

# Regulatory Proposal to the AER, 2011 – 2015

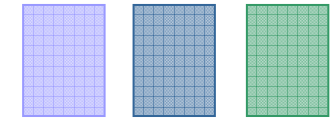
*Public Forum, 17 December 2009*



**SP AusNet**™  
A member of Singapore Power Group

Charles Popple

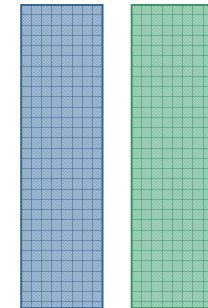
*Group General Manager*  
Networks Strategy and Development



## 1. Background

### *About SP AusNet*

- ▶ Our network and distribution area
- ▶ Focus on customer service
- ▶ Asset management strategy



## 2. Our Proposal

### *Building blocks*

- ▶ 2006-2010 regulatory period
- ▶ Capex
- ▶ Opex
- ▶ Other building blocks



## 3. Outcomes

### *Impact on customers*

- ▶ Pricing and tariffs
- ▶ Reliability

## 1. Background

### *About SP AusNet*

- ▶ Our network and distribution area
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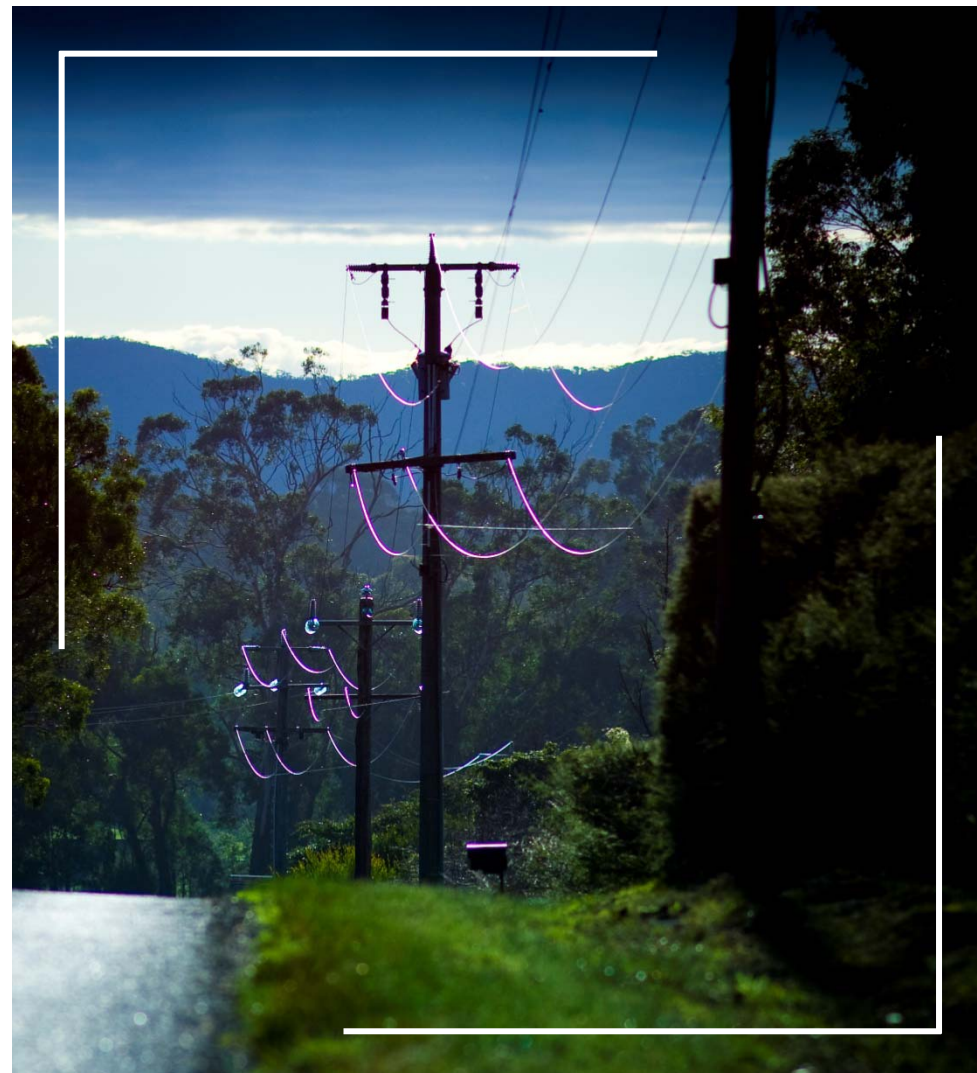
# Snapshot of our network

- Distributes electricity to 610,000 customer supply points
- Spans more than 80,000 sq km
- 47 66/22 kV zone substations
- 57,000 distribution substations
- 371,000 power poles and 100,000 streetlights
- 46,000 kilometres of underground cable and overhead lines



# Unique characteristics of our distribution area

- **Difficult terrain and climatic conditions**
  - Alpine regions are mountainous, heavily forested, with significant vegetation cover
  - Coastal areas are subject to high winds and salt
  - Windy and dry conditions in Victoria's south and hot, dry and windy conditions in the North
- **Covers some of Melbourne's fastest growing suburban corridors**
- **Average customer density is low, reflecting isolated farms and small country towns**
- **Great Dividing Range imposes a physical separation**

