy spend. We have signed contracts over the last 15 years. Late last year when we signed our new contract the price increase almost wiped out the benefit of putting on the panels to begin with. I think you will find that most manufacturing companies are struggling with the ever rising cost of electricity and that any further increases could be the final nail in the coffin for those who are already struggling."

Bakery with 25 employees;

"Electric ovens, coolrooms, blast chiller, freezer, 3 phase power required for all baking appliances. Extra costs have resulted in extra charge to the public but not all charges have been passed on."

Retailer with 8 employees;

"We run 2 coolrooms all year plus shop airconditioning. Any rising costs have to either be passed on to customers (who will then shop online) or absorbed therefore reducing profits."

Childcare provider with 23 employees;

"Higher Electricity costs means less money is spent caring for children, or we are forced to increase prices to Parents."

Manufacturer with 110 employees;

"As a manufacturing plant we draw significant amounts of power through the running of machines and it is mainly our network costs that have increased significantly."

Timber mill with 85 employees;

"In 2009 the network cost were less than 50% of total energy costs. Today network cost element can be up to 75% of the total energy cost. Energy rates ($/kWh) have actually decreased through competitive tendering processes."

Horticulture business with 4 employees;

"We pump water from the River Murray, the costs have increased by over 200% and we have no option but to pass this onto consumers... Power needs to be regulated and let the profits remain here in SA and not go overseas. The government does not care about the cost of living in SA."

Hospitality business with 10 employees;

"We need to use electricity all day every day because of freezers and coolroom. Less profit so cannot employ more staff even though I need to. I just work longer hours."

Farming business with 10 employees;

"We will not last..... the price of grapes plummeted, power costs extortionate and staff will lose jobs. We are penalised for using high power for only 3 months of the year."

Retail hardware business with 8 employees;

"Has impacted on monthly running costs, along with downturn in income, resulting in staff redundancy to cover Costs."

Wholesale food distribution business with 18 employees;

"Main use is in the cold storage of product. The actual impact has been less net profit and therefore less employment."

Farming business with 3 employees;

"We require cold storage during harvesting - cost is too high for us farmers. Lost significant amount of product but cannot afford higher costs...lose lose circle."

Aged care business with 106 employees;

"Impact has resulted in a staff cuts at time and cuts in expenditure on building improvements Business is aged care - therefore electricity is used to maintain residents health etc."

Farming business with 1 employee;

"Absorbing costs and affecting bottom line. Makes irrigation operations less profitable for primary production. Better off with old flood technique than new water efficient centre pivots. More water efficiency costs you with higher electricity pricing."

Food manufacturing business with 5 employees;

"Approx $2000 per quarter in 2009. Approx $4,500 per quarter in 2014."

Manufacturing business with 16 employees;

"All our machinery and hand tools use electricity. We have changed some processes to try and cut our usage and also installed solar panels. We have had to increase our quotes to our clients to cover the rising electricity costs which has seen us non-competitive compared to overseas tenderer's and others."

Hotel with 15 employees;

"We have less staff. We ourselves work 14 to 16 hours a day. If we could save on running costs we would employ more people."

Packaging business with 15 employees;

"Any increases in costs significantly impact our future growth prospects as a small to medium business. We wanted to employ an extra person in 2014 but the extra costs particularly electricity costs impacted on our decision not to employ."

Accommodation business with 24 employees;

"Cost increases passed onto customers. Aged pensioners do not appreciate rising costs and some struggle to pay."

Manufacturing business with 7 employees;

"Electricity is used to run all our machines plus lights. Electricity has increased our over heads but because of the whole industry downturn over the years we have not been able to pass this cost onto customers because price is the majority concern to win a job."

Manufacturing business with 15 employees;

"The rising cost of electricity has been a major factor in not being able to be competitive with offshore manufacturers. Our business is now less than 1/20th of its size from 10 years ago!"

Manufacturing business with 5 employees;

"Higher costs of manufacturing, yet market has been competitive that we couldn't add the rising costs to our selling Prices."

Manufacturing business with 50 employees;

"Electricity used to be a minor overhead in our business, now it is a major part of our overheads and we are not competitive globally"

Steel manufacturing and fabricating business with 75 employees;

"Focussing on our Steel manufacture & fabrication business, our cost of production has risen, reduce margins. These have been recouped by reducing the workforce and containing wage rates."

Furniture retailer with 20 employees;

"Increase costs make profitability harder and as much as we need more staff we will not hire..."

1.3 The role of SA Power Networks

Business SA considers the primary role of SAPN is to deliver the required level of network services at the lowest possible long term cost to consumers. The required level of service should aim to meet but not significantly exceed the minimum regulated requirement in terms of safety, reliability, environmental and risk outcomes delivered by the electricity network.

Business SA recognises that SAPN has inherited a network that was largely constructed in the mid-late 1900s, and the construction and design of the network is the result of decisions taken many years ago. Accordingly, the role of SAPN today is to:

- Adopt prudent asset management practices for existing assets that maximise the remaining value of these assets. Inspection and maintenance programs should be set at the lowest level required for safe and reliable operation to the end of their economic lives.
- Seek to maximise the economic lives of existing assets. With a significant proportion of the network approaching the end of its economic life, initiatives that can extend the life of assets have the potential to deliver material savings or deferrals in replacement expenditure. Efficient expenditure on asset inspection and condition assessment should result in efficiencies (overall cost minimisation) in maintenance and replacement expenditures.
- Ensure new asset decisions are efficient, considering the development of new technologies that will deliver solutions that are fit for purpose and at lowest lifecycle cost for the 40-60 year life of these assets. For both growth and replacement decisions, the prudency (need and timing) and efficiency (identified solution and delivery at least cost) of expenditures need to be demonstrated. With rapidly developing technologies, including “smart grids”, embedded generation and storage technologies, the most efficient option may not be a traditional network solution.

2 Areas we support

Submissions to the regulatory process generally focus on criticisms of what has been proposed. Business SA has a number of concerns outlined in the following section, but also considers it important to identify the elements of the proposal that it supports in order to balance its contribution and provide support for the areas we consider should be retained and will enhance outcomes for SA businesses.

