Draft decision

SP AusNet

Transmission determination

2014–15 to 2016–17

August 2013

AUSTRALIAN ENERGY REGULATOR

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Contents

Shortened forms

Shortened form	Extended form
AARR	aggregate annual revenue requirement
ACCC	Australian Competition & Consumer Commission
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AIS	Air insulated switchgear
ASRR	annual service revenue requirement
capex	capital expenditure
CEG	Competition Economists Group
CGS	Commonwealth Government securities
CPI	consumer price index
DAE	Deloitte Access Economics
DNSP	distribution network service provider
DRP	debt risk premium
DTSO	declared transmission system operator
EBSS	efficiency benefit sharing scheme
EGW	electricity, gas and water
EGWWS	electricity, gas, water and waste services
EMCa	Energy Market Consulting associates and Strata Energy Consulting Ltd
EUAA	Energy Users Association of Australia
EUCV	Energy Users Coalition of Victoria
FBTS	Fisherman's Bend terminal station
GIS	gas insulated switchgear
IT	information technology
kV	kilovolt
kW	kilowatt
LME	London Metals Exchange
LPI	labour price index
MAR	maximum allowed revenue
MRP	market risk premium

Shortened form	Extended form
MW	megawatt
MWh	megawatt hour
NCIPAP	network capability incentive parameter action plan
NEL	National Electricity Law
NEM	National Electricity Market
NEO	national electricity objective
NER	National Electricity Rules
NTSC	negotiated transmission service criteria
opex	operating expenditure
PTRM	post tax revenue model
RAB	regulatory asset base
RBA	Reserve Bank of Australia
RCP	Regulatory control period
RFM	roll forward model
RTS	Richmond terminal station
STPIS	service target performance incentive scheme
TAB	tax asset base
TNSP	transmission network service provider
TUOS	transmission use of system
WACC	weighted average cost of capital
WMTS	West Melbourne terminal station

Part 1 – Overview

1 About the review

The Australian Energy Regulator (AER) is responsible for regulating the revenues of transmission network service providers (TNSPs) operating in the National Electricity Market (NEM). The National Electricity Law (NEL) and the National Electricity Rules (NER) provide the overarching framework under which we operate. In particular, chapter 6A of the NER provides for our economic regulation of TNSPs. As a TNSP operating in the NEM, SP AusNet is subject to full regulation by us. We must make a transmission determination that determines how much revenue SP AusNet can recover from its customers. This draft decision contains the reasons for our transmission determination that will apply to SP AusNet during the 2014–17 regulatory control period.

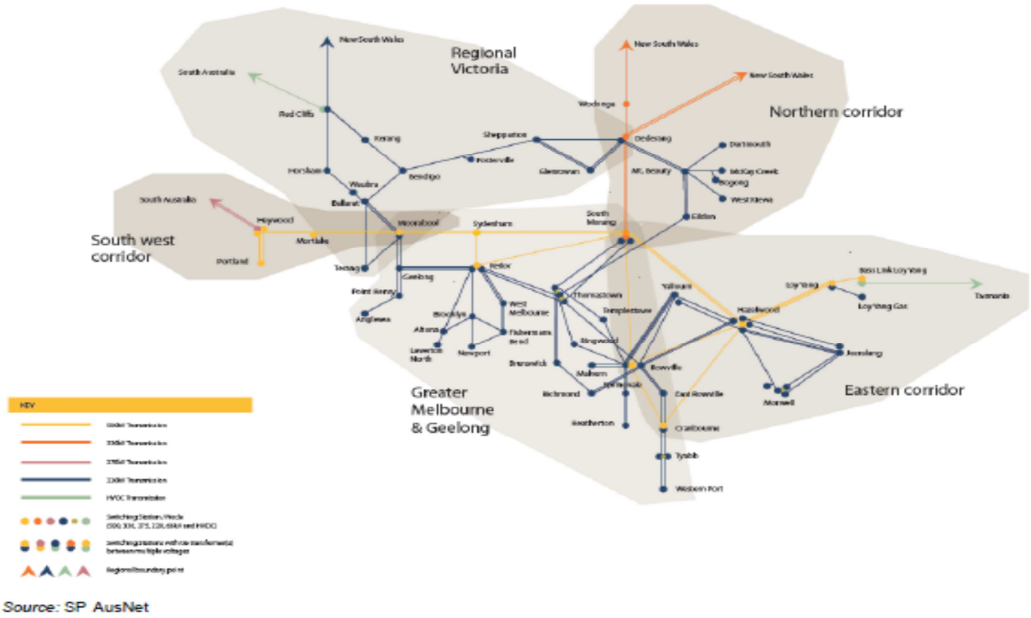
SP AusNet may submit a revised revenue proposal in response to our draft decision by 11 October 2013.[1] We also invite interested stakeholders to make written submissions on our draft decision and the revised revenue proposal on or before 1 November 2013 and to attend a predetermination conference on 18 September 2013. Details for submitting written submissions, along with the time and location of the predetermination conference, are on our website: www.aer.gov.au/node/19819 .

Once we consider submissions and SP AusNet's revised revenue proposal, we will publish our final decision by 31 January 2014.

1.1 Overview of SP AusNet

SP AusNet owns and operates the electricity transmission network in Victoria. This network consists of more than 6500 kilometres of transmission lines connecting power stations to electricity distributors and large customers (Figure 1.1). It is centrally located among the five eastern states that form the NEM, so it provides key connections between South Australia, New South Wales and Tasmania's transmission networks.

Figure 1.1 Victorian electricity transmission network



Source: SP AusNet, *Revenue proposal*, p. 37

[1] NER, clause 6A.12.3.

1.2 AER's draft decision

We do not approve SP AusNet's revenue proposal for the 2014–17 regulatory control period. Our draft decision is that SP AusNet will recover revenue of $1528 million ($ nominal) over the 2014–17 regulatory control period. This allowance is a reduction of 4.4 per cent from SP AusNet's proposed total revenue forecast.

We made our draft decision in accordance with the relevant sections of the NEL and NER. The key elements that reduced SP AusNet's proposed total revenue forecast were a 30 per cent reduction to SP AusNet's proposed capital expenditure (capex) and an 11 per cent reduction to SP AusNet's proposed operating expenditure (opex). These reductions reflect our assessment of SP AusNet's efficient costs. For our draft decision, we determined the cost of capital to be 7.43 per cent compared with SP AusNet's proposed 7.19 per cent. The higher than proposed cost of capital reflected current market based parameters.

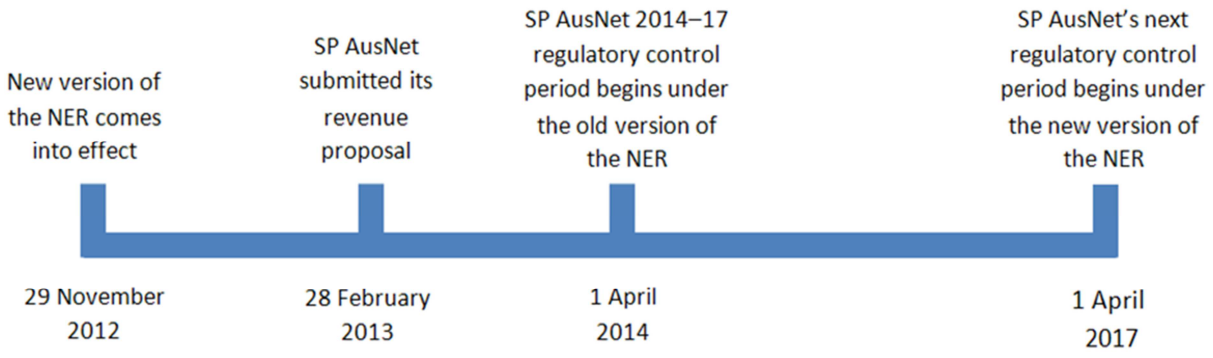
In reaching our draft decision, we:

- analysed SP AusNet's revenue proposal and supporting information
- considered submissions from interested parties
- considered views expressed at public forums and other stakeholder engagement meetings
- considered advice and analysis provided by AER commissioned experts.

1.3 Transitional arrangements

A new version of the NER came into effect just before SP AusNet submitted its revenue proposal. So, under transitional arrangements (Figure 1.2) an older version of the NER (version 52) continues to apply to SP AusNet on an interim basis.[2] The transitional arrangements provide the older version of the NER must apply to SP AusNet over a regulatory control period from 1 April 2014 to 31 March 2017.[3]

Figure 1.2 Transitional arrangements



Source: AER analysis.

The applicable older version of the NER differs from the new version. It does not, for example, permit us to conduct an ex post review of SP AusNet's capex.[4] This means we are not allowed to adjust SP

2 NER, clause 11.59.3(a).
3 NER, clause 11.59.3(b).
4 The new version of the NER (version 53) permits us to exclude inefficient capex from the opening RAB when the TNSP has spent in excess of its capex allowance. See NER, clause S6A.2.2A.