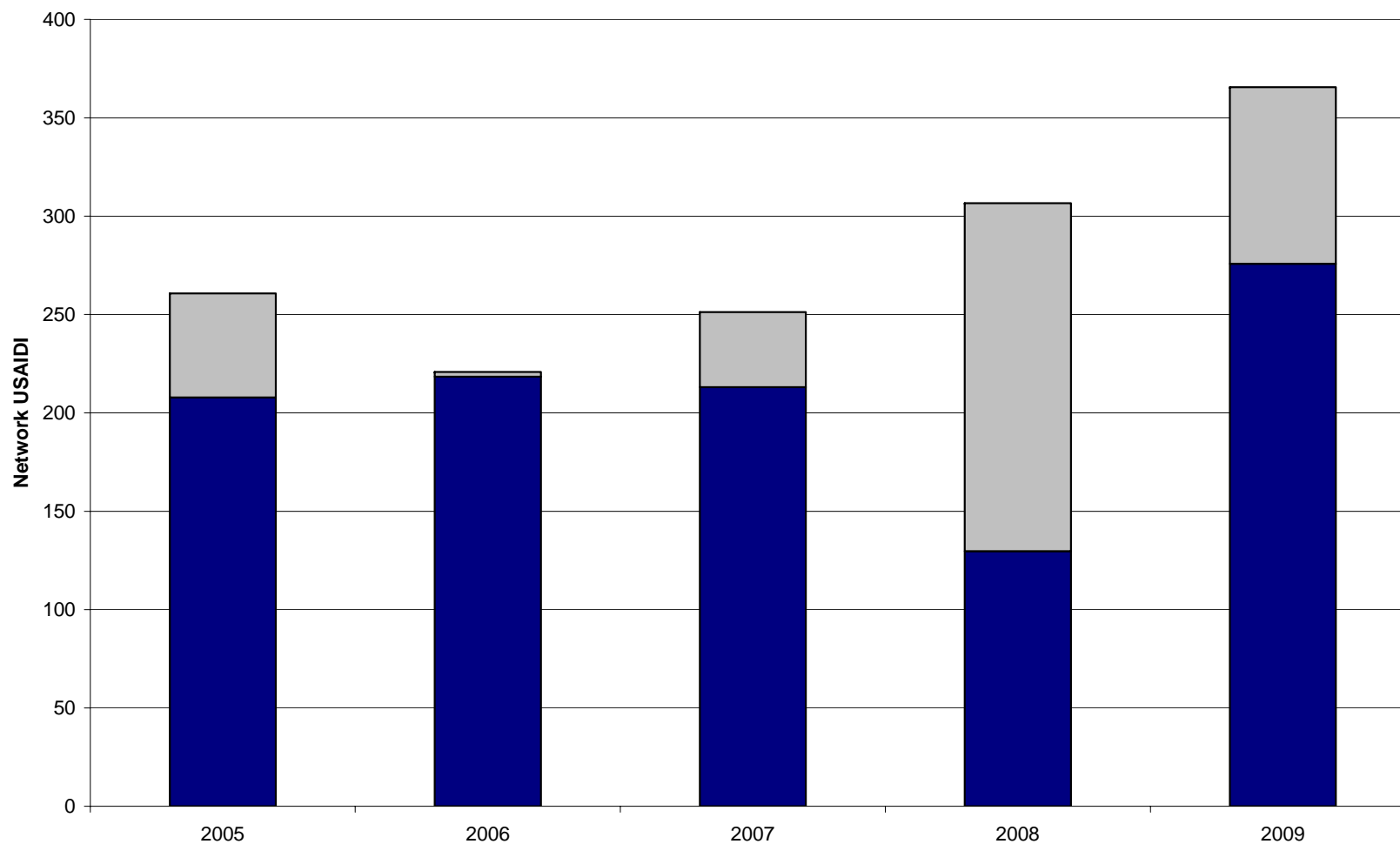


## Our focus on customer service

- In the current regulatory period, invested \$71 million (real 2010 \$) specifically to improve customer service and reliability
- In the forthcoming regulatory period, our Proposal
  - meets safety and technical standards
  - sets out plans to **maintain** supply reliability
  - includes some specific measures to deliver **targeted improvements** in customer service



# Historic network performance



■ *Note: Based on 3.2 Beta exemption regime*

- Basis of SP AusNet's expenditure plans and demonstrates that those plans are consistent with the NEL objectives and rule requirements
- Informed by 30-year Network Development Strategy, which addresses the longer term capacity and investment requirements of the network
- Underpinned by the regulatory and commercial imperatives of delivering prudent and efficient cost and service performance, without compromising safety
- This does not mean lowest possible cost nor does it mean guaranteed supply
- Rigorous cost benefit analysis of all expenditure decisions, including risk management in relation to asset performance and network reliability



## 2. Our Proposal

### *Building blocks*

- ▶ 2006-2010 regulatory period
- ▶ Capex
- ▶ Opex
- ▶ Other building blocks



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- Overarching objective is a safe network, with efficient and sustainable customer service
- Proposed capital and operating expenditure maintains existing levels of network performance
- Proposal reflects the financial environment, climate change and customer expectations
- Forecast capital and operating and maintenance expenditures are driven by:
  - increased asset replacement works
  - increased augmentation and customer connection capex
  - IT expenditure
  - higher unit costs
- Changes proposed to strengthen incentives to improve network reliability
- AMI will be used to deliver cost-reflective price signals through new tariffs

## Summary of key forecasts

Capex (Net real 2010 \$)	\$ 1,372 M
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Opex (Real 2010 \$)	\$894 M
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Closing RAB (By 2015, nominal)	\$3,264 M
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WACC (Nominal)	10.86%
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### New demand tariffs

$P_0$ of	- 46.25%
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$P_x$ of	- 5.5%
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## Key Factors

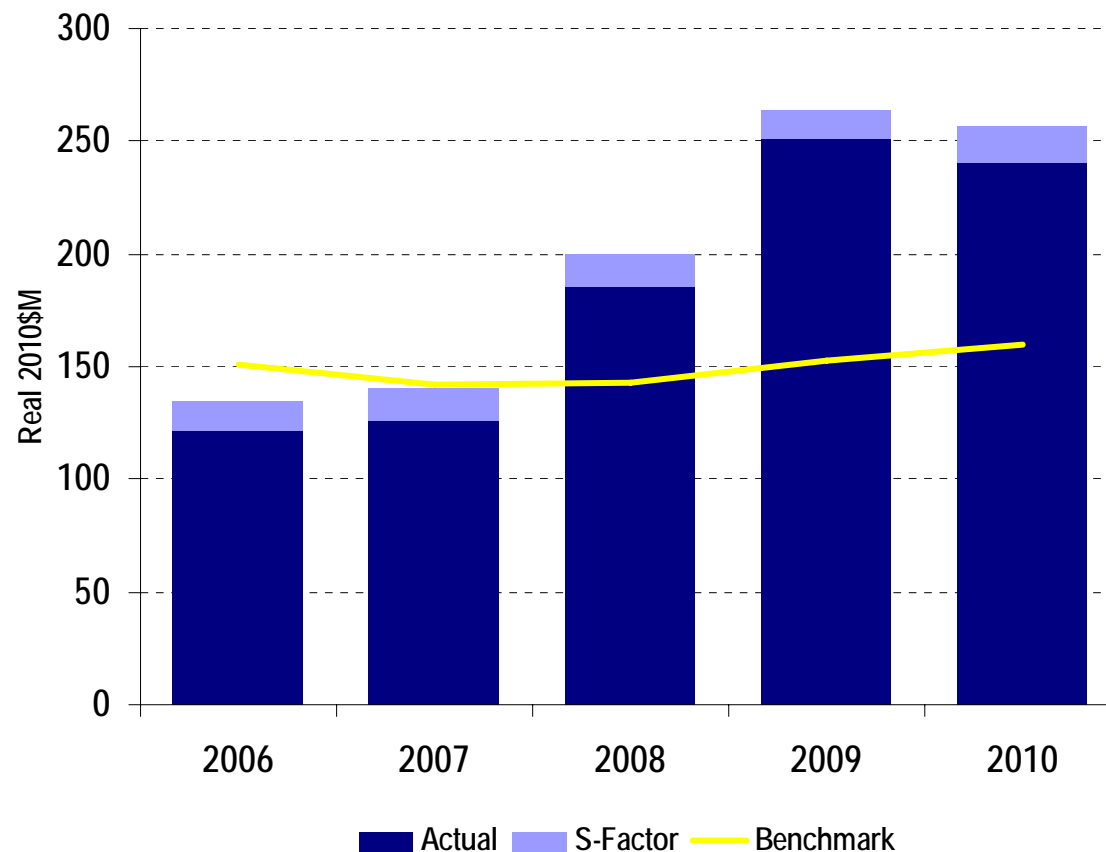
- Peak demand growth and the costs of servicing customer connection growth consistently above ESC forecasts
- Input costs have risen faster than the rate of cost escalation assumed by the ESC
- Disruptive natural events including six extreme events have occurred, such as 2007 Gippsland Floods, 2008 April Storm and 2009 Bushfires
- Global financial crisis has resulted in a sharp increase in the cost of capital