The aspects of the regulatory proposal we are in broad agreement with are:

- The recognition by SAPN that electricity cost is important to consumers and for many SA businesses in particular is a critical input cost.
- The recognition by SAPN that safe and reliable electricity supply is important. In this regard, we are generally satisfied with the current levels of service delivered by SAPN.
- The need to engage with customers to identify their needs and preferences, and use this information to shape the delivery of network services. Though with have a number of concerns with the specific approach and outcomes proposed by SAPN, we are broadly supportive of the increased focus on customer engagement.
- The move towards more cost reflective pricing and tariffs. Business SA believes it is important that businesses are able to control their energy costs, and that cross subsidies should be eliminated as far as practical. Cost reflective pricing and tariffs achieve this by shifting costs towards individual consumers and the impact their consumption patterns have on the overall cost of delivery. However, we are concerned that through the current ad-hoc nature of smart meter installation, minor electrical works undertaken by a consumer can result in a new meter and hence tariff, imposing significant additional and unexpected costs. We consider there needs to be more information and education for businesses regarding the likely impact of new tariffs, the timetable and likely price trajectories for these tariffs so businesses can understand their future costs, and the options available to businesses to mitigate and manage any cost increases under new tariff structures.
- The need to manage the ageing network and ensure this does not result in declining reliability or safety. This needs to be balanced with the need to manage the assets efficiently and effectively, ensuring the maximum economic life is achieved for each asset.
- The identification of the need for secure electricity supply to Kangaroo Island, which is a critical element of the SA economy. Extended outages or restrictions to electricity supply would have a devastating impact on local businesses, and these risks need to be effectively managed. We do, however, have concerns regarding whether the solution proposed by SAPN is the most efficient, as outlined in the following section.
- Incremental improvement to asset management and operational practices, to align with changing requirements or good industry practice in other states. We would expect, however, that SAPN like other businesses in SA continually improves the efficiency of its operations. Where such are proposed that *increase* costs, these need to be strongly justified by a clearly identifiable change in circumstances. While some minor changes (such as the move from 10 to 5 year inspection cycles in high bushfire risk areas to align with industry practice in other states) are supported, it appears there are other step changes proposed that go significantly beyond the level required for lean and efficient delivery of network services.

3 Areas of concern

Having reviewed SA Power Networks' proposed expenditures for the upcoming 5 year regulatory period, we have identified a number of areas where we are concerned that what is proposed will work against the interests of businesses in South Australia. This section identifies these areas and our concerns, and highlights the issues we believe the AER should consider when assessing SAPN's submission.

3.1 Overview

The primary aspect of the proposal that is of considerable concern to Business SA is the significant increases proposed in both capital and operating costs. In a period of static demand and performance, there should not be increases in both capital and operating costs. This fails the basic common sense test, and results in a significant deterioration in the performance of SAPN against efficiency benchmarks developed by the AER.

This concern is heightened by the nature of the regulatory regime for electricity, where any increase in expenditure is "locked in" not just for the upcoming 5 year regulatory control period, but for future periods as well. Every dollar of capital spent will find its way into the Regulated Asset Base (RAB), and will be paid for by SA consumer for the next 40-60 years. Likewise any increase in operating costs will tend to roll forward to future regulatory periods as they become part of the "base year" expenditures used to assess future operating costs. For these reasons we firmly believe that expenditures must be viewed critically, and that any increases in expenditure are clearly justified and prudent.

Whilst SAPN proposes a modest price decrease followed by constant real prices, the reduction is primarily achieved through a reduction in the regulation cost of capital (WACC) from the current regulatory period, rather than efficiencies in capital and operating costs. That the outcome of exactly zero real price change for 4 of the 5 years proposed has resulted purely by chance is considered remote, and raises suspicions that the expenditure program has been loaded with some discretionary expenditures to reach this outcome.

The other element of the proposal that stands out is the significant expenditure on both capital and operating costs for IT systems, with little tangible benefit for business consumers. As a general rule, we consider that investments in "externally facing" IT systems (such as billing and customer service) should only be required where there is a clear need to improve levels of service to consumers. Investments in "internally facing" IT systems (such as asset management and enterprise systems) should be to support efficient operations, and hence any IT expenditures would be offset by other reduction in cost. Investments in "smart grid" infrastructure should either be a lower cost option than traditional alternatives (such as reliability improvement) or reduce overall costs (such as demand control), and hence offset other network capital investments. That IT costs are proposed to significantly increase at the same time as network capital and operating costs are also significantly increasing does not pass the basic common sense test.

3.2 Discretionary programs

Our primary concern is on the level of expenditure on programs which can be described as "discretionary" – they do not appear necessary to meet regulated requirements and have been largely justified using a customer engagement approach Business SA considers flawed.

3.2.1 Bushfire mitigation

Business SA recognises the significant threat of bushfires to South Australia which has been recently highlighted by the Sampson Flat fire which destroyed 27 homes in the Adelaide Hills. Bushfires are an ongoing threat to South Australia, as they have been historically, however much progress has been made since the 1983 Ash Wednesday bushfires to improve the bushfire safety of South Australia's electricity distribution network.

There is no disagreement on the need to take reasonable cost effective measures to reduce bushfire risks to appropriate levels, but there is a question over the role of public policy making in such decisions, particularly considering SAPN intends to spend $221.8 million on a new bushfire mitigation program over the next five years.

We note the following statement from the 2009 Victorian Bushfires Royal Commission in its 2010 report:

> *"The Commission makes its recommendations for the benefit of the entire community. For that reason it considers it inappropriate that electricity consumers bear the entire cost of implementing those recommendations."*[1]

The Victorian Powerline Bushfire Safety Taskforce was established to consider how the Victorian Government should implement the recommendations of the Victorian Bushfires Royal Commission. We acknowledge the following statement from their 2011 Report:

> *'The Victorian Government will need to decide how the costs of improving bushfire safety are paid.'*[2]

SAPN's Bushfire Mitigation Programs Business Case states that:

'The current program may have represented a reasonable approach to managing the risk of SA Power Networks assets starting bushfires in SA in the past, but the bushfire mitigation risk environment has changed since the catastrophic Victorian bushfires of 2009, and all hazardous bushfire areas must now be seen in a new light in terms of both assessing inherent risk of fire start from electricity assets, and the methods employed to reduce this risk to As Low As Reasonable Practicable (ALARP)'[3]

Whether or not the bushfire mitigation risk environment has materially changed since 2009 should be reflected in legislative or regulatory change within the jurisdiction of South Australia. We understand there have been no material changes to safety regulations relating to bushfires and the electricity distribution network imposed by the South Australian Government since the 2009 Victorian bushfires. Accordingly, it would appear that the South Australian Government has not made any policy changes requiring SAPN to increase its spending on bushfire mitigation over the period 2015-20. Issues of public safety, including those related to bushfires, are under the control of Governments for various reasons, not the least of which is their public good characteristics.

Notwithstanding, we note there have been some minor changes to regulation in SA, which indicates the SA Government has reviewed the findings of the Victorian fires, and determined that significant changes were not required in SA. These changes (a proposal to simplify the approvals for clearing

[1] Victorian Bushfires Royal Commission Final Report, Vol. 2, Ch. 4, July 2010, p. 158

[2] Victorian Powerline Bushfire Safety Taskforce Report 2011, P14

[3] SA Power Networks, 'Regulatory Proposal 2015-20' Att 20.45 Bushfire Mitigation Programs Business Case, P32

"hazard trees", and allowing SAPN to adopt a risk based approach to pruning across metro Adelaide in 2010) are likely to reduce SAPN's costs if anything. This is on top of a $35M passthrough in 2013 for increased vegetation management that was received by SAPN in the current regulatory period.