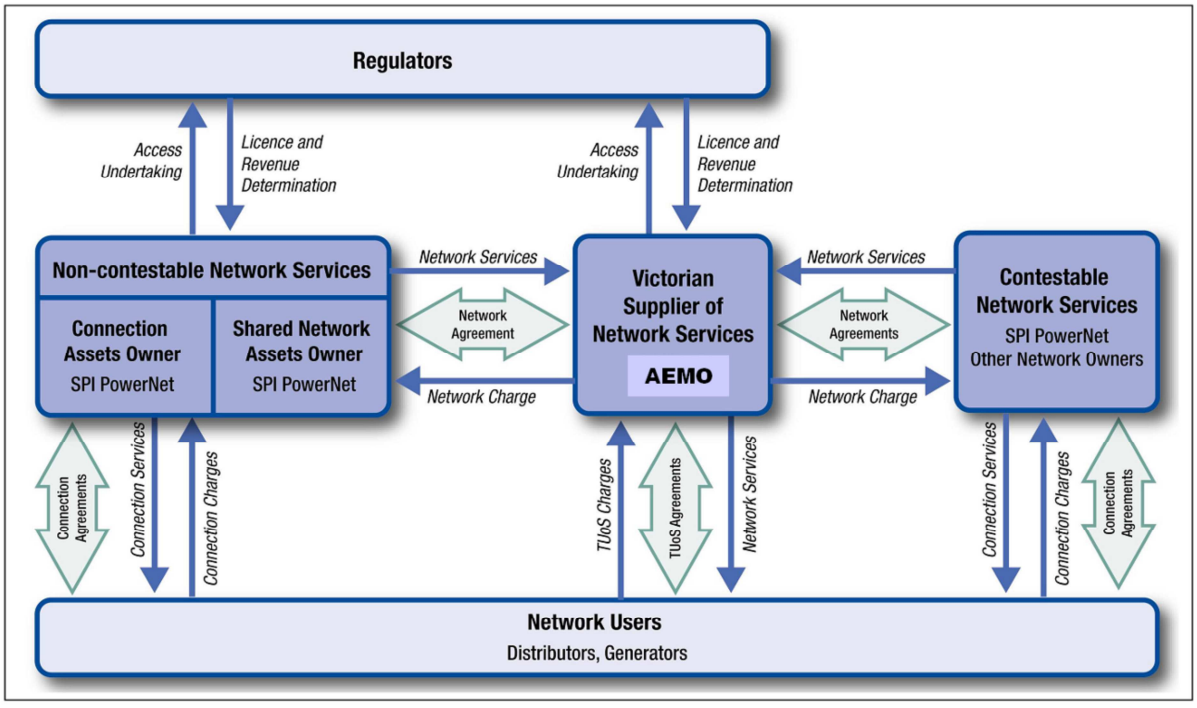
AusNet's opening regulatory asset base (RAB) for any inefficient capex during the 2008–14 regulatory control period. However, SP AusNet's historical capex and opex will inform our assessment of its expenditure forecasts.

Further, we will assess SP AusNet's rate of return under the old rules. We are developing new rate of return guidelines,[5] but the transitional arrangements mean the new guidelines will not apply to SP AusNet's 2014–17 regulatory control period. Accordingly, we applied our 2009 review of the weighted average cost of capital (WACC) when setting the key parameters of SP AusNet's rate of return.[6]

1.4 Victorian transmission arrangements

SP AusNet's revenue proposal does not include an allowance for augmentation capex or forecast demand for prescribed transmission services. This approach is consistent with the Victorian transmission arrangements (Figure 1.3), which differ from those in other NEM regions. In other regions of the NEM, the owner of the transmission network is responsible for network planning. This is not the case in Victoria. Network ownership and operation rest with SP AusNet and other declared transmission system operators (DTSOs). However, the Australian Energy Market Operator (AEMO) has planning and augmentation responsibilities.

Figure 1.3 Institutional arrangements for Victorian transmission



Source: SP AusNet, *Revenue proposal*, 28 February 2013, p. 29.

Network services can be contestable and non-contestable. When AEMO identifies a network constraint that is contestable, it calls for tenders for the construction, ownership and maintenance of the network solution. In total, 15 projects have gone to tender, of which SP AusNet won 13.[7] If the network constraint is non-contestable, then the incumbent DTSO (which is usually SP AusNet)

5 AER, *Consultation paper: Rate of return guidelines*, May 2013, pp. 48–53.
6 AER, *Electricity transmission and distribution WACC parameter review*, 1 May 2009: http://www.aer.gov.au/node/510
7 Productivity Commission, *Electricity network regulatory frameworks*, October 2012 p. 502, http://www.pc.gov.au/projects/inquiry/electricity/draft.

undertakes the work. The test for contestability is whether the network solution is 'separable' from the existing network.

The Victorian transmission arrangements have implications for the roll forward of SP AusNet's RAB. When an augmentation is deemed contestable and procured through a competitive tender process, the assets remain outside SP AusNet's RAB. However, assets relating to non-contestable network augmentations that AEMO initiated,[8] or that the Victorian distribution network service providers (DNSPs) requested,[9] are rolled into the RAB at the end of the period.

1.5 National Electricity Law and National Electricity Rules requirements

The NEL contains two overarching principles that we must apply when performing our economic regulatory functions or powers. Under section 16(1)(a) of the NEL, we must act in a manner that will or is likely to contribute to the achievement of the national electricity objective (NEO):[10]

> The objective of this law is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interest of consumers of electricity with respect to –
>
> a) price, quality, safety, reliability and security of supply of electricity; and
>
> b) the reliability, safety and security of the national electricity system.

We must also account for the revenue and pricing principles in the NEL when making a transmission determination.[11] These principles require a TNSP to have an opportunity to recover at least its efficient costs, and to have incentives to promote economic efficiency.

Also in assessing SP AusNet's revenue proposal, we reviewed its business and governance practices, including its asset management and maintenance strategies. In doing so, we sought to understand how SP AusNet operates and manages its transmission network.

1.6 Revenue proposal and AER draft decision

If our draft decision requires SP AusNet to make changes or address matters, then SP AusNet may submit a revised revenue proposal in response to our draft decision.[12] It must submit the revised revenue proposal to us within 30 business days of publication of our draft decision.[13] We must invite written submissions on the draft decision once we publish that decision, a notice of the making of that draft decision, and a notice of a predetermination conference. Any person may attend the predetermination conference and make a written submission on the draft decision. The due date for written submissions must not be earlier than 45 business days after the predetermination conference.[14]

After considering submissions made on the draft decision and any revised revenue proposal, we must make a final decision and transmission determination.[15] The final decision must set out the reasons

8 In its capacity as the planner of the shared transmission network in Victoria.
9 In their capacity as planners of the transmission connection assets that connect the transmission network with the Victorian distribution networks.
10 NEL, section 7.
11 NEL, clause 16(2)(a)(i). The revenue and pricing principles are set out in section 7A of the NEL.
12 NER, clause 6A.12.3.
13 NER, clause 6A.12.3(a).
14 NER, clause 6A.12.2.
15 NER, clauses 6A.13.3 and 6A.12.4.

for our decision. And we must publish the final decision and transmission determination,[16] at least two months before the start of the relevant regulatory control period.[17]

1.6.1 Consultants, consultation and engagement

We commissioned the following independent consultants for our draft decision:

- Energy Market Consulting associates (EMCa) and Strata Energy Consulting Ltd,[18] for advice on technical aspects of SP AusNet's past and forecast expenditure (capex/opex), associated policies and procedures, contingent projects and service standards
- Deloitte Access Economics, for advice on forecast growth in labour costs
- AM Actuaries, for advice on SP AusNet's proposed insurance premiums and self-insurance allowance
- McGrathNicol to assist us in assessing whether some of SP AusNet's cost allocations were inconsistent with the approved cost allocation methodology.

We engaged consultants to help us determine whether technical aspects of the proposal are reasonable. The consultants' advice also helps us develop our substitute expenditure forecast (if required). While we seek the consultants' advice and expertise to help understand the proposal from a technical perspective, we are not bound to use the consultants' forecast or adjustments as a replacement. We use judgment in adopting their advice and consider a broader array of interconnecting information including engineering, economic and legal matters.

Effective consultation with stakeholders is essential to our performance of our regulatory functions. Appenidx G sets out our consultation and stakeholder engagement in detail. In summary, throughout the review process, we engaged with stakeholders by:

- considering submissions on SP AusNet's revenue proposal
- publishing an issues paper to help stakeholders engage with, and meaningfully respond to, SP AusNet's revenue proposal
- considering two written submissions by the Energy Users Coalition of Victoria (EUCV) and the Energy Users Association of Australia (EUAA) on SP AusNet's revenue proposal
- hosting a public forum in Melbourne on April 2013 so stakeholders could question both the AER and SP AusNet on the revenue proposal
- having SP AusNet present its revenue proposals to the AER Board in April 2013, so questions could be raised and key issues explained
- engaging with EMCa and SP AusNet during a one week onsite review of SP AusNet's revenue proposal in March 2013. AER staff and EMCa directly engaged with SP AusNet staff involved in developing and managing the network, and tested material and information that underpins the revenue proposal.
- having ongoing discussions with SP AusNet about its revenue proposal. During this process, we and EMCa considered over 90 responses to information requested from SP AusNet.[19]

16 NER, clause 6A.13.3.
17 NER, clause 6A.13.3.
18 Energy Market Consulting associates and Strata Energy Consulting Ltd are collectively referred to as 'EMCa'.

- holding a workshop with SP AusNet in May 2013, at which EMCa outlined its initial findings and concerns about SP AusNet's revenue proposal
- holding a workshop on 31 May 2013, at which EMCa met with an EUAA representative and discussed their findings and concerns about SP AusNet's revenue proposal
- holding a workshop on 14 June 2013, at which AM Actuaries met with SP AusNet
- visiting the Richmond and West Melbourne terminal stations on 29 July 2013, at which SP AusNet explained their proposal for those sites to the AER board members and staff
- liaising with other stakeholders, including the Australian Energy Market Operator (AEMO) (about SP AusNet's network capability incentive parameter action plan, NCIPAP).

Further, our review team had extensive direct engagement with SP AusNet throughout the review process. Appendix G sets out the key meetings between AER staff and key stakeholders (including SP AusNet) and additional information we received during our assessment.