## SP AusNet's Response

- **Safety:** Statutory safety requirements and internal safety policies and practices are complied with at all times
- **Customer connections:** Highly responsive to connection requests
- **Network reliability:** Invested significantly (\$71 million in real 2010 \$) to improve customer reliability
- **Network reinforcement:** Increased Network wide utilisation, following prudent and economic deferral of some reinforcement projects
- **Information technology:** Replacement and rationalisation of IT systems and infrastructure to maintain IT capability

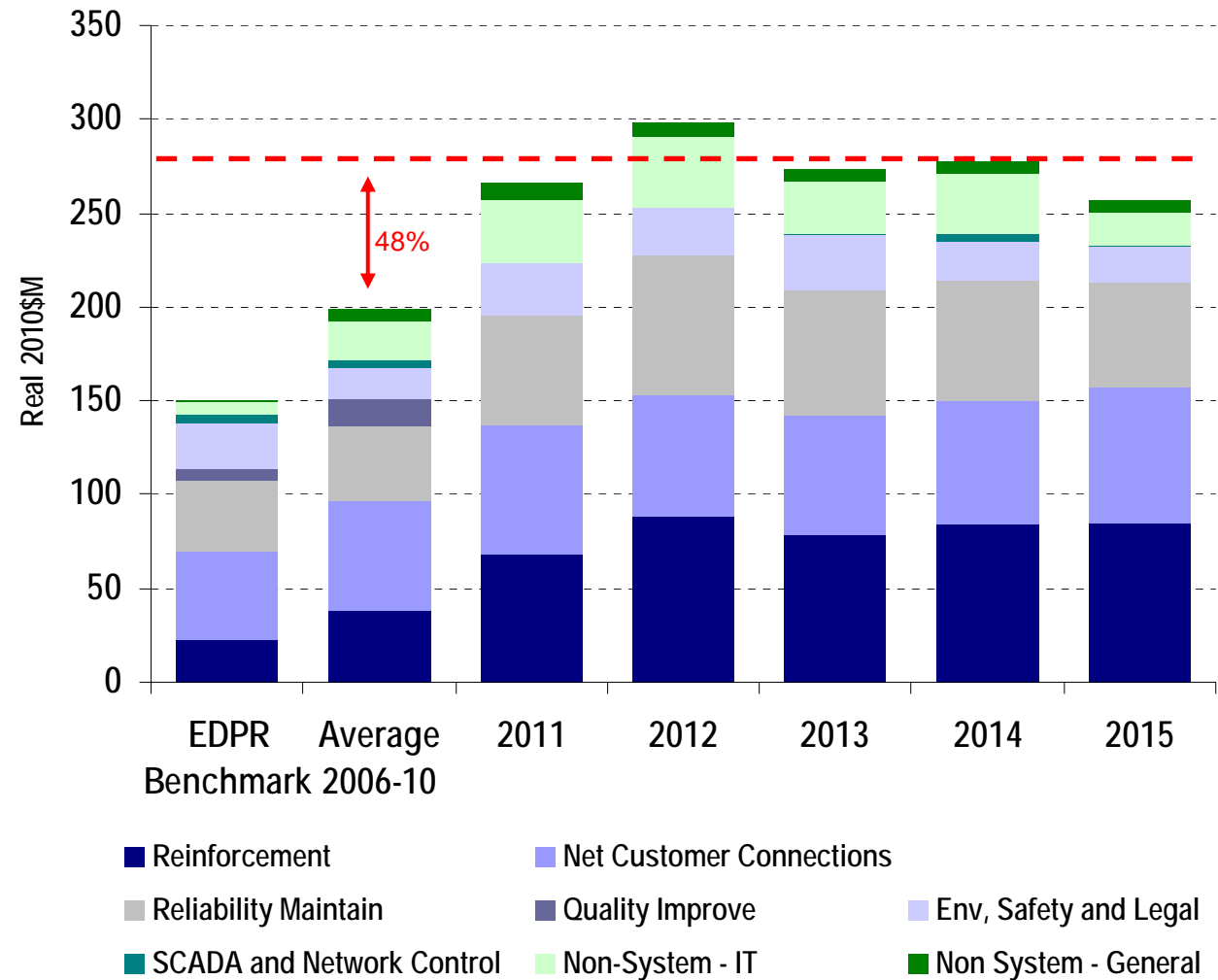
- Forecast: **\$996M** (real 2010 \$, net of customer contributions)
- SP AusNet will spend approx **\$247M** (33%) over the regulatory allowance
- Includes additional work undertaken specifically to improve reliability
- SP AusNet has successfully funded this extra capex

Historical expenditure versus Benchmark



- Total net capex forecast for the 2011-2015 regulatory period: **\$1,372M** (real 2010 \$)
- **48% higher** than in the previous regulatory period
- Averages **\$274M p.a.**

Forecast capital expenditure versus historical expenditure



# Main drivers of increase in forecast capex

## Driver

- **Demand growth:** forecast growth in maximum demand of 4.4% (versus actual growth of 6.7% to date in current regulatory period) and growth in customer connections of 2.1%
- **Maintaining network condition**
- **Maintaining our Information Technology (IT) capability**
- **Higher unit costs:** unit rates predicted to increase by around 9.5% in real terms over forecast period