Furthermore, while we acknowledge SAPN's claim that the National Electricity Rules (NER) require it to maintain and operate its distribution system in accordance with good electricity industry practice, such rules do not necessarily prescribe that SAPN should carry out the same activities as other distributors are required by other jurisdictional requirements. The AEMC does not have a role in regulating public safety, which falls on the South Australian Government's Office of the Technical Regulator. We quote the following from the AEMC's website:

> *'The Australian Energy Market Commission was established in 2005 by the Council of Australian Governments as part of new governance arrangements to oversee the nation's main energy markets. Our role is to make rules which govern the electricity and natural gas markets, including the retail elements of those markets. In addition we support the development of these markets by providing advice to the Standing Council on Energy and Resources.'*[4]

Business SA supports the intent of SAPN in proactively exploring measures to improve bushfire safety mitigation, but as per the recent experience in Victoria, the South Australian Government should lead any move to determine an appropriate level of fire safety risk for South Australia, and which, if any, improvements are required across all areas of bushfire risk mitigation, including fire services, housing design, emergency response plans, as well as electricity infrastructure and other possible ignition sources. Should it determine it is prudent to impose tighter bushfire safety restrictions on SAPN, the Government would also determine as a matter of policy whether these costs should be borne by electricity consumers or funded by alternate means.

The bulk of the bushfire risk expenditures proposed by SAPN we consider have been made independently of such comprehensive policy consideration, and hence do not necessarily represent optimal policy outcomes. While we consider some areas of operational improvement to align with good industry practice may be prudent (such as a shift to 5 year inspection cycles for high bushfire risk assets), we believe the bulk of the significant capital investments proposed go beyond what is reasonably required of SAPN, at present.

3.2.2 Road safety

SAPN advise that its 'willingness to pay' research of customers identified that the majority (56%) of those surveyed were willing to pay up to $9.40 annually for a targeted program of undergrounding power lines to address up to thirty traffic blackspots (approximately 15 intersections and 15km of road), thereby reducing the potential for vehicle collisions with Stobie poles. While at an estimated annual cost of $6.20, there was 74% support for SAPN to address at least twenty blackspots.

Based on this survey, SAPN proposes to spend $77.4 million across 2015-20 addressing road safety issues at twenty traffic blackspots.

Business SA acknowledges that SAPN's proposal to improve road safety is well intentioned but akin to measures being taken to improve bushfire mitigation, we consider that setting the appropriate level of road safety risk, and the optimum policy response to achieve this, are matters for Government. If it is determined that it is good public policy to reduce the overall road safety risk, the optimum

[4] www.aemc.gov.au, About Us – Who We Are

investment to achieve this may come from enforcement, speed limits, driver training, road design and construction, installation of traffic lights, or in some instances relocation of hazards such as stobie poles. It is not prudent for SAPN to unilaterally determine that pole relocation of 20 intersections is undertaken, nor that this should be paid for by electricity consumers as opposed to road users.

It has not been demonstrated that relocating stobie poles at 20 intersections will significantly improve overall road safety risks. Issues such as other roadside infrastructure, and additional risks to property and safety of the public if a pole is removed (i.e. what else would a car hit if it did not hit a pole?) have not been addressed.

Considering the public policy nature of road safety, any moves to spend money to improve road safety need to be led at a Government level with appropriate input from key stakeholders such as SAPN.

The South Australian Government already has a well developed road safety strategy until 2020, 'Towards Zero Together', and recently developed a Road Safety Action Plan 2013-16 in collaboration with key stakeholders including SAPOL, the Motor Accident Commission, RAA, Local Government Association and the Centre for Automotive Safety Research, University of Adelaide. This plan contributes to initiatives to progressively remove stobie poles along arterial roads.[5]

Business SA quotes the following from the Victorian Powerline Bushfire Safety Taskforce 2011 report:

> *'Generally all costs associated with the supply of electricity are recovered through electricity bills. However, there is one exception – the former Powerline Relocation Scheme, which supported the undergrounding of distribution powerlines in areas that are of importance because of environmental, historic or scenic significance; or high pedestrian or vehicular use.*

Under the former Powerline Relocation Scheme, the costs for undergrounding powerlines were paid jointly by the Victorian Government, electricity distributor and proponent (usually the local council). The basis for the allocation of costs was that the beneficiaries of the improvement in visual amenity were the local community (which justified the local council contribution) and potentially the wider community (which justified the Victorian Government's contribution).'[6]

SAPN recently wrote to the South Australian Department of Transport, Planning and Infrastructure discussing how the two organisations could collaborate on arrangements to target the most appropriate locations for expenditure to improve road safety through removal or relocation of SAPN power lines. In concluding, SAPN stated that 'the final decision on which locations to undertake work on will remain the responsibility of SAPN'7. Business SA has two key concerns with SAPN's position:

a) Road safety is under the control of the Government for various reasons, including its public good nature, and any spending by SAPN which is ultimately paid for by electricity consumers should be justified as being in the public interest. Only a Government controlled approach to road safety spending can ensure that the appropriate experts decide how spending is prioritised to return the highest net benefit to the community.

b) Considering the Government is primarily responsible for road safety, spending on measures to improve road safety should primarily be funded from Government, not the pockets of

[5] South Australian Government, ROAD SAFETY ACTION PLAN 2013-2016, August 2013, P7

[6] Victorian Powerline Bushfire Safety Taskforce Report 2011, P122

[7] SA Power Networks, 'Regulatory Proposal 2015-20' Att 20.45 Bushfire Mitigation Programs Business Case, P25

electricity consumers. While in reality, it is likely that Government would reach a shared funding arrangement with all key beneficiaries of undergrounding, including the public at large and SAPN, there is no logical reason why electricity consumers should necessarily fund any road safety measures in their entirety.

3.2.3 IT spending

SAPN proposes significant IT expenditures, totalling some $353M worth of IT system expenditure, or around 14% of the total capex proposed. In addition there is some $44M in additional ongoing opex costs, or an additional 3.5% IT opex.

While some elements of this expenditure are necessary to implement smart metering obligations, we consider the bulk of it to be discretionary, and that the benefit to consumers from this expenditure has not been demonstrated. In general, IT systems should *improve* the efficiency of operations, and hence reduce costs in other parts of the business, and certainly not *increase* overall costs.

We have categorised the IT expenditure into a number of broad categories, and consider the following expenditure justification rationale should be applied:

"Externally facing systems" *(eg billing and customer service)*

- Total of ~$100M including CIS, Call Management, Customer facing and Tariff / metering systems
- As outlined previously, South Australia businesses are generally satisfied with the level of service provided, and do not wish to pay for additional systems.
- Investment should only be required where there is a clear need to improve levels of service to consumers, or to implement requirements such as interval meters.
- We also question whether SAPN needs these systems, noting that retailers are providing direct engagement and services to consumers, and that the *Power of Choice* reforms are intended to promote increased contestability in metering services (and hence allow competitive metering service providers to implement many of the proposed initiatives without imposing regulated costs on consumers).