1.6.2 Protected information submitted to the AER

We are committed to treating protected information received from TNSPs and other stakeholders in accordance with the NEL. The NEL allows us to disclose protected information in certain circumstances.[20]

1.6.3 Structure of this document

This draft decision is set out as follows:

- Part 1: AER's draft decision overview—our draft decision on SP AusNet's revenue proposal, along with a summary of our reasons
- Part 2: attachments—a detailed analysis of the components of the draft decision
- Part 3: appendixes—a discussion of technical matters, sensitive information that is redacted from this draft decision, and information about stakeholder engagement.

[19] See appendix G.
[20] NEL, part 3, division 6.

2 AER's approach

The National Electrcity Law (NEL) and National Electricity Rules (NER) establish the regulatory framework under which we regulate transmission network service providers (TNSPs). They require TNSPs to submit revenue proposals to us. Our determination in response applies to a specific regulatory control period, and sets the maximum allowed revenue (MAR) that a TNSP can recover.

2.1 SP AusNet's electricity transmission services

SP AusNet provides three types of services: prescribed transmission services, negotiated transmission services, and unregulated services. We treat each service differently.

We regulate prescribed transmission services in accordance with a revenue cap that sets the MAR that a TNSP can recover each year through its network tariffs. This revenue recovers the economic cost of providing prescribed transmission services to customers. Broadly, prescribed transmission services are services that a TNSP must provide, that are necessary to ensure the integrity of the transmission network, and that usually do not exceed standard network performance requirements.[21]

For negotiated services, we do not set the revenue that the TNSP can recover. Instead, we approve a negotiating framework and negotiated transmission service criteria (NTSC) to facilitate SP AusNet's negotiations with service applicants. The NER sets out the types of service that are classified as negotiated services.[22] These types include shared transmission services that exceed the network performance requirements of a TNSP and connection services that are provided to service one user, or a small group of users, at a single connection point.[23]

Unregulated services are outside our jurisdiction. They are services that a TNSP provides in a competitive market, so the revenue derived from them is unregulated.

2.2 Maximum allowed revenue

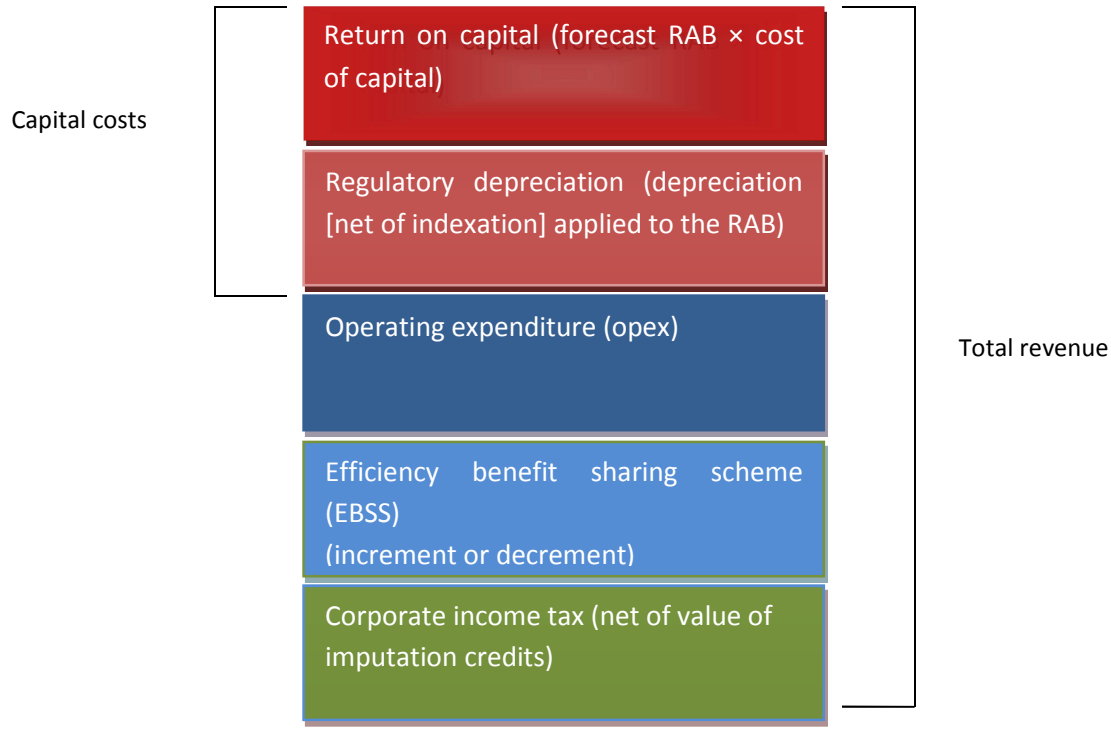
SP AusNet recovers revenue from its customers via its network tariffs. Its pricing methodology (attachment 12), prescribes the way in which it recovers this revenue from users. To determine SP AusNet's revenue for the 2014–17 regulatory control period, we assessed the total revenue that SP AusNet requires to provide prescribed transmission services for each year of the period. This annual revenue requirement reflects the efficient costs of providing prescribed transmission services across the Victorian electricity transmission network. In accordance with the NER, we used the building block approach to determine the annual revenue requirement—that is, we based the revenue requirement on the estimated efficient costs that SP AusNet is likely to incur in providing prescribed transmission services. The underlying cost elements include:[24]

- a return on the regulatory asset base (RAB) (return on capital)
- depreciation of the RAB (return of capital)
- forecast opex
- increments or decrements resulting from the efficiency benefit sharing scheme (EBSS)
- the estimated cost of corporate income tax.

21 NER, chapter 10.
22 NER, chapter 10.
23 NER, chapter 10.
24 NER, clause 6A.5.4(a).

Our assessment of capex directly affects the size of the RAB and, therefore, the return on capital and return of capital building blocks.

Figure 2.1 The building block approach for determining total revenue



2.3 NER objectives for capex and opex forecasts

The NER sets out the following objectives for SP AusNet's forecasts of total capex and opex:[25]

- meeting expected demand
- complying with all applicable regulatory obligations or requirements
- maintaining the quality, reliability and security of supply
- maintaining the reliability, safety and security of the transmission system.

We must determine whether SP AusNet's forecast capex and opex reflect the efficient costs required to meet these objectives, based on a realistic expectation of transmission services demand and cost inputs.[26]

[25] NER, clauses 6A.6.6(a) and 6A.6.7(a).
[26] NER, clauses 6A.6.6(c) and 6A.6.7(c).

3 Total revenue requirements and the impact on price

SP AusNet's total revenue cap represents our forecast of the efficient costs of providing prescribed transmission services. We determined the total revenue cap set out in this draft decision by assessing the elements of SP AusNet's revenue proposal. That is, we assessed the proposed building blocks for whether they reflect the efficient costs of providing prescribed transmission services in Victoria. This section sets out the revenue requirement of SP AusNet. It also summarises the likely impact of this draft decision on average electricity prices for Victorian consumers.

3.1 Draft decision

Our draft decision on SP AusNet's total revenue cap (smoothed revenue) over the 2014–17 regulatory control period is $1528 million ($ nominal). This amount is $69.8 million (or 4.4 per cent) less than SP AusNet's revenue proposal. The key element of our draft decision that reduced SP AusNet's proposed revenue is forecast opex and capex. Table 3.1 shows our draft decision on SP AusNet's building blocks and total revenue. Attachments to this draft decision discuss each building block in detail.

Table 3.1 AER's draft decision on SP AusNet's proposed revenue requirements ($ million, nominal)

	2014–15	2015–16	2016–17	Total
Return on capital	213.3	217.3	221.4	652.0
Regulatory depreciation[a]	75.6	80.0	85.5	241.2
Operating expenditure	184.7	193.5	195.7	573.9
Efficiency benefit sharing scheme (carryover amounts)	18.4	16.2	4.1	38.7
Net tax allowance	8.2	8.0	8.6	24.8
Annual building block revenue requirement (unsmoothed)	500.2	515.0	515.4	1530.6
Annual expected maximum allowed revenue (smoothed)	519.0	509.3	499.8	1528.1[b]
X factor (%)	n/a[c]	4.26	4.26	n/a