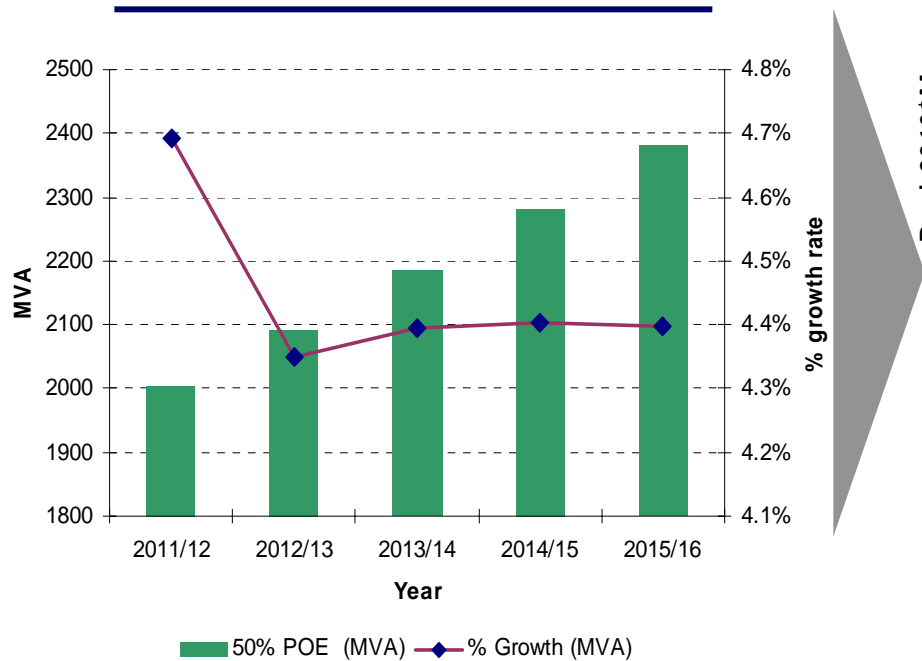
## Capex Impact

- **Network reinforcement and Customer Connections:** to provide sufficient new capacity
- **Asset replacement (Reliability Maintain) and compliance (Environmental, Safety and Legal):** to ensure that public safety and network reliability and quality are maintained
- **Non-system IT:** to provide system infrastructure needed to facilitate asset management, operational efficiency and planned customer service standards
- **All categories of capex**

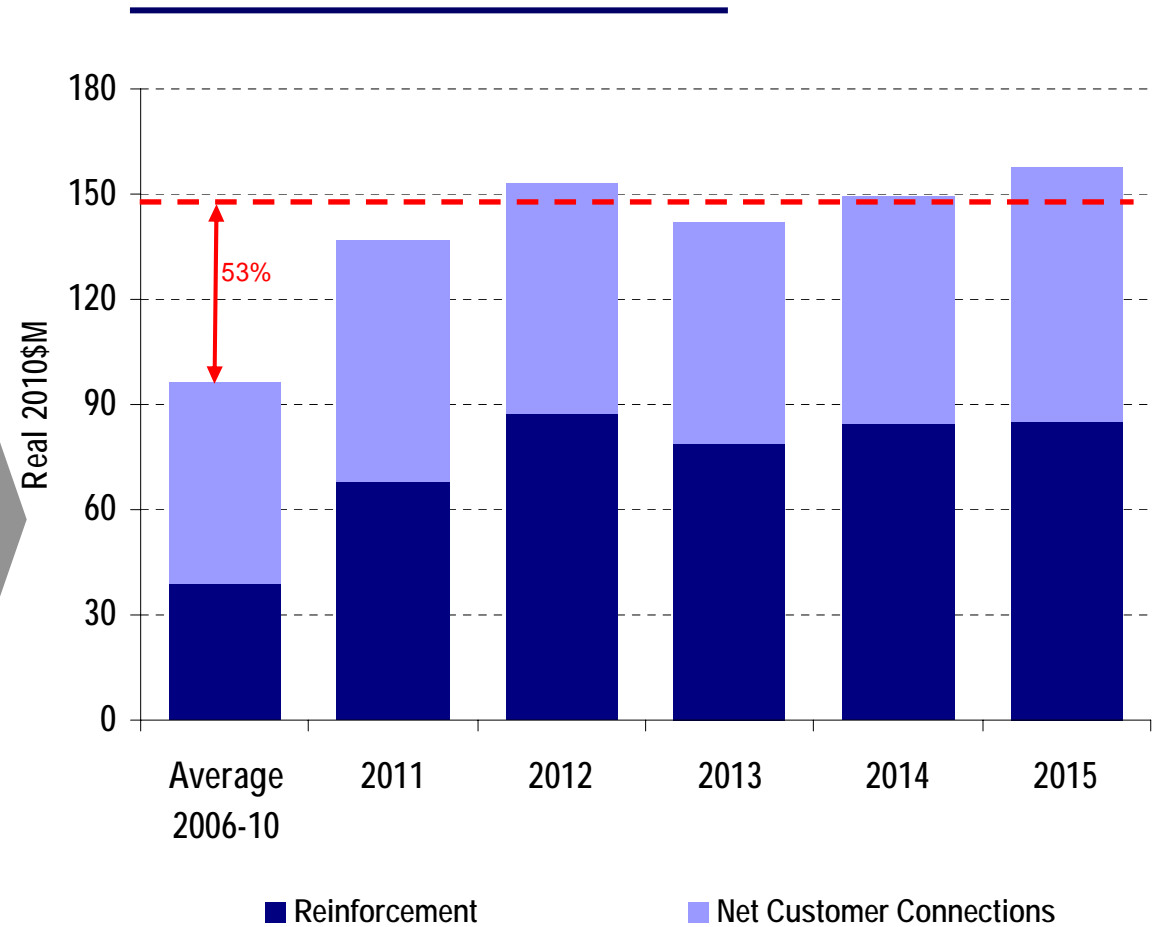
# Meeting demand growth

- Customer connections forecast to average **13,596 p.a.** (2.1% p.a.) , continues to be strong over the forthcoming regulatory period

Demand forecasts



Forecast reinforcement and customer connection capex



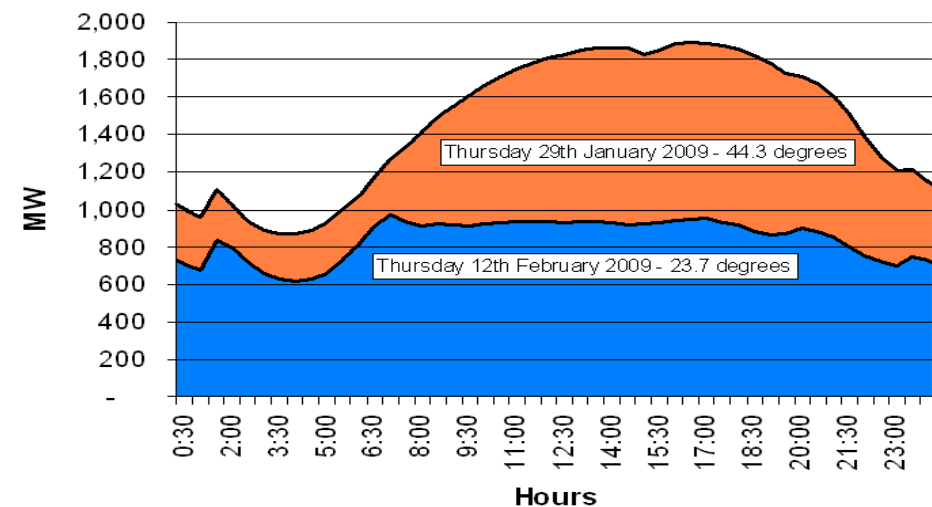
## Growth corridors



Source: VENCORP Electricity Transmission Planning in Victoria

- Demand associated with new housing developments tends to be relatively peaky due to the rapid uptake of air conditioning
- Air-conditioning electrical load is responsible for the peak load on the network on an increasing number of occasions each year