"Internally facing systems" *(eg asset management and enterprise systems)*

- Total of ~$240M including EAM, Financial management, supply chain, HR, Technical Operations, "Applications", and mandatory expenditure.
- We believe investments in internal solutions should be to support efficient operations, and hence any IT expenditures would be offset by other reductions in cost. Where SAPN considers these systems improve their ability to operate and provide services to customers more efficiently, they should fund the systems themselves and retain the cost savings. These systems should not be included in the RAB.
- We note the *IT benefits map* document relies heavily on "avoided future cost increases" to justify these systems. As it is not clear that any of these "future cost increases" would be allowed under a base-step-scale approach to assessing opex costs, we consider these "benefits" would not actually be paid for by customers, and hence neither should the capital costs of the systems.
- We also note that SAPN's sister companies in Victoria appear to have well-functioning systems, many of which we suspect could be adopted by SAPN at significantly lower cost (and share ongoing IT maintenance costs)

"Smart grid"

- ~$13M including Unified communications, ADMS, and also elements of the customer, mobility and other proposed systems.
- Smart grid is a loosely defined term, but generally encompasses enhanced communication, automation and control that add new capabilities to traditional network equipment. Items such as remotely operable switches in the network can increase the flexibility of the network and allow faster restoration in the event of an outage. Items such as "smart meters" allow customers' equipment to be remotely switched to manage peak demands.
- Smart grids are evolving rapidly, and there are numerous technically feasible options being sold today. While some offer clear improvements in performance or lower costs than traditional solutions, many offer capabilities that may not add significant value. Smart grid investments need to be part of a clear strategy, with clear objectives, and linked to existing performance measures (such as reliability, voltage limits, operational costs).
- We consider that "smart grid" infrastructure should either be a lower cost option than traditional alternatives (such as reliability improvement) or reduce overall costs (such as demand control), and hence offset other network capital investments.
- We urge the AER to carefully consider the need and benefits of "smart grid" investments, and that these investments should only be allowed where they offer a solution that is '*least cost* for a *necessary* 'outcome (such as improved reliability or avoided capacity investments).

The KPMG review of SAPN's IT investments actually notes that few of the proposed initiatives offer "NPV benefits", and highlights concerns with many areas of the business case for these systems.

3.2.4 New tariff implementation

Business SA supports the move to cost reflective tariffs, removal of cross subsidies, and price signals that allow consumers to control their energy costs as well as reduce the overall cost of providing network services in South Australia.

While we support the rollout of interval meters and cost reflective tariffs, we have a number of concerns about how this is proposed. Firstly, we believe customers need clear information on the planned rollout and price path for new tariffs and meters: so they can understand when they are likely to shift, what the impact is likely to be, and the available options to manage their energy costs better.

Triggers to move to a new meter or tariff, such as installing a solar PV system, should also be clearly explained.

In addition to the above, we question whether there is a need to spend $8.5 million on manual meter reads to facilitate new demand tariffs. There is no clear case that monthly meter reads are necessary, or for those customers large enough to be on a demand tariff, could not be provided by a competitive meter service provider.

3.2.5 Use of customer engagement to justify spending

We are very concerned by the use of the customer engagement process as a primary means of justifying significant expenditures, including some $221M for bushfire safety and $77M for road safety.

Whilst we appreciate SAPN's efforts to better engage with its customers, the fact that the outcome of this process (significantly increased expenditure and higher energy prices) is directly opposed to the views of business consumers (87% have "reduced prices" as their highest priority, while only 4% have reducing bushfire or traffic risk as their highest priority) indicates to us that the process has not effectively captured the overarching views of customers.

In particular, we note the following areas we consider as flaws in the process, or the use of the outcomes as a basis for justifying expenditure:

- "Willingness to pay" analysis was used offering a number of benefits for small annual costs. The structure of the questionnaire was such that customers were asked about multiple discreet "benefits" in a series of questions, with no visibility of the totality of their "commitments", or the ability to choose between different benefits. The effect is that multiple "benefits" can be supported, resulting in a "pancaking" of programs and costs that do not reflect the overarching concerns of customers or their *total* willingness to pay.
- The "man on the street" is not a policy analysis expert. Considerations such as whether the "benefits" proposed could be achieved by other means (eg traffic lights) at lower cost, and what tradeoffs are being made through increased energy costs, were not considered and would generally not be in the minds of those completing the survey.
- While the benefits are societal, the costs are effectively borne by electricity consumers. There is no evidence that other funding mechanisms, government co-funding etc have been considered or pursued.
- Representation of business consumers was small compared to their share of energy consumption (and total cost to be borne by the business sector).

In summary, we do not consider the results of the customer engagement process provide sufficient justification for bushfire or traffic safety initiatives proposed.

3.3 Capital and Operating Expenditure

Business SA has significant concerns at the size of the proposed increases in both the capital and operating expenditures of SAPN. We consider that both the capital and operating proposals should be subject to rigorous scrutiny, and only expenditures necessary to maintain the current level of reliability and health of the network should be approved.

3.3.1 Is growth in both capital expenditure and operating expenditure efficient?

A high level review of these expenditures fails a basic sanity test – with static demand it is inconceivable that both efficient capital and operating costs should increase. Yet SAPN have proposed a capex increase of over 50% and opex increase of 25%.

Even with the discretionary programs discussed above removed; SAPN proposes to increase its capex. While Business SA appreciates that parts of the network are aging and will require replacement over the next 10 or more years, we would consider that expenditures on these items would act to *reduce* opex associated with aged assets, not act to increase opex. Likewise even expenditure on bushfire and traffic safety should act to reduce opex, not increase it, as the new assets are replacing existing assets that have higher risk profiles.

3.3.2 Alternative solutions for low density networks

As SAPN notes in its submission, it is the lowest density network in the NEM. With alternative technologies such as embedded generation and energy storage maturing, we would expect these solutions should be cost effective in South Australia first. We are seeing that they are being successfully used elsewhere (eg WA), but there is only one small trial on a single feeder of a token $2.8M contained in this proposal.

For both augmentation and replacement of low density networks, we consider that the use of Stand Alone Power Systems (SAPS) may already offer a viable alternative, and has not been adequately considered. In addition, rapid developments in technology and economies of scale from increased global demand and manufacturing volumes mean the cost of these systems is falling rapidly – there is an option value in deferring expenditure until alternative technologies mature.

We do not consider that SAPN has sufficiently explored questions such as “Is Like for like” replacement of a 100yr old network design the best approach?” or “Will the current network model be fit for purpose for the next 50 years?”

For low density feeders, we recommend a “benchmarking” approach be used to compare proposed expenditures against a cap on costs imposed by alternative solutions, whereby:

- The size of the RAB should be limited by the cost of the most efficient solution to serve the load
- In many cases, Stand Alone Power Systems (SAPS) with Solar PV and energy storage may be more economically efficient than network solutions. Suggested considerations for testing whether SAPS could offer a lower cost solutions include:
    - The key determinant of this is customer and load density. If network capital intensity is circa $100k/km and there are 2 customers per km, then $50k per customer is being spent
    - On top of the cost of the network, customers must pay for generation and retail charges
    - In this example, it is highly likely that SAPS systems can serve these loads cheaper than this combination of network and generation / retail costs
    - “Utility grade” SAPS systems for these customers are available today for $30k-$40k[8] and there are minimal energy and retail charges for the customer for approximately the next 20 years.

[8] Research by UBS invesetment bank in 2014 found that a 5kW PV + 5kWh storage system would cost between $18-26k – our estimate is more conservative and allows for slightly larger systems that would offer “utility grade” reliability

- The annualised cost of any new capital investment plus opex should be compared to the annualised cost of SAPS, with the latter being used as a cap on allowable expenditures on network infrastructure.