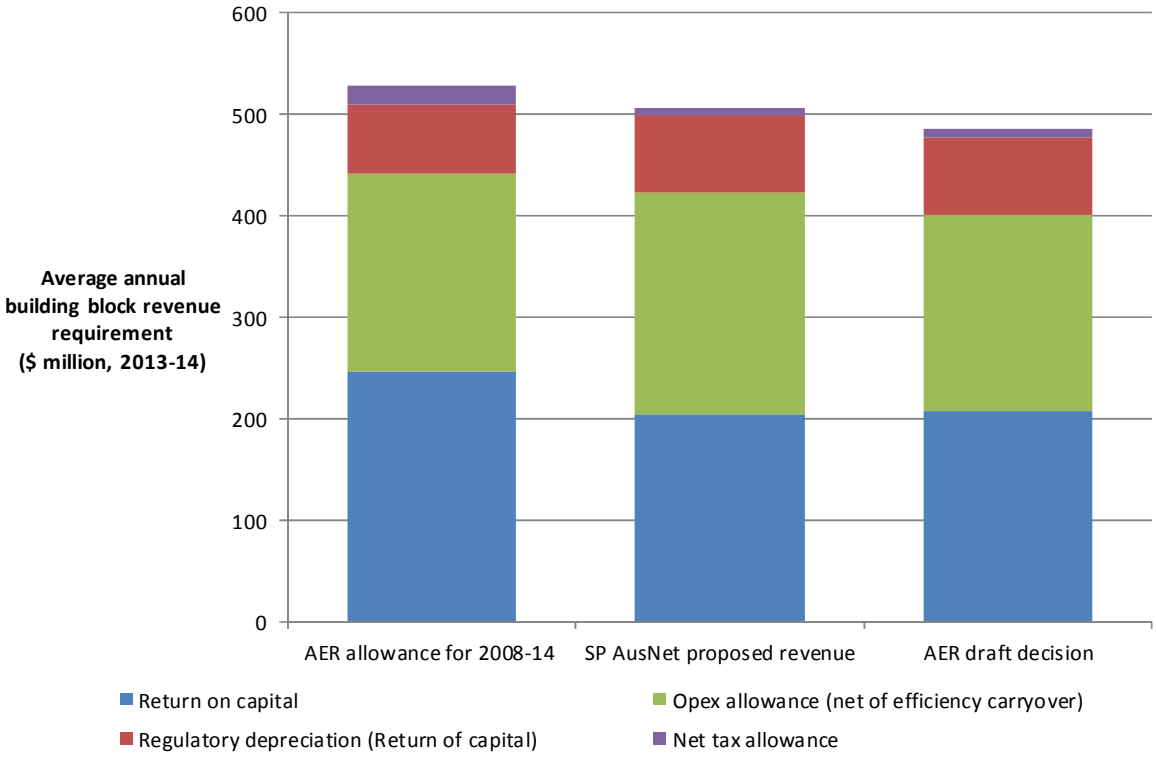
Source: AER analysis.
(a) Regulatory depreciation is straight-line depreciation net of the inflation indexation on the opening RAB.
(b) The estimated total revenue cap is equal to the total annual expected MAR.
(c) SP AusNet is not required to apply an X factor for 2014–15 because the MAR for 2014–15 will be that set in the final decision. The MAR for 2014–15 is around 7.3 per cent lower than the MAR in the final year of the 2008–14 regulatory control period (2013–14) in real terms, or 5.0 per cent lower in nominal terms.

Figure 3.1 compares our draft decision building blocks for SP AusNet's 2014–17 regulatory control period with SP AusNet's proposed revenue requirement for that same period, and with the approved revenue for the 2008–14 regulatory control period.[27] It shows our draft decision results in a decrease of 8.1 per cent in real terms ($2013–14) on SP AusNet's average annual revenue relative to that in the 2008–14 regulatory control period. This decrease in revenue is primarily because we applied a

[27] Because the regulatory control periods compared are of different lengths, we calculated the annual average revenues for the relevant regulatory control periods for comparison.

lower WACC applied to this draft decision for the 2014–17 regulatory control period than we approved for the 2008–14 regulatory control period.[28]

Figure 3.1 Annual average of AER's draft decision compared with SP AusNet's proposed revenue requirement and approved revenue for 2008–14 ($ million, 2013–14)

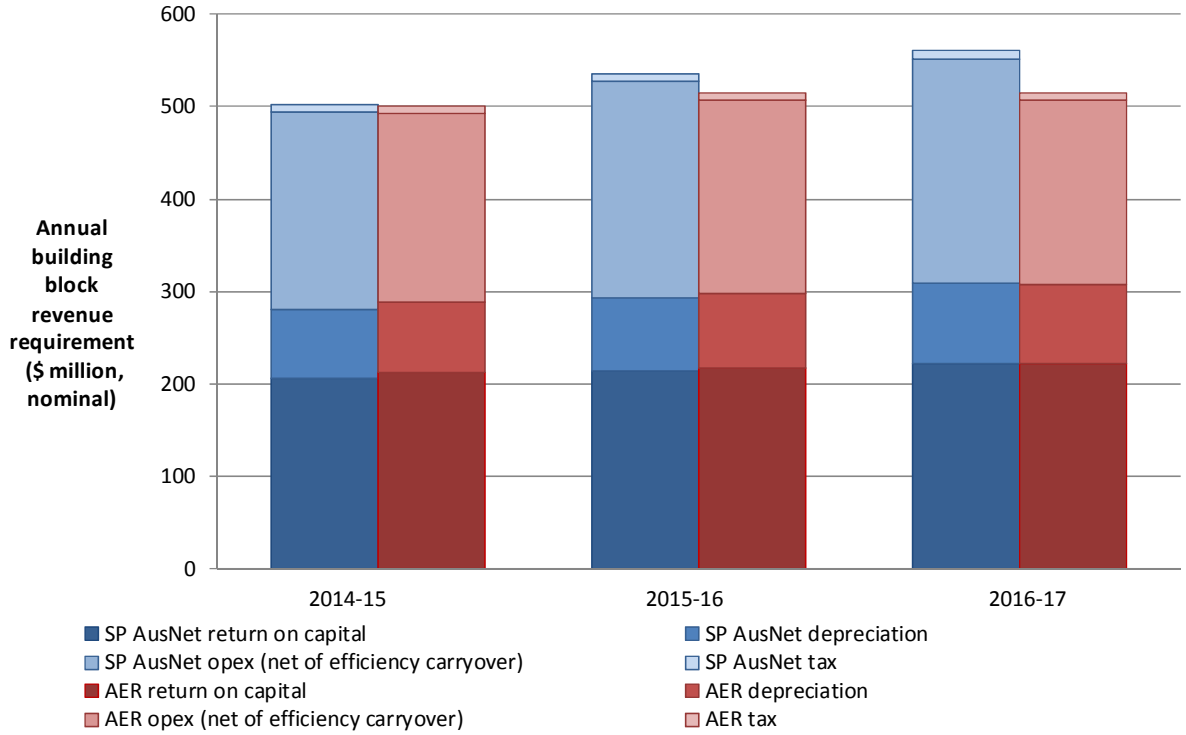


Source: AER analysis.

Figure 3.2 shows the effect of our draft decision adjustments on SP AusNet's proposed building blocks. It shows our draft decision will reduce SP AusNet's proposals for the opex building block.

[28] Our draft decision WACC is 7.43 per cent and the approaved WACC for 2008–14 is 9.76 per cent.

Figure 3.2 AER's draft decision and SP AusNet's proposed annual building block revenue requirement ($ million, nominal)



Source: AER analysis.

3.2 Sensitivity analysis

We assessed the impact of key aspects of our draft decision on SP AusNet's revenue proposal. These include our draft decision on forecast opex, forecast capex and the cost of capital. Our draft decision on each is:

- forecast capex of $396.2 million ($2013–14), compared with SP AusNet's proposed $564.2 million ($2013–14) in its revenue proposal;[29] a reduction of 30 per cent.
- forecast opex of $543.2 million ($2013–14), compared with SP AusNet's proposed $607.2 million ($2013–14) in its revenue proposal;[30] a reduction of 11 per cent.
- a cost of capital of 7.43 per cent, compared with SP AusNet's proposed 7.19 per cent in its revenue proposal.

Table 3.2 shows total unsmoothed revenue, based on our draft decision on forecast capex, would be $1582 million ($ nominal) or 1.0 per cent lower than SP AusNet's proposed total unsmoothed revenue in its revenue proposal. It also shows total unsmoothed revenue would be $1530 million ($ nominal) or 4.2 per cent lower than SP AusNet's proposed total unsmoothed revenue in its revenue proposal, when adopting our draft decision on forecast opex. In addition, total unsmoothed revenue would be $1620 million ($ nominal) or 1.4 per cent higher than SP AusNet's proposed total unsmoothed revenue in its revenue proposal when adopting our draft decision on the cost of capital.

[29] SP AusNet, *Post-tax revenue model*, February 2013.
[30] SP AusNet, *Post-tax revenue model*, February 2013. Excludes equity raising costs.

Table 3.2 Changes to SP AusNet's total proposed unsmoothed revenue, when adopting the AER's draft decision on the capex forecast, opex forecast and WACC

	Proposed ($ million, 2013–14)	Draft decision ($ million, 2013–14)	Revenue change ($ million, nominal)	Revenue change (per cent)
Capex	564.2	396.2	–16.0	–1.0
Opex[(a)]	607.2	543.2	–67.9	-4.2
WACC	7.19%	7.43%	22.4	1.4

Source: SP AusNet, *Post-tax revenue model*, February 2013; AER analysis.
(a) Exclude equity raising costs.

3.3 Indicative impact on transmission charges and electricity bills in Victoria

We estimated the effect of this draft decision on forecast average transmission charges in Victoria by:

- taking the sum of SP AusNet's annual expected MAR determined in this draft decision and the proportion of Murraylink's annual expected MAR for 2014–17 that is allocated to Victorian customers (55 per cent),[31] and
- dividing it by the forecast annual energy delivered in Victoria.[32]

Based on this approach, we estimated our draft decision would result in average transmission charges falling by 6.6 per cent per annum ($2013–14) from 2013–14 to 2016–17.[33] If these lower transmission charges were passed through to end customers, then average residential electricity bills in Victoria could reduce by about $16 in total ($2013–14) or 0.3 per cent per annum during the 2014–17 regulatory control period. In comparison, SP AusNet's proposal would result in an average bill reduction of approximately $7 in total or 0.1 per cent per annum. Table 3.3 shows the estimated impact of our draft decision and SP AusNet's proposal on the average Victorian residential electricity bills, by tariff type.

[31] Murraylink, *Pricing methodology*, May 2012, p. 3. AER, *Final decision: Murraylink transmission determination 2013–18*, April 2013, p. 9. Murraylink is an interconnector that provides a path for the flow of electricity to the limit of its 220MW capacity, in both directions, between the South Australian and Victorian transmission networks. About 55 per cent of Murraylink's revenue is from Victorian customers.

[32] AEMO, *National electricity forecasting report*, 2013, table 6-1, Medium.