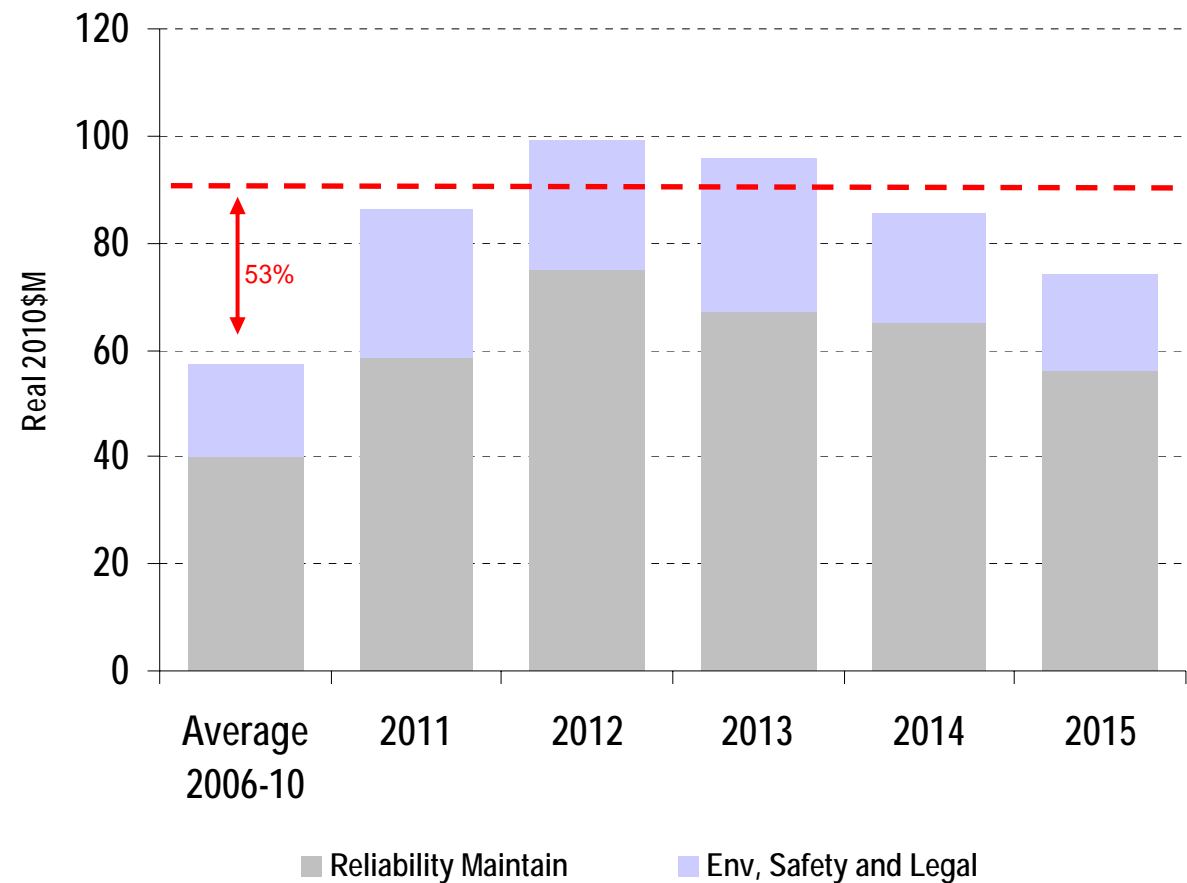
## Temperature dependant load





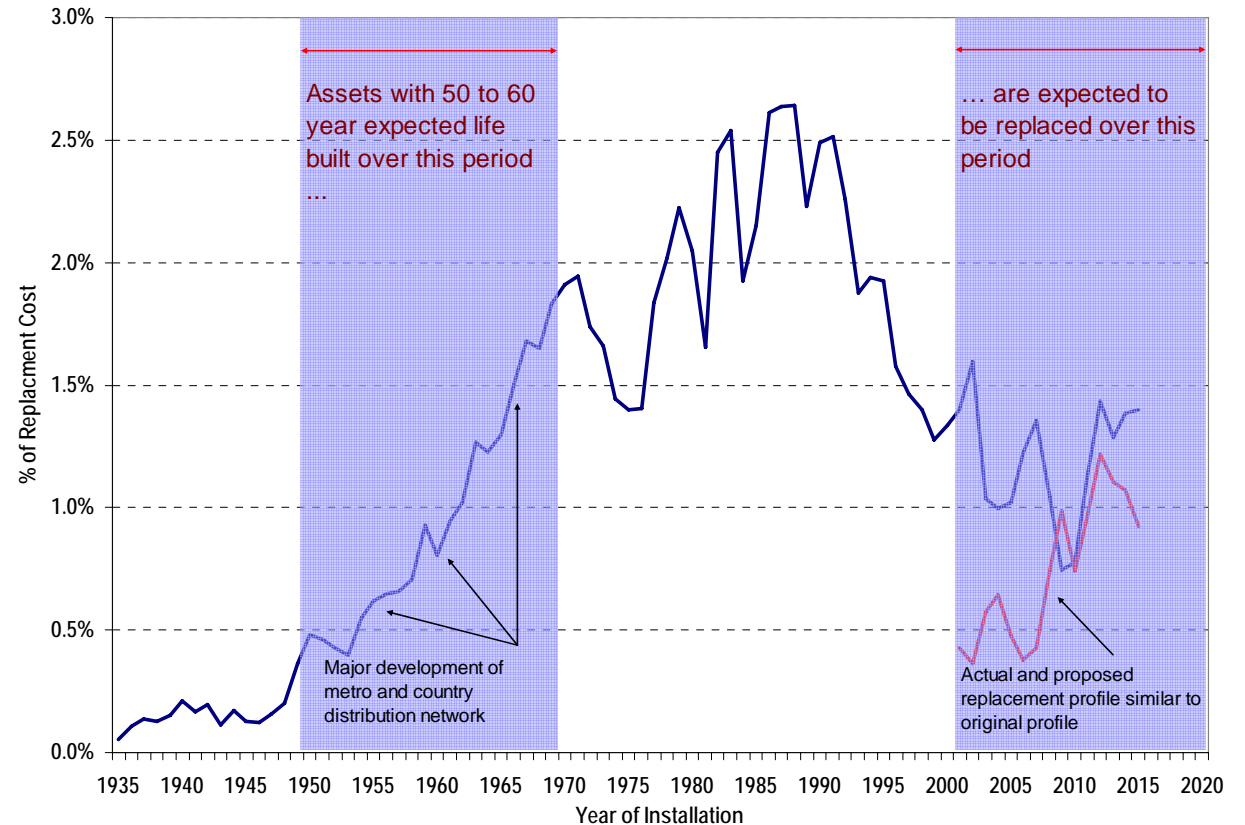
- SP AusNet's asset replacement programs are condition based
- There is a strong correlation between asset age and condition
- Implementation of the asset plans maintains the average age of the network