There is considerable scope for cost reductions in SAPS systems over the next 5-10 years, with much analysis predicting a "tipping point" where they will become cheaper than grid supply within this time horizon. With uniform tariffs across South Australia, we expect there are many feeders within the SAPN network where the true cost per customer is already above the cost of SAPS. Additional investment in traditional network solutions in these instances is inefficient, locks in old technology that is unlikely to be fit for purpose in 40 years, and prevents SAPN from gaining experience in emerging technologies that are likely to become mature in a short timeframe.

Any concerns about power quality and reliability can be dealt with in testing the SAPS market - in any case there are many rural feeders with relatively poor power quality and reliability standards so there is likely to be little difference in reality if properly specified for the SAPS market. At a minimum, there should be serious trials at scale to determine the applicability and suitability of SAPS, energy storage, embedded generation for network support, and other "non-traditional" solutions.

3.3.3 Kangaroo Island

Business SA recognises the importance of Kangaroo Island to the SA economy. We believe electricity supplies to our members and other consumers on the island should be secure, and that prolonged outages or restrictions in supply would have a highly detrimental impact on businesses and the community.

Our concern is that the solution proposed by SAPN is expensive and does not clearly state the level of security required by Kangaroo Island. Specifically:

- There is little evidence the existing cable is significantly deteriorated and likely to fail. It is currently 22 years old, with an expected life of 30 years or more. The previous cable (utilising much older cable technology) operated to 37 years, including 12 years beyond when SAPN identified it was at risk of imminent failure and must be replaced.
- The CIGRE cable data cited by SAPN notes that 85% of failures in undersea cables is caused by external damage, not age. Even if the existing cable is at risk of imminent failure, simply replacing it with another leaves the island connected by a single cable, with 85% of the risk of failure remaining (due to damage, not age).
- The standby generators on the island are not fit for purpose. As SAPN notes, any outage on the cable is likely to take between 2 months (where repair is possible) and 1 year (where replacement is required) to rectify. The diesel generators currently installed require maintenance every 10 days of operation, and it is proposed to install more of the same type of "low duty cycle" generators.
- We believe this proposed solution leaves Kangaroo Island with no better security than it currently has, but at $47M is a very expensive solution.
- We believe the option of local generation has not been adequately explored. We understand high duty cycle diesel power stations capable of sustained operation could be constructed at costs of around $2.50 / W, meaning a 10MW diesel power station that can support the load in the event of a sustained cable outage can be put in place for $25M or less. "Packaged" (eg skid mounted" or portable) solutions may be available at even lower cost. Given that any failure of the cable (old or new) is likely to result in a sustained outage, we consider the

existing diesel generators on the island are not fit for purpose, and certainly no more should be invested in these types of "low duty cycle" units.

- We believe renewable options have not been adequately explored. It should be possible to offset 40% or more of the diesel usage cost effectively using a mix of wind and solar.
- We have seen working examples of renewables used in hybrid wind/diesel and solar/diesel remote systems with renewables coming in at a cost of around $3/W.
- The use of King Island as a basis for estimating the cost of a renewable supply option is unreasonable, and does not represent best practice costs for an "operational" system.
- The value of energy generated by renewables has not been factored into SAPN's business case modelling.
- Renewables and storage also offer attractive options for providing grid support on the "stringy" KI network, and could also enhance the environmental image of the island as a tourist destination.
- Inverter technology for both wind and solar systems can offer voltage and reactive power (VAr) control that improves voltage stability, rather than creates new voltage problems. Coupled with energy storage (independently or with renewable generation) these systems can support the periphery of the KI grid at lower cost than traditional network reinforcement.

Other issues with the KI business case include:

- It was included in SAPN's previous regulatory submission at $80M cost. No reason for the discrepancy of costs is provided.
- There is no analysis of the scenario where the Kangaroo Island submarine cable is replaced at the end of its 30 year design life which, at first glance, would appear to be the most rational option of all. The only scenarios tested are those of replacement in 2017 and run to failure, with no real justification that the cable will not survive its design life.
- The photographic evidence of the existing cable having substantial damage is inconclusive - that conclusion doesn't appear to be supported by the photographs. Indeed, the photo appears to show an XLPE cable in normal condition for its age.
- SAPN is only now exploring the option of putting in place support contracts to guarantee availability of cable and barges for cable repair, and for support of local generation on the island.
- Much of the cable is noted to be buried under the sea floor, which CIGRE notes provides protection from damage.
- The cost estimates for operating the Kangaroo Island power station appear very high ($31.8m over 12 months) and are well above accepted industry benchmarks for maintenance cost.
- The renewable energy option for Kangaroo Island has an estimated cost of $92m. This is based on the benchmark of King Island, which has been used as a technical "testing ground" for a number of different renewable energy sources, with little regard for commerciality. Using different benchmarks for wind energy deployment in isolated, regional grids in Western Australia (e.g. Esperance Nine Mile Beach - $10.8m for 3.6MW, among others), gives a much more reasonable cost estimate of the renewable energy option of approximately $3/W fully installed. Other systems in WA (e.g. Hopetoun, Denham) have been fully integrated with diesel generation at similar capital $/W costs and have provided up to a 50% annual fuel saving with no reliability or power quality issues occurring over the last 10 years.

- A nominal 7MW wind farm on Kangaroo Island would therefore cost approximately $21m on that basis, including integration technology. This size could deliver a fuel saving of up to 50% in the event of Kangaroo Island being islanded, although the exact size of the wind farm would have to be confirmed by detailed study. These benchmarks were achieved without the use of energy storage in WA. It is also quite likely that significant solar power deployment could also lead to considerable fuel savings although further detailed study would be required to confirm the benefit.
- While Kangaroo Island remains grid connected through the submarine cable, renewable energy can be exported to the mainland. When the submarine cable fails, it may well prove to be more cost effective in the long run for the capital cost of the new cable to be spent on renewable energy, energy storage and updated diesel backup generation instead. A detailed study of this option needs to be conducted using reasonable benchmarks against the option of replacing the submarine cable at the end of its design life. Neither of these options has been adequately considered by SAPN.
- In addition to the raw economics of a new renewable energy / diesel hybrid power system on Kangaroo Island that would likely be attractive, there is also funding available from the Australian Renewable Energy Agency (ARENA) to "close the gap" between renewable energy and conventional power system costs, if they exist. ARENA has Remote Area and "Fringe of Grid" funding programs that a power system at Kangaroo Island would be eligible for.
- Consideration of renewable energy vs conventional (diesel) options for Kangaroo Island should include the avoided wholesale energy costs on top of the avoided network investment as both costs are avoided in an isolated system.
- These alternative options for Kangaroo Island are far more scalable than a new submarine cable, avoiding over investment in the event that load growth does not eventuate as well as providing great flexibility for Kangaroo Island businesses in the event that it does eventuate.

3.3.4 Base / Step / Trend approach

We are not aware of any material changes to the regulated obligations of SAPN, yet opex increases of some 25% in total are proposed.

We note that SAPN often appear to imply that *changes in good industry practice* are a "step". We would question:

- where is the evidence that industry practice has changed, or that SAPN's practices are out of step with existing industry practice?
- are there no changes in industry practice that have resulted in improved efficiency or reduced costs, and if so why have these not also been proposed as step changes?