[33] The average decrease in our draft decision MAR ($2013–14) is 5.2 per cent per annum, whereas the average increase in the forecast energy delivered in Victoria is about 1.5 per cent per annum from 2013–14 to 2016–17. The reason for the transmission charge decrease being larger than the revenue decrease is because our draft decision annual MAR ($2013–14) is decreasing on average from 2013–14 to 2016–17 and the annual forecast energy delivered in Victoria is increasing over this period. In nominal terms, this draft decision will result in a decrease in average transmission charges of 4.3 per cent per annum from 2013–14 to 2016–17.

Table 3.3 AER estimated impact of the draft decision for SP AusNet on the average residential electricity bills in Victoria over 2014–17 ($2013–14)

Tariff type[a]	Average annual bill[b]	Total reduction over 2014–17 — SP AusNet' proposal	Total reduction over 2014–17 — AER's draft decision	Impact on annual bill—SP AusNet's proposal (per cent, per annum)	Impact on annual bill—AER's draft decision (per cent, per annum)
Single rate	$1347	–$5	–$12	–0.1	–0.3
Two-rate	$1743	–$7	–$16	–0.1	–0.3
Time-of-use	$2231	–$9	–$20	–0.1	–0.3

Source: Essential Services Commission Victoria, *Energy retailers comparative performance report—pricing*, p.4; AER analysis.

(a) The single rate tariff is based on 4000 kilowatt hours (kWh) peak consumption per year. This use is typical of a customer who has gas hot water and heating.
The two-rate tariff is based on 4000 kWh peak and 2500 kWh off-peak consumption per year (off-peak is between 11 pm and 7 am). This use is typical of a customer with no gas supply who has off peak electric hot water.
The time-of-use tariff is based on 3000 kWh peak and 6000 kWh off-peak consumption per year. Off-peak includes the whole weekend and between 11 pm and 7 am Monday to Friday. This use is typical of a customer who uses the off-peak time for any purpose over the weekend in addition to hot water and heating overnight.

(b) The average annual bills reflect a weighted average of the market offers and standing offers as shown on the Victorian Government's electricity and gas comparator website at 3 July 2013 (http://yourchoice.vic.gov.au/). They also reflect the average offers across all the distribution zones in Victoria. Retailers that have fewer than 1000 customers in Victoria are not included in this analysis.

Similarly, for an average electricity bill for businesses in Victoria, our draft decision is not expected to contribute to any price increase. If the lower transmission charges arising from this draft decision were passed through to end customers, then average business electricity customer bills could be expected to reduce by about $65 in total ($2013–14) or 0.3 per cent per annum during the 2014–17 regulatory control period. In comparison, SP AusNet's proposal would result in an average bill reduction of approximately $29 in total, or 0.1 per cent per annum. Table 3.4 shows the estimated impact of our draft decision and SP AusNet's proposal on average Victorian business electricity bills by tariff type.

Table 3.4 AER estimated impact of the draft decision for SP AusNet on the average electricity bills of businesses in Victoria over 2014–17 ($2013–14)

Tariff type[a]	Average annual bill[b]	Total reduction over 2014–17 — SP AusNet's proposal	Total reduction over 2014–17 — AER's draft decision	Impact on annual bill—SP AusNet's proposal (per cent, per annum)	Impact on annual bill—AER's draft decision (per cent, per annum)
Single rate	$3777	–$15	–$34	–0.1	–0.3
Time-of-use	$10661	–$43	–$96	–0.1	–0.3

Source: Essential Services Commission Victoria, *Energy retailers comparative performance report—pricing*, p.4; AER analysis.

(a) The single rate business tariff is based on 12000 kWh peak consumption per year. This use is typical of a business that is closed on weekends.
The time-of-use business tariff is based on 25000 kWh peak and 15000 kWh off-peak consumption per year. Off-peak includes the whole weekend. This use is typical of a larger business that is open more than five days a week.

(b) The average annual bills reflect a weighted average of the market offers and standing offers as shown on the Victorian Government's electricity and gas comparator website as at 3 July 2013 (http://yourchoice.vic.gov.au/). They also reflect the average offers across all the distribution zones in Victoria. Retailers that have fewer than 1000 customers in Victoria are not included in this analysis.

4 Regulatory asset base

The RAB is the value of SP AusNet's assets that are used to provide prescribed transmission services. These assets include transmission lines, substations, IT systems, land and easement, motor vehicles and buildings. The RAB is the value on which SP AusNet earns a return on capital. Further, SP AusNet earns a depreciation allowance (or a return of capital) on assets in its RAB. So, the RAB is an important input to the return on capital and depreciation building blocks, and thus to the revenue requirement.

As part of this draft decision, we are required to assess SP AusNet's proposed opening value for the RAB for each year of the 2008–14 and 2014–17 regulatory control periods.[34] Our assessment involved:

- rolling forward the opening RAB at 1 April 2008 to determine the closing RAB at 31 March 2014[35]
- using our draft decision on forecast depreciation, capex, disposals and inflation for the 2014–17 regulatory control period to roll forward SP AusNet's forecast RAB for each year of that period.

Attachment 5 sets out the detailed reasons for our draft decision on SP AusNet's RAB.

4.1 Draft decision

We do not accept SP AusNet's proposed opening RAB of $2866 million at 1 April 2014 and forecast RAB for the 2014–17 regulatory control period. Table 4.1 and Table 4.2 set out our draft decisions on the roll forward of SP AusNet's RAB during the 2008–14 regulatory control period and the forecast RAB for the 2014–17 regulatory control period respectively.

[34] NER, clause 6A.6.1.

[35] This closing RAB value is also used as the value of the opening RAB at 1 April 2014 for the 2014–17 regulatory control period.

Table 4.1 AER's draft decision on SP AusNet's RAB for 2008–14 ($ million, nominal)

	2008–09	2009–10	2010–11	2011–12	2012–13[a]	2013–14[b]
Opening RAB	2191.2	2260.2	2309.8	2365.6	2452.1	2550.0
Capital expenditure[c]	95.4	114.8	113.4	136.9	173.5	141.2
CPI indexation on opening RAB	80.8	47.7	61.3	73.4	54.1	63.8
Straight-line depreciation[d]	–107.1	–112.9	–118.9	–123.8	–129.7	–129.2
Closing RAB as at 31 March	2260.2	2309.8	2365.6	2452.1	2550.0	2625.7
Difference between estimated and actual capex (2007–08)						5.1
Return on difference for 2007–08 capex						3.9
Difference between estimated and actual assets under construction (2007–08)						22.2
Return on difference for 2007–08 assets under construction						16.9
Difference between estimated and actual Group 3 assets as at 1 April 2008						0.7
Return on difference for Group 3 assets as at 1 April 2008						0.5
Group 3 assets as at 1 April 2014						144.4
Equity raising costs (2003–08)						53.4
Opening RAB as at 1 April 2014						2872.8

Source: AER analysis.
(a) Based on estimated capex. We will update the RAB roll forward for actual capex at the time of the final decision.
(b) Based on estimated capex and forecast inflation. We will update the RAB roll forward for actual consumer price index (CPI) at the time of the final decision. However, we will update for actual capex at the next reset.
(c) As incurred, net of disposals, and adjusted for actual CPI.
(d) Adjusted for actual CPI. Based on as-commissioned capex.

Table 4.2 AER's draft decision on SP AusNet's RAB for the 2014–17 regulatory control period ($ million, nominal)

	2014–15	2015–16	2016–17
Opening RAB as at 1 April 2014	2872.8	2925.9	2982.2
Capital expenditure[a]	128.8	136.4	160.5
Inflation indexation on opening RAB	71.8	73.1	74.6
Straight-line depreciation[b]	–147.4	–153.2	–160.1
Closing RAB	2925.9	2982.2	3057.2

Source: AER analysis.
(a) As incurred, and net of disposals. In accordance with the timing assumptions of the post-tax revenue model (PTRM), the forecast capex includes a half-WACC allowance to compensate for the six month period before capex is added to the RAB for revenue modelling.
(b) Based on as-commissioned capex.

4.2 Summary of analysis and reasons

We do not accept SP AusNet's proposed opening RAB of $2866 million at 1 April 2014. Instead, we determined an opening RAB of $2873 million as follows:

- We made several amendments to SP AusNet's proposed roll forward model (RFM) to correct input errors. These amendments reduced the proposed opening RAB at 1 April 2014 by about $46.3 million.
- We included $53.4 million in SP AusNet's opening RAB to provide for equity raising costs allowance associated with its opening RAB at 1 January 2003 and capex incurred over the 2003–08 regulatory control period. The Australian Competition and Consumer Commission (ACCC) 2002 revenue cap decision provided for equity raising costs as an allowance in perpetuity for opex.[36] We converted the allowance from perpetuity to an amount for capitalisation in the RAB. This approach will improve transparency and help administration.

We forecast SP AusNet's closing RAB will be $3057 million at 31 March 2017, which represents a 5.8 per cent reduction on the TNSP's proposed amount. The main reasons for this reduction are our adjustments to:

- forecast capex (attachment 2)
- the opening RAB at 1 April 2014 (attachment 5)
- forecast depreciation (attachment 6).

[36] ACCC, *Decision: Victorian transmission network revenue caps 2003-2008*, December 2002, pp. 86–87.

5 Return on capital

As part of determining the annual building block revenue requirement for a TNSP, we must decide the return on capital building block.[37] The return on capital building block is calculated as the product of the cost of capital (or rate of return) and the value of the RAB. Our draft decision on SP AusNet's RAB is set out in section 4 of this overview and attachment 5. This section discusses the cost of capital element of the return on capital building block.

As noted in section 1.2, transitional arrangements provide that an older version of the NER (version 52) continues to apply to SP AusNet on an interim basis. Under this version of the NER, the key parameters used to calculate the cost of capital must be consistent with our 2009 WACC review.[38] Attachment 4 sets out our detailed reasons for our draft decision on the cost of capital.