Forecast Asset replacement (Reliability Maintain) and compliance (Environmental, Safety and Legal) capex



- Our asset replacement strategies minimise asset life cycle costs by:
  - careful modelling of network performance risk
  - focused condition monitoring programs
  - sophisticated analysis of asset life extension and replacement options
  - selective asset life extension programs
  - efficient delivery of asset replacement through integration with network augmentation projects

## Installation profile

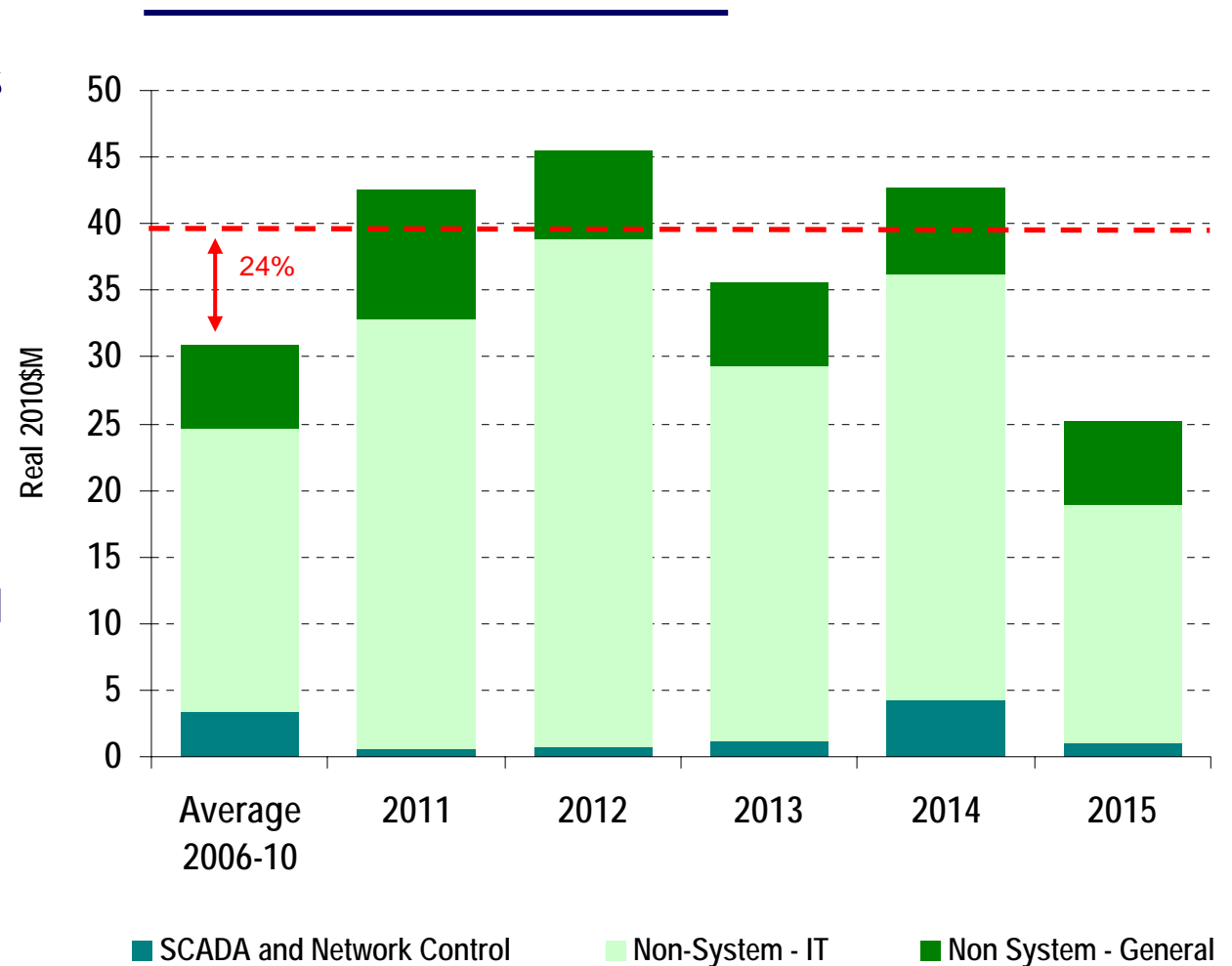


- SP AusNet has recently reviewed its organisational structure to enhance its delivery capability
- Annual levels of capex forecast are already being achieved in the most recent years of the current regulatory period
- Average real increase of 48% in forecast electricity distribution capex represents a 17% increase on total annual SP AusNet capex
- SP AusNet's experience in efficiently executing its previous capex program is reflected in its Project Delivery Model