There are repeated references to costs associated with compliance to new standards and regulations without specifying exactly what these are. To our knowledge there have been minimal new requirements imposed on SAPN in the current regulatory period, but would offer the following comments:

- Tree trimming changes, including streamlined processes to remove "hazard trees" (proposed) and move to risk based trimming in metro Adelaide (2010) should reduce SAPN's costs if anything
- SAPN has already been given a $35M passthrough for increased vegetation growth during 2013

- AS5577 has been introduced, but is effectively an electricity industry version of the existing risk standard already used by SAPN, and we understand SAPN is already compliant with the requirements of this new standard.
- The "requirements" of the SRMTP have been cited in a number of instances as justification for expenditure. Whilst OTR and ESCOSA approve the SRMTP, they are looking for "non-compliance" against a limited number of requirements from Section 72 of the Electricity Act, and will generally only withhold approval of the SRMTP if these conditions are not met. Our understanding is they are *not* looking for instances where the SRMTP may go beyond minimum requirements, nor have they considered the cost effectiveness, prudency and efficiency of any initiatives proposed by SAPN. In other words – ESCOSA and OTR saying "yes what you propose to do does not cause us concern" does not equal any such initiatives being a regulated obligation, and they should still be subject to scrutiny by the AER.

3.3.5 Unit rates

SAPN are about to commence a significant pole replacement and conductor replacement process as detailed in the extracts from the relevant Asset Management Plans below. This works program is unprecedented and the ability to accurately estimate these costs associated with this program are a critical part of the SAPN submission

Table 6: Unit Costs

Description	Cost ($000s)
Pole replacement	
< ≈ 11 kV; STOBIE	$7.6
> 11 kV & <≈ 33 kV; STOBIE	$10.0
> 33 kV & <≈ 66 kV; STOBIE	$14.5
Pole Plating	
< ≈ 11 kV; STOBIE	$0.65
> 11 kV & <≈ 33 kV; STOBIE	$0.80
> 33 kV & <≈ 66 kV; STOBIE	$1.50

Table 7: Unit Costs

Description	Cost ($000s) / route km
< ≈ 1 kV	$37.7
> 1 kV & < ≈ 11 kV	$31.25
> 11 kV & < ≈ 22 kV; SWER	$24.125
> 22 kV & < ≈ 66 kV	$27.348

If we cross check the rates stated above against the average unit rate in the relevant asset management plans results in the following average unit costs

- Average pole replacement costs are in the order of $9,200- $9,300 per pole
- Average conductor replacement costs are in the order of $56,000 per km (based on 2015 data of 250km replaced at a total capex of $14 million)

The cost per pole average replacement cost appears to reflect the stated unit rates of between $7,600 and $14,500 per unit with a minimum cost of $650 for pole plating (reflecting the reasonably low proportion of pole plating compared to pole replacement). However, the expenditure on conductor appears to be, on average, significantly higher than the stated unit rates. Indeed, the average cost is 1.5 times higher than the highest unit rate. We have not identified any explanation for this material disconnection.

Based on our understanding these average costs are at the upper end of unit costs for this work and would more accurately reflect small programs of work with high proportions of mobilization and project management costs. These costs do not appear to be reflective of a well-planned large scale program capturing economies of scale. This position would appear consistent with the approach taken to establish the unit rates that uses previous project data to establish the unit rates.

Given the scale of the planned replacement program is increasing 2 to 3 times over the review period this use of historic data is a concern. This concern could be addressed if overheads such as corporate overhead and mobilization have been extracted in the process of establishing the unit rates and added in on a program level basis. However, items 5 and 6 of the GHD report on the unit rate methodology specifically raise concerns with the process associated with managing costs such as mobilization and overhead in developing these unit rates.

We also have concerns with the application of contingencies when using historic costs for the development of unit rates. In using historic total costs across a range of projects a significant selection of contingency cost events are captured. This is different to estimating a single project from a bottom up approach where there are always a range of circumstances that cannot be identified and suitable contingencies are required. Using historic costs for repetitive work as the basis for unit rates reduces the need for contingency and as such traditional contingency allocations are not appropriate. The GHD report on the unit rate methodology discusses the treatment of contingency and states “it is appropriate no additional risk allowance is included” when developing estimates based on unit rates. It is not however clear if this is the case in practice.

3.3.6 Multiple asset management plans

While we appreciate the rationale for having multiple asset management plans (AMPs), and the need to focus on the characteristics of individual asset classes, we note that SAPN has a total of 80 separate AMPs.

This raises concerns with a number of potential issues:

- That the asset management function itself is overly complex. With 80 separate documents to be maintained there is considerable effort and cost involved. The aim of the asset management system should be to improve efficiency and *reduce* the overall cost of asset management and maintenance. The cost of the asset management system itself should be less than the efficiencies and cost savings in maintenance, failures and replacements it is able to achieve compared to a simplistic or reactive asset management regime.
- Considering assets as discreet classes has the potential to miss synergies and cost savings. For example, if a long rural feeder is considered as a set of poles, conductors, crossarms, transformers and switches, they will tend to be replaced discreetly and in an ad-hoc manner. If the line is considered as a whole, there may be better options – such as doing a complete rebuild (possibly on the opposite side of the road to avoid interruptions) which should offer lower cost than ad-hoc replacements.

- When a "whole line" cost over say 10 years is considered, it also offers the opportunity to compare this cost to SAPS or other alternative solutions, rather than a simple "like for like" replacement.
- SAPN have indicated that these efficiencies are taken into consideration at the "implementation" stage, though did not provide evidence of a mechanism where this would be achieved. If such a mechanism does indeed exist, we would like to see what level of efficiency (% cost saving) it achieves, and where this is factored into the expenditure estimates that have been estimated at AMP level.

3.4 Business environment

Business SA has concerns with a number of areas of SAPNs proposal relating to the business environment.

3.4.1 EBA and wages growth

Business SA notes the following key outcomes from SAPN's recent Enterprise Bargaining Agreement (EBA) with employees which is in effect until 31 December 2016:

- 4.25% annual pay increases on 1 July 2014, 1 July 2015 and 1 July 2016;
- Additional 1% superannuation payments above the minimum guaranteed level; and
- An annual rebate up to $700 per employee to cover the network charge component of their electricity bill

SAPN have subsequently engaged Frontier Economics to forecast labour costs until the end of financial year 2019/20 and estimate annual labour cost increases of 4.37% to occur on 1 July 2017, 1 July 2018 and 1 July 2019.

Frontier advise that the approach adopted by the AER in the SP Ausnet January 2014 decision was to accept the EBA outcomes in place at the time of its final determination until the expiry of those agreements (provided that the EBA rates reasonably reflect a realistic expectation of the cost inputs the Network Service Provider (NSP) will require to meet the opex and capex objectives).