5.1 Draft decision

We accept SP AusNet's proposed method for determining the WACC, including the proposed averaging period.[39] However, for this draft decision, we determine an indicative WACC of 7.43 per cent. Our draft decision reflects market based parameters—the nominal risk free rate and the debt risk premium (DRP)—estimated over an indicative averaging period.[40] We will update these parameters for our final decision, based on the accepted averaging period. Table 5.1 sets out the individual WACC parameters and subsequent (indicative) WACC we determined compared with SP AusNet's proposal.

Table 5.1 AER's draft decision on WACC parameters

Parameter	SP AusNet's proposal	AER's draft decision
Nominal risk free rate	3.14%	3.54%
Equity beta	0.80	0.80
Market risk premium	6.50%	6.50%
Debt risk premium	3.28%	3.00%
Gearing level	60%	60%
Inflation forecast	2.50%	2.50%
Gamma	0.65	0.65
Nominal post-tax cost of equity	8.34%	8.74%
Nominal pre-tax cost of debt	6.42%	6.55%
Nominal vanilla WACC	7.19%	7.43%

Source: AER analysis.

37 NER, clause 6A.5.4(a)(2).
38 AER, *Electricity transmission and distribution WACC parameter review*, 1 May 2009: http://www.aer.gov.au/node/510
39 Consistent with clause 6A.6.2(c)(2)(iii) of the NER, SP AusNet's proposed averaging period will remain confidential until the expiration of the agreed period.
40 Specifically, our draft decision is based on a 20 business day indicative averaging period, from 24 June 2013 to 19 July 2013.

5.2 Summary of analysis and reasons

SP AusNet's proposed method for determining the WACC adopted the values, methods and credit rating determined in our 2009 WACC review—specifically, the equity beta, the market risk premium, the level of gearing and the value of the assumed utilisation of imputation credits (gamma).[41] Therefore, we accept SP AusNet's proposed values for these parameters. In establishing the WACC, we also accept SP AusNet's proposed method for determining the DRP, the nominal risk free rate and inflation forecasts.

Parameters determined in the WACC review

Under the transitional arrangements, an older version of the NER (version 52) will apply to SP AusNet's 2014–17 transmission determination. Based on this version of the NER, we are required to apply a rate of return using the nominal vanilla WACC formulation[42] and adopting the parameter values, methods and credit rating determined in the 2009 WACC review.[43]

Consistent with the transitional arrangements, SP AusNet proposed to adopt the values, methods and credit rating determined in the 2009 WACC review, so we accept SP AusNet's proposal for these WACC parameters.

Debt risk premium

We accept SP AusNet's proposed method for determining the DRP. However, in applying the proposed method, we updated SP AusNet's DRP to 3 per cent, reflecting the indicative averaging period used throughout this draft decision. We will again update the DRP for our final decision, based on the accepted averaging period.

We acknowledge the Energy Users Coalition of Victoria (EUCV) and Energy Users Association of Australia's (EUAA) concerns with the use of the Bloomberg fair value curve to determine the DRP.[44] Notwithstanding these concerns, we are mindful of the Australian Competition Tribunal's recommendation to undertake a public consultation process before selecting an alternative DRP method.[45] We are currently developing the rate of return guidelines.[46] This process provides us an opportunity to develop and consult on both our method to estimating the return on debt and how to implement that method. The outcomes of the guidelines will inform the next revenue reset for SP AusNet before 1 July 2017. Therefore, for this decision, we have maintained our practice of adopting the extrapolated Bloomberg BBB fair value curve to estimate the DRP.

Nominal risk free rate

We accept SP AusNet's proposed averaging period to calculate the nominal risk free rate because it satisfies the requirements set out in the NER and the WACC review. We also accept SP AusNet's request to keep the averaging period confidential until the expiration of that period.[47] The WACC review stated we will accept only an averaging period commencing as close as reasonably possible to

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41 The assumed utilisation of imputation credits (gamma) affects the corporate income tax building block allowance. Although gamma is not directly included in the determination of the WACC, it was determined in the WACC review.

42 NER, clause 6A.6.2(b).

43 NER, clause 6A.6.2(h).

44 EUCV, *Victorian Electricity Transmission Revenue Reset, SP AusNet application, A response by EUCV*, May 2013. EUAA, *Submission on SPI PowerNet Ltd Electricity Transmission Revenue Proposal for 2014–17*, May 2013.

45 Australian Competition Tribunal, *Application by Envestra Limited (No 2)* [2012] ACompT 3, 11 January 2012, paragraphs 95, 118, 120–1; see also Australian Competition Tribunal, *Application by APT Allgas Energy Ltd* [2012] ACompT 5, 11 January 2012.

46 AER, *Consultation paper: Rate of return guidelines*, May 2013, pp. 48–53.

47 NER, clause 6A.6.2(c)(2)(iii).

the start of the TNSP's regulatory control period. In the WACC review, we also considered an averaging period between 10 and 40 business days to be reasonable.[48] We consider SP AusNet's proposed averaging period satisfies these requirements.

The EUAA raised concerns about the confidential nature of the averaging period proposed by SP AusNet to estimate the risk free rate (and the DRP). The NER allows us to accept SP AusNet's request to keep its averaging period confidential but only until the agreed period expires.[49] In agreeing to accept SP AusNet's request, we had regard to the requirement that the proposed averaging period be agreed in advance of the period. We consider this approach minimises the ability for networks to select an averaging period that will result in a systematic bias. We also consider that, should SP AusNet seek to refinance or engage in hedging transactions during the averaging period, disclosing this period to market participants may lead to higher financing costs.[50] Such an increase in costs is unlikely to be in the long term interests of consumers.

Expected inflation rate

We agree with SP AusNet's proposed method for determining the annual inflation forecast based on an average of the Reserve Bank of Australia's (RBA) short term inflation forecasts and the mid-point of the RBA's inflation targeting band. This approach is consistent with what we have previously adopted. However, we used the latest RBA forecasts to develop an update to the annual inflation estimate for this draft decision. The RBA published a range of 2.0–3.0 per cent for its December 2014 inflation forecast. We selected the mid-point of 2.5 per cent for this draft decision. We expect the RBA to publish a December 2015 inflation forecast before our final decision, and we will update the value of the expected inflation rate accordingly in the final decision.

[48] AER, *Final decision: Electricity transmission and distribution network service providers—review of the weighted average cost of capital (WACC) parameters*, May 2009, p. 172.

[49] NER, 6A.6.2(c)(iii).

[50] For example, transactions entered into during the averaging period may better hedge the interest rate risk faced by SP AusNet for the regulatory control period. Accordingly, market practitioners could charge—and SP AusNet may be willing to pay—a premium for transactions during this period. This premium can be avoided by maintaining confidentiality of the period until it has elapsed.

6 Regulatory depreciation

We are required to decide on SP AusNet's indexation of the RAB and depreciation building blocks over the 2014–17 regulatory control period.[51] We use regulatory depreciation to model the nominal asset values over the regulatory control period, and set the depreciation allowance in the annual building block revenue requirement. The regulatory depreciation allowance (or return of capital) is the net total of the straight-line depreciation (negative) amount and the (positive) amount from indexation of the RAB.

SP AusNet is required to submit a proposed depreciation schedule for its RAB in its revenue proposal.[52] The depreciation schedule sets out the basis on which the RAB is to be depreciated for determining a regulatory depreciation allowance. We must assess whether the proposed depreciation schedule complies with the NER requirements.

Attachment 6 sets out the detailed reasons for our draft decision on SP AusNet's regulatory depreciation allowance and depreciation schedule.

6.1 Draft decision

We do not accept SP AusNet's proposed depreciation allowance of $239.1 million ($ nominal). Table 6.1 sets out our draft decision on SP AusNet's depreciation allowance for the 2014–17 regulatory control period.

Table 6.1 AER's draft decision on SP AusNet's depreciation allowance for the 2014–17 regulatory control period ($ million, nominal)

	2014–15	2015–16	2016–17	Total
Straight-line depreciation	147.4	153.2	160.1	460.7
Less: inflation indexation on opening RAB	71.8	73.1	74.6	219.5
Regulatory depreciation	75.6	80.0	85.5	241.2

Source: AER analysis.

6.2 Summary of analysis and reasons

We accept SP AusNet's proposal to use the straight-line method for calculating the regulatory depreciation allowance as set out in the post-tax revenue model (PTRM). However, we increased the proposed allowance to $241.2 million from $239.1 million. Our draft decision reflects our determination on SP AusNet's forecast capex and the opening RAB as at 1 April 2014. It also reflects the adjustments we made to the CPI adjusted WACC values in SP AusNet's depreciation model.

Also, we accept SP AusNet's proposed standard asset lives for calculating the straight-line depreciation for new assets. In addition to the proposed lives, we established a standard asset life of 28 years for amortising SP AusNet's equity raising costs allowance associated with the ACCC's revenue cap decision for the 2003–08 regulatory control period.

[51] NER, clause 6A.5.4(a)(1) and (3).
[52] NER, clause S6A.1.3(7).

7 Capital expenditure

Forecast capex is the forecast expenditure to fund new assets and replace or refurbish existing assets that a network business is likely to require during a regulatory control period for the efficient operation of the network. As well as assessing SP AusNet's forecast capex, we reviewed its actual capex during the 2008–14 regulatory control period. We used the final approved forecast capex in conjunction with the opening RAB, rate of return and depreciation to determine the return on capital building block.

We must accept SP AusNet's forecast capex if we are satisfied it reasonably reflects the capex criteria.[53] Otherwise, we must not accept SP AusNet's forecast capex and we must substitute our own.[54] Attachment 2 sets out the detailed reasons for our draft decision on SP AusNet's forecast capex.