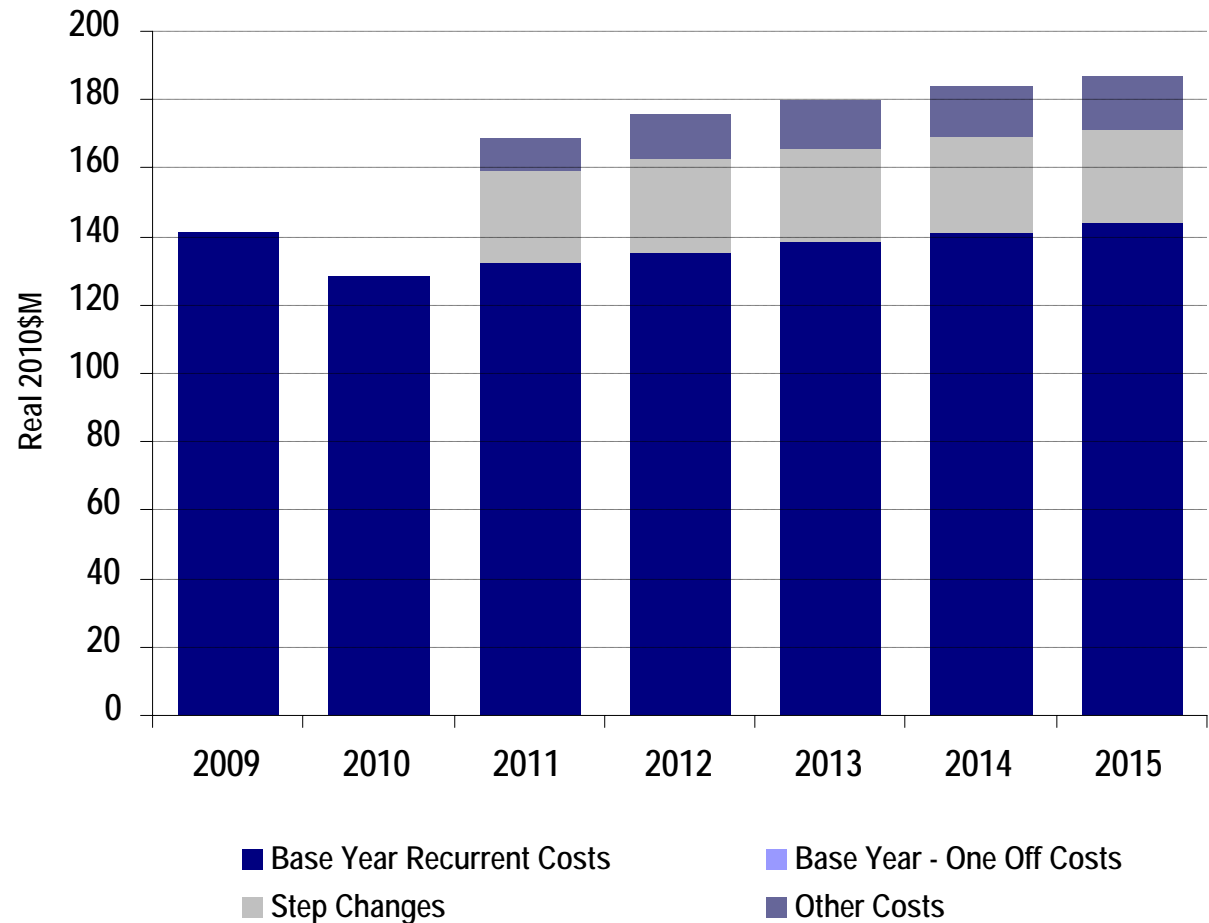
- SCADA capex is much lower than historically as a result of consolidation of platforms across all three SP AusNet Networks
- IT capex is increasing substantially to address:
  - functionality, reliability and availability
  - per function costs and performance capability
  - embedding intelligent diagnostic software that optimises operation and improves asset management
  - rationalising equipment via functional integration and multiple signal processing capability
  - remote management facilities of network elements

Forecast Non-System IT capex



- Increase from \$127 million (real 2010 \$) in 2009 to \$186.8 million (real 2010 \$) in 2015
- 6.64% real increase p.a.
- Factored into opex cost is the impact of undertaking our capex program
- Process for developing opex forecasts:
  - Step 1: Establish efficient base year costs
  - Step 2. Escalation
  - Step 3: Capex/Opex trade-off and Step changes
  - Step 4: Addition of self-insurance and other costs

Forecast opex



# Main drivers of increases in forecast opex

## Driver

## Opex impact

- | Driver   | Opex impact  |
|--|--|
| <ul style="list-style-type: none"><li>Changes to safety and compliance obligations</li></ul>       | <ul style="list-style-type: none"><li>SP AusNet is required to adopt a three year inspection cycle instead of its current 5 year cycle for Private Overhead Electric Lines</li></ul>   |
| <ul style="list-style-type: none"><li>Improvements to safety for customers and employees</li></ul> | <ul style="list-style-type: none"><li>Targeted removal of high risk vegetation outside the clearance space in high bushfire risk areas</li><li>Enhancements to asset condition monitoring</li></ul>                                      |
| <ul style="list-style-type: none"><li>Enhancements to level of customer service</li></ul>          | <ul style="list-style-type: none"><li>Enhancements to IT systems in 2010 to allow improved customer communications during extreme storm events</li><li>Initiatives to reduce PSAIDI from an estimated 95 minutes to 34 minutes</li></ul> |
| <ul style="list-style-type: none"><li>Changes in external environment</li></ul>                    | <ul style="list-style-type: none"><li>Increase in Bushfire mitigation insurance costs over the 2011-2015 period</li></ul>  |

- In its May 2009 Decision, the AER observed that the financial crisis could result in higher costs of debt and equity in the near term. It stated that the appropriate place for addressing such short term effects is in each DNSP's price review.
- Specifically, in relation to WACC, SP AusNet's Proposal includes:
  - new evidence that supports the adoption of a value of 8% for the MRP for SP AusNet's forthcoming determination, instead of the value of 6.5% adopted in the SORI;
  - new evidence that supports a move to a gamma of 0.5 from the value of 0.65 that is set out in the SORI; and
  - a test of the Debt Risk Premium proxy to ensure that the data source currently favoured by the AER reflects the actual issuing costs of BBB+ 10-year corporate debt.
- Other material building blocks includes:
  - Return on capital (nominal) of \$1,387M
  - Economic depreciation (nominal) of \$368M
  - Tax (nominal) of \$45M