Subsequent to the SP Ausnet decision, in November 2014 the AER made a draft determination on Ausgrid's regulatory proposal for 2014-2019. In relation to labour costs, the AER acknowledged the following key submissions:

- The Consumer Challenge Panel submitted that the electricity networks do not continue with their previous approach of effectively treating EBA outcomes as a "pass through", The AER needs to determine efficient allowances for labour costs that better reflect the long-term interests of consumers.[9]
- The Major Energy Users also submitted that adjusting costs that have been negotiated by a single firm does not necessarily reflect an efficient outcome.[10]

[9] Consumer Challenge Panel, AER Consumer Challenge Panel (CCP6 Sub Panel) submission on the TransGrid revenue proposal, p. 11, 8 August 2014.

[10] Major Energy Users, Tasmanian Electricity Transmission Revenue Reset A response by the Major Energy Users Inc, August 2014, p. 25.

The AER went onto advise that 'in taking these submissions into account, we note that we have not adopted Ausgrid's EBA when applying a rate of change in our alternative estimate. Our labour price is based on the forecast of the NSW EGWWS industry which we consider to be a benchmark appropriate for an efficient NSP.'11

Frontier contends that the EGWWS WPI is not representative of the labour costs of an electricity distribution business and further acknowledges that given the ABS does not release EGWWS WPI data for South Australia, any forecasts of the index provided by Deloitte Access Economics or others are based on "imputed" values and there is no way to verify that the imputed index values are appropriate. Consequently, Frontier has forecast labour cost escalation rates for SAPN from 1 July 2017 by extrapolating the average EBA outcomes for a suitably-defined comparator group.12

Frontier advised it found that the average annual compounding growth rate in labour costs for electricity network businesses over the seven year period from 2009-10 to 2015-16 was 4.11% with this rate being notably higher than the average annual compounding rates for gas (3.71%) and for water (3.48%). Furthermore, Frontier found that the average annual compounding growth rate for privately owned network businesses over the seven year period from 2009-10 to 2015-16 was 4.34% with this rate being notably higher than the average annual compounding rate for publicly owned network businesses (3.56%)[13]

In a climate of significant wage constraint across both the public and private sectors, Business SA contends that SAPN's 2014 EBA outcome of 4.25% per annum wage rises is nowhere close to reflecting the economic reality of South Australian business, particularly small business. Furthermore, South Australia's Gross State Product for 2013/14 only grew 1.3% and is forecast to grow at only 1.5% in 2014/15, 1.75% in 2015/16 and 2.0% in 2016/17. [14]

Wage prices caps of 2.5% and 1.5% per annum are currently being enforced at a State and Federal level respectively and considering the general downward pressure on electricity network spending in line with falling electricity demand, we do not accept there are demand side pressures in the labour market which substantiate wage increases significantly above CPI, particularly in South Australia.

To forecast the costs of its external contract requirements for construction and labour services, SAPN advise it has applied a real cost escalation rate to contracted construction and labour services costs based on forecasts provided by BIS Shrapnel, of the Construction sector Wage Price Index for South Australia. BIS Shrapnel forecast above CPI increases from 0.5% up to 1.8% per annum across 2015-20 resulting in a cost escalation of $22.7 million.

Business SA has reviewed BIS Shrapnel's forecasts and quotes the following from their report:

'South Australian engineering construction is estimated to have peaked in 2012/13, at a record $5.8 billion. However, several major projects are now either completed or nearing completion, including the South Road package works, the Southern Expressway duplication, rail revitalisation projects, and Adelaide Oval's grandstand. Given the lack of comparable projects coming through, we are forecasting a cumulative fall in activity of almost a third during the four years to 2016/17.

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[11] AER, Draft Decision on Ausgrid regulatory proposal 2014-2019, November 2014, p152

[12]SA Power Networks, 'Regulatory Proposal 2015-20' Att 20.2 Forecasting labour cost escalation rates using EBA outcomes, Executive Summary

[13] SA Power Networks, 'Regulatory Proposal 2015-20' Att 20.2 Forecasting labour cost escalation rates using EBA outcomes, P37

[14] The South Australian Centre for Economic Studies, December 2014 Economic Briefing, Page viii

The South Australian economy is expected to continue to lag national growth over the five years to 2017/18. In addition to the factors mentioned above, persistently low population growth, forecast at below 1 per cent over the short-to-medium-term, will continue to stifle growth. The state just seems to be holding on until the long-awaited benefits from the expected further depreciation in the A$ in the decade come through, as well as the oft-postponed Olympic Dam expansion.

In 2018/19, South Australian economic growth is forecast to overtake national growth for the first time in over a decade. Engineering construction will be a key contributor to the recovery, driven by the massive Olympic Dam expansion (currently scheduled to begin in 2018/19) and the $2 billion Carrapateena copper-gold project.'[15]

We are surprised that BIS Shrapnel have given weight to the Olympic Dam expansion project considering BHP shelved its major expansion plans in 2012 and have subsequently given only quite conservative forecasts about the nature of any future expansion. Furthermore, the Carrapateena copper-gold project is only at a pre-feasibility stage so should not be relied upon to inform economic modelling forecasts, particularly those for a regulated entity.

BIS Shrapnel's analysis points to continued weakness in the South Australian construction sector over coming years which is at odds with their forecast of real wage growth, ie growth above CPI. Consequently, SAPN's external labour costs and their escalation forecasts should be reduced accordingly across 2015-20. Furthermore, BIS Shrapnel's analysis of future wage price pressures in the South Australian construction sector cast further doubt on the forecasts of Frontier for SAPN's internal labour cost increases across 2015-20 which are even further above CPI.

SAPN shareholders are free to remunerate their labour force as they see fit, but electricity consumers, particularly small businesses, are not willing to absorb any costs which are considered above the efficient rate in relation to broader labour market conditions in South Australia.

3.4.2 Weighted Average Cost of Capital (WACC)

Firstly, Business SA agrees with SAPN that 'it is important that regulatory decisions do not over-reward business for risk (because prices would be higher than they need to be) and equally that these decisions do not under-reward businesses for risk (because under-capitalised businesses cannot make required investments or meet required service standards and they carry excessive risk of financial failure).'

However, we do have some concerns about various assertions made by SAPN which lead it to adopt a higher return on equity, including equity beta, than the AER's November 2014 draft determination for the NSW electricity distribution business Ausgrid.

Equity Beta

SAPN has advised an equity beta estimate of 0.82, materially above the 0.7 adopted by the AER in its draft Ausgrid determination.

SAPN's contractor, SFG Consulting has outlined a number of reasons why the approach of the AER to calculating beta is wrong including, but not limited to,:

[15] SA Power Networks, 'Regulatory Proposal 2015-20' Att 12.5 BIS Shrapnel Outlook for SA Power Networks' real external labour cost escalation and customer expenditure forecasts to 2019/20, August 2014 P13

- the impact of leverage on beta
- that equity betas based on 45% leverage cannot be used to compare the benchmark entity with 60% leverage
- that international benchmarks should be considered
- that estimates of equity beta vary wildly, with the majority of estimates falling outside AER's range
- that estimates of equity beta vary wildly depending on the statistical techniques employed.[16]

SFG's arguments actually highlight the difficulty in precisely calculating beta and do not convince stakeholders that the AER has taken an approach which is outside the range of plausible possibilities.