7.1 Draft decision

We do not accept SP AusNet's total forecast capex of $564.2 million ($2013–14).[55] Instead, we forecast the capex requirements at $396.2 million ($2013–14), which is 30 per cent less than SP AusNet's forecast. Table 7.1 shows our draft decision compared with SP AusNet's total forecast capex.

Table 7.1 AER's draft decision capex and SP AusNet's forecast capex ($ million, 2013–14)

Category	2014–15	2015–16	2016–17	Total	SP AusNet	Difference
Major stations:						
Richmond	31.4	22.2	24.0	77.6	79.5	–1.9
West Melbourne	nil	nil	nil	nil	106.4	–106.4
Other stations	29.9	44.3	58.8	132.9	149.8	–16.9
Total major stations	61.3	66.5	82.7	210.6	335.7	–125.1
Asset replacement	32.9	33.0	37.4	103.3	121.1	–17.7
Safety and compliance	13.9	12.6	11.4	38.0	44.7	–6.8
Non-system	14.9	14.9	14.4	44.3	62.7	–18.4
Total	**123.1**	**127.1**	**146.0**	**396.2**	**564.2**	**–168.0**

Source: SP AusNet, *Revenue proposal*, p. 84; AER analysis. Numbers may not add due to rounding.

53 NER, clause 6A.6.7(c).
54 NER, clauses 6A.6.7(d), 6A.6.7(f) and 6A.14.1(2).
55 SP AusNet, *Revenue proposal*, p. 84. The figure of $564.2 million ($2013–14) differs from the $575 million ($2013–14) in Table 4.4 (p. 84) of SP AusNet's revenue proposal. Since submitting its revenue proposal, SP AusNet informed us of errors in the 'major stations replacement' category in Table 4.4 (p. 84) of its revenue proposal.

7.2 Summary of analysis and reasons

We do not accept SP AusNet's proposed total forecast capex because it does not reasonably satisfy the requirements of the NER and National Electricity Objective (NEO) for the reasons outlined in attachment 2.[56] We consider SP AusNet's proposed forecast capex is above its reasonable requirements. The following findings led to this determination:

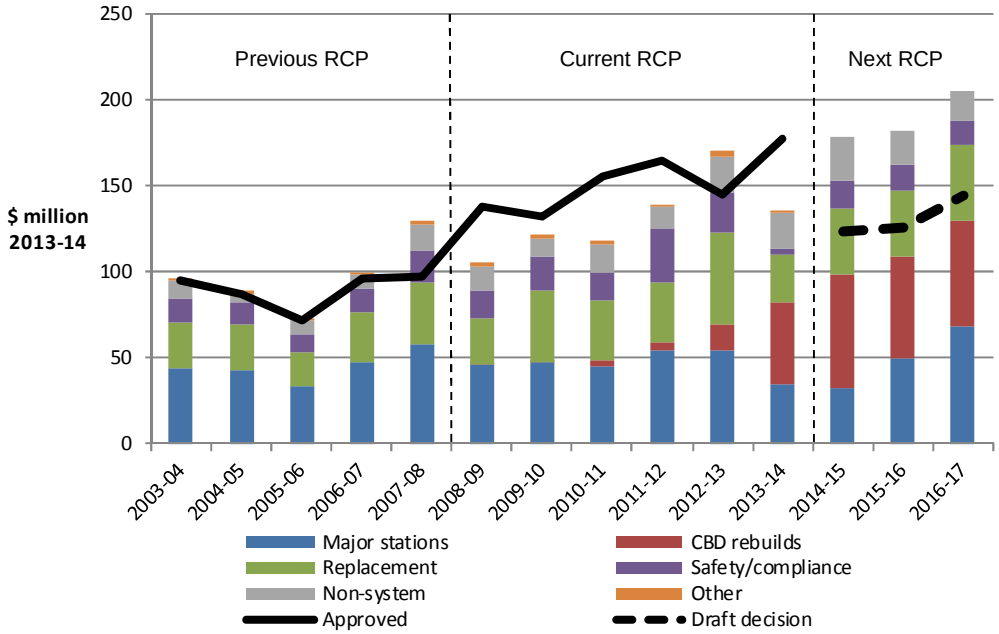
- SP AusNet's proposed real cost escalators do not reasonably reflect a realistic expectation of cost inputs required to achieve the capex objectives.
- In its cost estimation of capex projects and programs of work, SP AusNet did not adequately account for prudent changes that we expect that it would make.
- We did not allow any forecast capex for rebuilding the West Melbourne terminal station (WMTS) because new developments in July 2013 make the timing and cost of the project so uncertain that a reasonable capex forecast is not possible.
- SP AusNet did not adequately demonstrate and quantify the benefits of SP AusNet's proposed strategic information technology (IT) capex.

7.3 Comparison of historical and forecast capex

Figure 7.1 compares SP AusNet's actual and expected capex by category for the 2008–14 regulatory control period with its forecast capex for the 2014–17 regulatory control period. It shows the capex that we allowed for the 2008–14 regulatory control period and our draft decision on forecast capex for the 2014–17 regulatory control period. Overall, SP AusNet expects it will underspend its capex allowance by $120.5 million in the 2008–14 regulatory control period. On average, its forecast capex for 2014–17 is 43 per cent higher per year than its actual and expected capex in 2008–14.

[56] NER, clause 6A.6.7(c).

Figure 7.1 Comparison of SP AusNet's past and forecast capex ($ million, 2013–14)



Source: SP AusNet, *Revenue proposal*, pp. 51 and 84; SP AusNet, *Response to information request AER RP 023, time series opex and capex*, 28 May 2013 [confidential]; AER, *Final decision Victorian transmission network revenue caps 2003–2008*, 11 December 2002, p. 64; AER analysis.
Note: Years 2003–04 to 2011–12 are actual capex, while years 2012–13 and 2013–14 are expected capex.
RCP = regulatory control period.

7.3.1 Real cost escalation

We consider SP AusNet's proposed real cost escalators are overstated. They do not reasonably reflect a realistic expectation of the cost inputs required to achieve the capex objectives over the 2014–17 regulatory control period. So, we determined substitute escalators, which reflect the following considerations:

- Labour cost forecasts developed by our consultants, Deloitte Access Economics (DAE), reasonably reflect a realistic expectation of the cost inputs required to achieve the capex objectives.
- The inclusion of labour inputs in the material escalators double counts SP AusNet's forecast labour cost requirements.
- SP AusNet should update its forecast inputs for material escalation and exchange rates to reflect the most recent data.

Attachment 1 contains our assessment of SP AusNet's proposed real cost escalators. Table 7.2 shows the impact of our real cost escalators on SP AusNet's forecast capex.

Table 7.2 Impact of the AER's real cost escalators ($ million, 2013–14)

	2014–15	2015–16	2016–17	Total
SP AusNet's proposal	4.7	7.2	10.2	22.1
AER's draft decision	1.5	2.8	4.4	8.6
Difference	3.2	4.4	5.9	13.5

Source: AER analysis. Numbers may not add due to rounding.

7.3.2 Prudency and cost estimation adjustments

We reviewed SP AusNet's asset management framework and generally consider SP AusNet has good management policies and procedures. Nevertheless, we reduced SP AusNet's forecast capex by $30.4 million to account for prudent changes that we expect SP AusNet will make to its capex program during the 2014–17 regulatory control period, and to remove an over-estimation bias. We consider SP AusNet's forecast does not adequately account for its commitment to continuous improvement in the delivery of its capex program.

We consider SP AusNet's asset management framework will lead the TNSP to find economies and make prudent changes to certain projects during 2014–17. That is, SP AusNet should be able to identify projects that it could prudently defer, or for which it would be prudent to change the scope, optimise the design and specification, and/or integrate with other projects. We consider that in developing a portfolio of capex projects that make up the total capex forecast, SP AusNet should consider these prudent adjustments. To account for these portfolio level outcomes we applied a prudency adjustment.

Supporting our draft decision to make prudency cost estimation adjustments is EMCa's review of SP AusNet's historical capex in the 2008–14 regulatory control period. EMCa reviewed 57 projects, of which it classified 14 as site-specific projects and the remaining 43 as programs of work. On average, EMCa found SP AusNet spent 11.7 per cent less than it proposed on site-specific projects and 12.6 per cent less on programs of works. In its review, EMCa found the reason for this underspend was a combination of prudent changes to the scope of some projects, an optimisation of the engineering design and specification, and the prudent deferral of some projects.[57] In addition, it found part of the underspend was due to an over-estimation bias of 1.4 per cent. Having assessed EMCa's advice, we agree on the scope of other prudency adjustments and have reduced SP AusNet's forecast capex by these percentages. Table 7.3 shows the effect of each of the prudency and cost estimation factors on SP AusNet's forecast capex. This adjustment to SP AusNet's forecast capex is reflected in the total reduction in capex in Table 7.3.

[57] EMCa, *SP AusNet technical review*, August 2013, pp. 38–41, paragraphs 95–101.

Table 7.3 Effect of prudency and cost estimation factors on SP AusNet's forecast capex ($ million, 2013–14)

	CBD rebuilds	Major stations	Asset replacement	Safety and compliance	Non-system	Total
SP AusNet's forecast capex	185.9	149.8	121.1	44.7	62.7	564.2
Part of capex to which 1.4% factor applies	nil	116.6	120.2	44.7	nil	281.6
Amount of 1.4% adjustment	nil	1.6	1.7	0.6	nil	3.9
Part of capex to which 10.3% factor applies	nil	77.2	nil	nil	nil	77.2
Amount of 10.3% adjustment	nil	8.0	nil	nil	nil	8.0
Part of capex to which 11.2% factor applies	nil	nil	120.2	44.7	nil	165.0
Amount of 11.2% adjustment	nil	nil	13.5	5.0	nil	18.5
Total adjustment	nil	9.6	15.2	5.6	nil	30.4
Adjusted capex	185.9	140.2	105.9	39.1	62.7	533.8

Source: EMCa and AER analysis.
Notes: We made no prudency or cost estimation adjustment to the 'CBD rebuilds' category because the Richmond terminal station is substantially underway and we allowed no capex for the West Melbourne terminal station.
Most of the non-system capex is IT capex for which we made a specific adjustment, so we made no adjustment to IT capex to account for the cost estimation and prudency factors.