## 3. Outcomes

### *Impact on customers*

- ▶ Pricing and tariffs
- ▶ Reliability

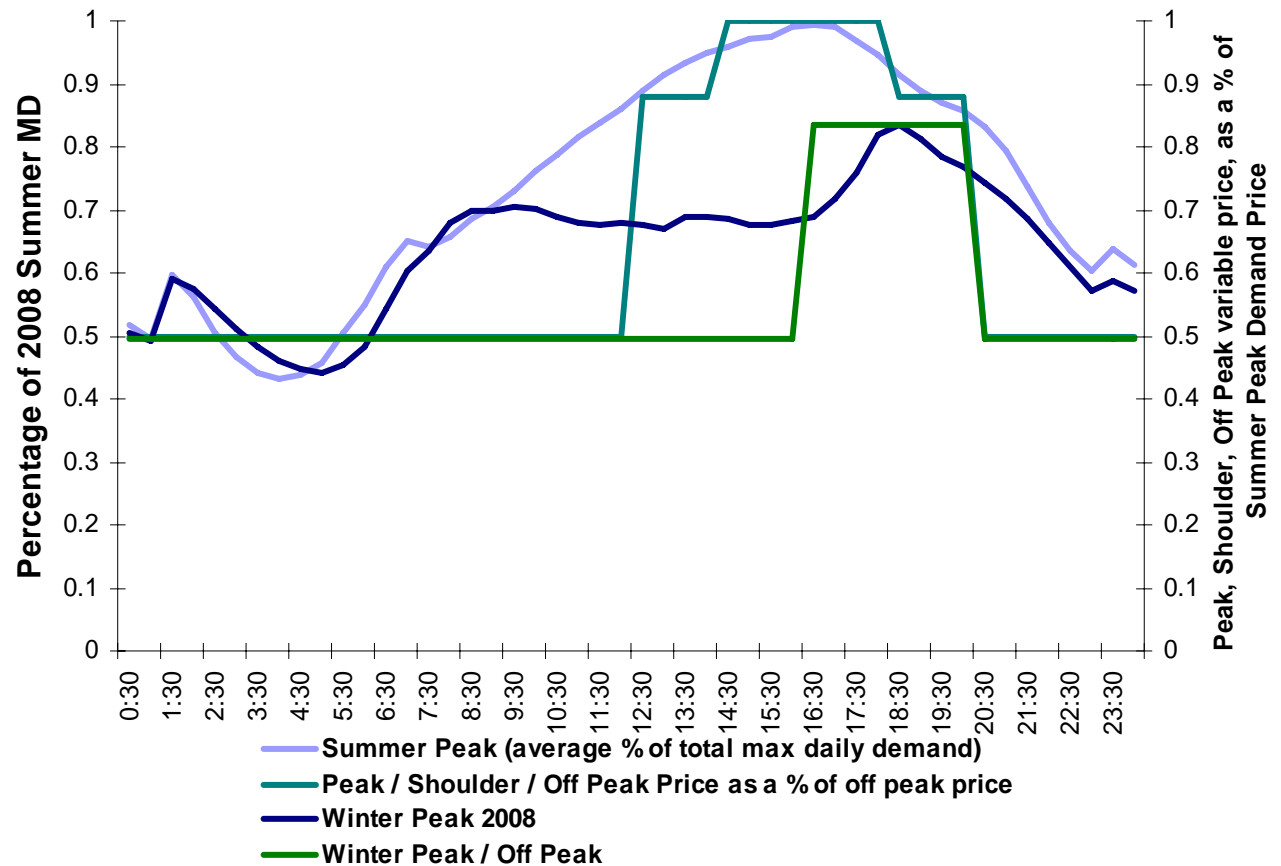




# Design of 'Time of Use' tariff

- **Summer Peak Energy Period:**  
2pm-6pm weekdays between December and March
- **Summer Shoulder Energy Period:**  
12pm-2pm and 6pm-8pm weekdays between December and March.
- **Winter Peak Energy Period:**  
4pm-8pm weekdays in Winter.
- **Off Peak Energy Charge:**  
Applied to all other usage

Time of Use Tariff and System Utilisation



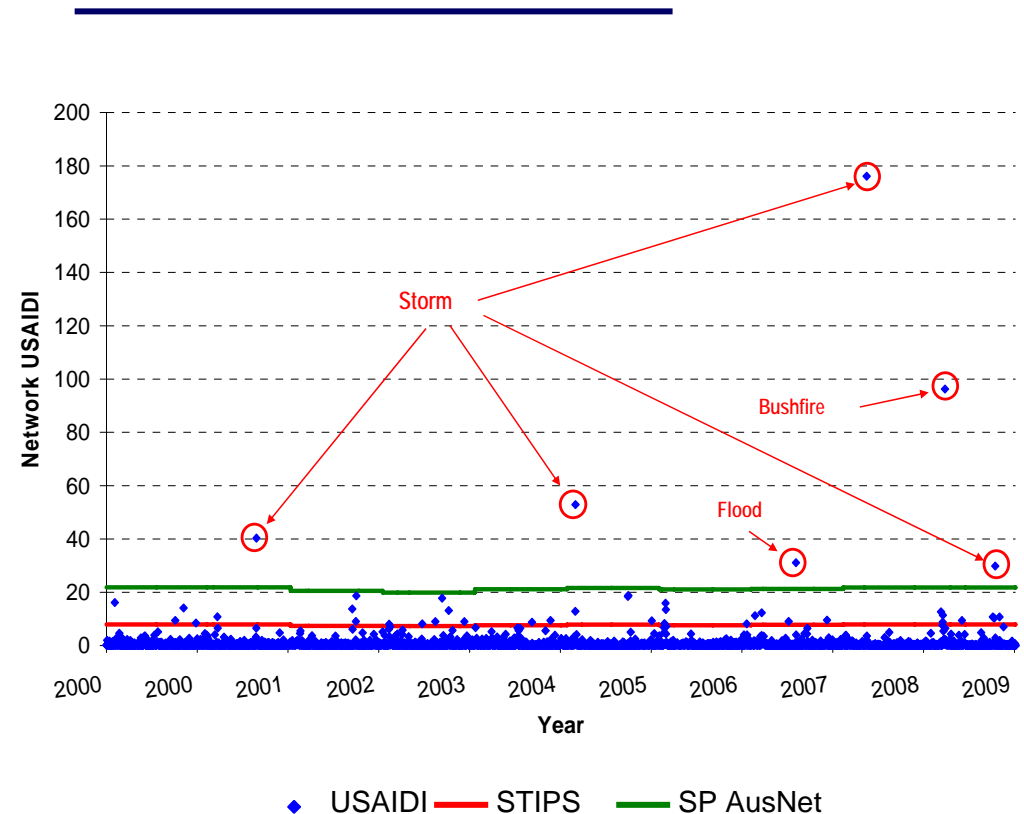
Proposed Residential Tariffs	Standing Charge (\$/ cust/yr)	Peak Energy Summer (c/KWh)	Shoulder Energy Summer (c/KWh)	Peak Energy Winter (c/KWh)	Off Peak Winter (c/kWh)	Off Peak Summer (c/kWh)
Single rate	8	8	9			
Time of use tariff	8	42	36	34	3	3



- SP AusNet will not collect more revenue from the adoption of this tariff
- The network component of some customer's bills will increase if they do not respond to this price signal
- Customer's will be able to readily respond to this price signal in order to lower their overall electricity bill

- SP AusNet proposes changes to the AER Scheme that increase the alignment between customer reliability benefits and the incentives in the business:
  - A major event day threshold with more bad reliability days are counted against the target and less days excluded compared to the STPIS
  - No revenue cap on reliability penalties or bonuses (default in STPIS is 5%). Ensures company suffers/enjoys the full impact of reliability performance
- SP AusNet proposes changes to the targets to account for the forecast effects of climate change on its network.

SP AusNet threshold includes more days and excludes days with extreme weather events



- Overarching objective is a safe network, with efficient and sustainable customer service
- Proposed capital and operating expenditure maintains network performance
  - The proposal reflects necessary increases in volumes and unit costs to maintain services
- Changes proposed to strengthen incentives to improve network reliability
- An aggressive approach to minimise the cost impacts, including the impact of demand reductions in response to AMI-enabled tariffs
- $P_0$  of - 46.25% and  $P_x$  of -5.5%