Furthermore, regardless of available statistically significant evidence to prove the impact of the AER adopting a 10 year trailing average approach for the cost of debt, we have not seen SFG mount a solid counter argument that this approach will not reduce risk for the benchmark entity. The fact that there is no statistically significant evidence is more a timing issue and should not preclude the AER from giving some weight to the likelihood that its cost on debt approach will provide for more stable cash flows: and subsequently reduce the risk of holding equity in the benchmark firm.

Business SA supports the AER adopting an equity beta of 0.7 which is consistent with the precedent set in its draft Ausgrid determination.

Return on Equity

In calculating SAPN's required return on equity, SFG Consulting recommends a weighted approach adopting four key financial models:

a) Sharpe Lintner – CAPM; 9.74%
b) Black – CAPM, 10.35%
c) Fama French Model, 10.57%
d) Discount Dividend Model, 10.72%

More specifically SFG Consulting recommends using the following weights:

- 25% to the DDM and 75% to the three asset pricing models;
- Half of the 75% should be accorded to the Fama-French Model; and
- The remaining 37.5% assigned to the capital asset pricing models should be divided two thirds to the Black-CAPM and one third to the SL-CAPM.

On that basis, the single point estimate for the required return on equity would currently be 10.45%.[17]

Business SA supports the AER adopting a foundation model, Sharpe Lintner CAPM, to determine SAPN's required return on equity and does not support SFG's approach which involves allocating arbitrary weights to each of the four models with an apparent bias towards the models which produce higher estimates.

[16] SFG Consulting, 'Equity Beta', May 2014, Pages 1-3

[17] SA Power Networks, 'Regulatory Proposal 2015-20', p319

3.5 Material Price Escalation

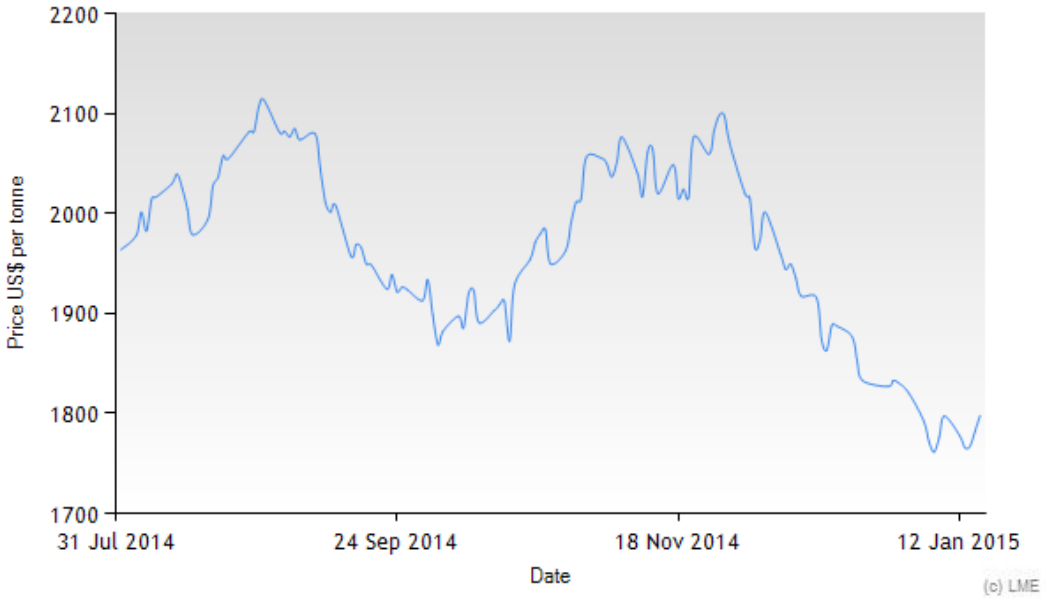
We note that SAPN has incorporated forecasts of expected movement in the real price of equipment and materials used in the construction and maintenance of the network. In the absence of a liquid market for such equipment or credible markets or forecasts of future prices, SAPN has relied on consultants modelling based on expected changes in the manufacturing inputs (raw materials) for electrical equipment, coupled with expected movements in the AUD foreign exchange rate.

The approach adopted is consistent with recent AER decisions and Business SA considers this approach in general to be reasonable. However, we believe some of the projected increases are of concern and are unlikely to be representative of actual increases in equipment costs faced by SAPN.

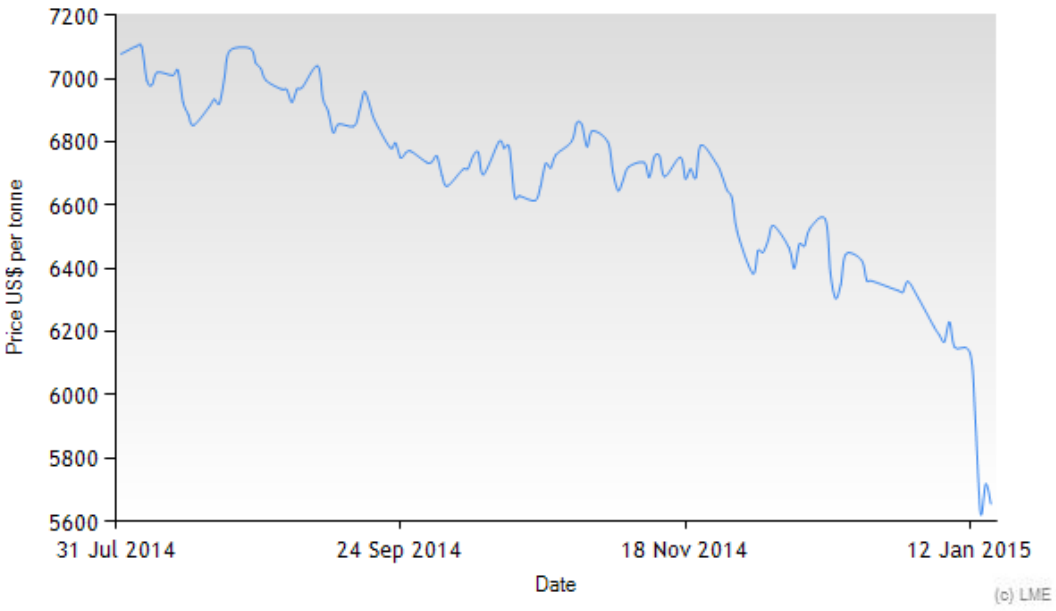
We also note that since the development of these forecasts in August / September 2014, international commodity prices have fallen significantly, as the charts of aluminium (~10% fall) and copper (~18% fall) prices on the following page demonstrate. Oil prices and futures have likewise fallen by around 50%, with a view that OPEC is prepared to endure sustained low prices for several years in order to limit investment in additional production in higher cost regions such as the USA and Canada.

These developments point to a shift in commodity prices that is likely to depress prices in the early years of the upcoming regulatory period at least, rather than the real price increases proposed by SAPN.

We believe the escalators should be re-calculated using the most recent data available at the time the decision on approved costs is made.



Aluminium price ($/tonne). Source: London Metal Exchange (LME), January 2015.



Copper price ($/tonne). Source: London Metal Exchange (LME), January 2015.