7.3.3 Major stations rebuilding and refurbishment program

SP AusNet forecast capex of $335.7 million ($2013–14) for its major station rebuilding and refurbishment program. Our substitute forecast capex for this category is $210.6 million ($2013–14) after we made the following reductions to SP AusNet's forecast:

- $106.4 million off SP AusNet's total forecast capex, for the WMTS in full
- $3.9 million off the forecast capex, for the Fisherman's Bend terminal station (FBTS) in part
- $14.8 million for prudency, cost estimation and cost escalator factors to other projects in this category.

7.3.4 West Melbourne terminal station

Given the age and condition of the WMTS, we agree with SP AusNet that the station needs to be rebuilt. However, on 22 July 2013 SP AusNet submitted recent developments mean it may have to materially revise the project timing and costs indicated in its revenue proposal. It stated the current proposed solution may be unworkable, because the Linking Melbourne Authority notified SP AusNet it might compulsorily acquire part of the land at the WMTS site for road works. SP AusNet submitted any revisions to the WMTS project would not be available in time for our draft decision.

Given these developments and the uncertain timing and costs of the WMTS project, for our draft decision we cannot make a reasonable forecast of capex for the 2014–17 regulatory control period

that complies with the requirements of the NEL and NER. Accordingly, we reduced SP AusNet's total forecast capex by the forecast capex for the WMTS ($106.4 million). For the final decision, we will consider any revised proposal for the WMTS that SP AusNet submits in its revised revenue proposal.

7.3.5 Fisherman's Bend terminal station

Given the condition of the transformer at the FBTS, we consider SP AusNet could defer replacing the transformer to the 2017–22 regulatory control period without any undue risk. Accordingly, we reduced the forecast capex for this project from $15.6 million to $11.7 million ($2013–14).[58]

7.4 Strategic IT capex

We do not consider SP AusNet adequately quantified and demonstrated the benefits of its forecast $16.8 million strategic IT capex. So, we do not consider SP AusNet justified that component of its forecast IT capex.[59] SP AusNet should quantify and demonstrate the benefits of its strategic IT investment as part of an efficient and prudent forecast, because otherwise:

- customers underwrite strategic costs without seeing the benefits quantified
- the timeframe for recovering benefits is unknown
- customers bear the risk of benefits not being realised because an ex post analysis may reveal no benefits were achieved.

A prudent TNSP would not incur the costs of strategic investment without evidence that the benefits outweigh the costs.

[58] EMCa, *SP AusNet technical review*, p.62, paragraphs 194–6.
[59] EMCa, *SP AusNet technical review*, pp.68–77, paragraphs 239–70.

8 Operating expenditure

Forecast opex is the forecast operating, maintenance and other non-capital costs incurred in the provision of prescribed transmission services. It includes labour costs and other non-capital costs. We must accept SP AusNet's proposed forecast opex for the 2014–17 regulatory control period, if satisfied the forecast reasonably reflects the opex criteria set out in the NER.[60] If not satisfied, we must give reasons for not accepting the proposal, and we must estimate the total required opex that reasonably reflects the opex criteria.[61] In doing so, we must have regard to the opex factors.[62] Attachment 3 sets out the detailed reasons for our draft decision on SP AusNet's forecast opex.

8.1 Draft decision

We do not accept SP AusNet's proposed total forecast opex of $607.2 million[63] ($2013–14, mid-year)[64] for the 2014–17 regulatory control period, because we cannot be satisfied the forecast reasonably reflects the opex criteria. We thus substituted a total opex forecast developed from our preferred approach: top down approach for controllable opex, but we included step changes when we assessed they were necessary to reflect the opex criteria. Our substitute forecast reasonably reflects the efficient costs of achieving the opex objectives, the costs that a prudent operator in SP AusNet's circumstances would require to achieve the opex objectives and a realistic expectation of the cost inputs required to achieve the opex objectives.[65]

Our substitute forecast total opex for the 2014–17 regulatory control period is $543.2 million,[66] which is $64.0 million less than SP AusNet's forecast (Table 8.1). In annual terms, it is a decrease of 4.5 per cent (real)[67] on the transmission network service provider's (TNSP) annual average opex in the 2008–14 regulatory control period. We used annual averages because we compared regulatory control periods of different lengths. Table 8.2 shows our draft decision by opex category and year and Figure 8.2 shows the components of our controllable opex forecast.

Table 8.1 AER's draft decision and SP AusNet's proposal–total opex ($ million, 2013–14)

Year ending 31 March	2014–15	2015–16	2016–17	Total
SP AusNet's proposal*	198.9	204.7	203.6	607.2
AER's draft decision	179.2	183.2	180.8	543.2
Difference	-20.9	-22.6	-22.8	-64.0

Source: SP AusNet, *Revenue proposal*, Table 5.22 (excludes efficiency payments) p.149; AER analysis
Note: *Excludes equity raising costs (ERC) ($3.4 million) which we capitalised and therefore removed from opex consideration.

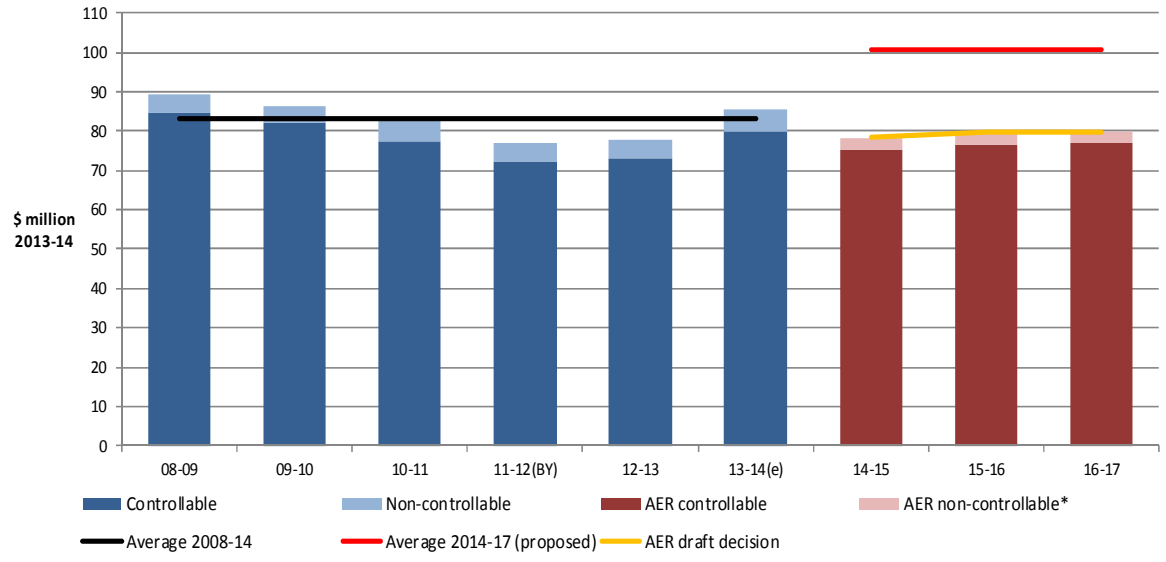
60 NER, clause 6A.6.6 (c).
61 NER, clause 6A.6.6 (c).
62 NER, clauses 6A.6.6 (d), 6A.12.1(c) and 6A.14.1(3)(ii).
63 SP AusNet's proposal (Table 5.22, p.149) reported total opex as $657.6 million. However the sum of elements is $658.6 million. This includes amounts for efficiency benefits sharing scheme (EBSS) carryover ($47.1 million) and equity raising costs (ERC) ($3.4 million) which are excluded from the total reported here.
64 SP AusNet reported its costs based on the Singapore financial year 1 April to 31 March. Unless otherwise specified, all prices in this chapter are in $2013–14 dollars mid-year.
65 NER, clause 6A.6.6(c).
66 SP AusNet proposed total opex of $657.6 million, which included an efficiency benefit payment of $47.1 million and asset works of $28.8 million (SP AusNet, Revenue Proposal, Table 5.22, p.149). This information did not reconcile with other information. SP AusNet subsequently provided revised forecast [SP AusNet, *Response to AER request AER RP 23*, 17 May 2013].
67 Based on total opex excluding the land and easement tax.

Table 8.2 AER's draft decision on total opex allowance by expenditure category ($ million, 2013–14)

Year ending 31 March	2014–15	2015–16	2016–17	Total
Base year opex	71.6	71.6	71.6	214.7
Network growth	1.1	1.1	1.1	3.4
Labour escalation	2.5	2.9	3.3	8.8
Step changes	-0.1	1.0	0.7	1.6
Total controllable opex	**75.1**	**76.6**	**76.7**	**228.5**
Self-insurance	1.7	1.7	1.6	5.0
Debt raising costs	1.5	1.5	1.5	4.5
Equity raising costs*	0.0	0.0	0.0	0.0
Availability Incentive Scheme rebates	0.0	0.0	0.0	0.0
Subtotal: non controllable excl. land tax	3.2	3.2	3.1	9.5
Easement land tax	100.9	103.4	100.9	305.2
Total non-controllable opex	**104.1**	**106.6**	**104.0**	**314.7**
Total opex	**179.2**	**183.2**	**180.8**	**543.2**

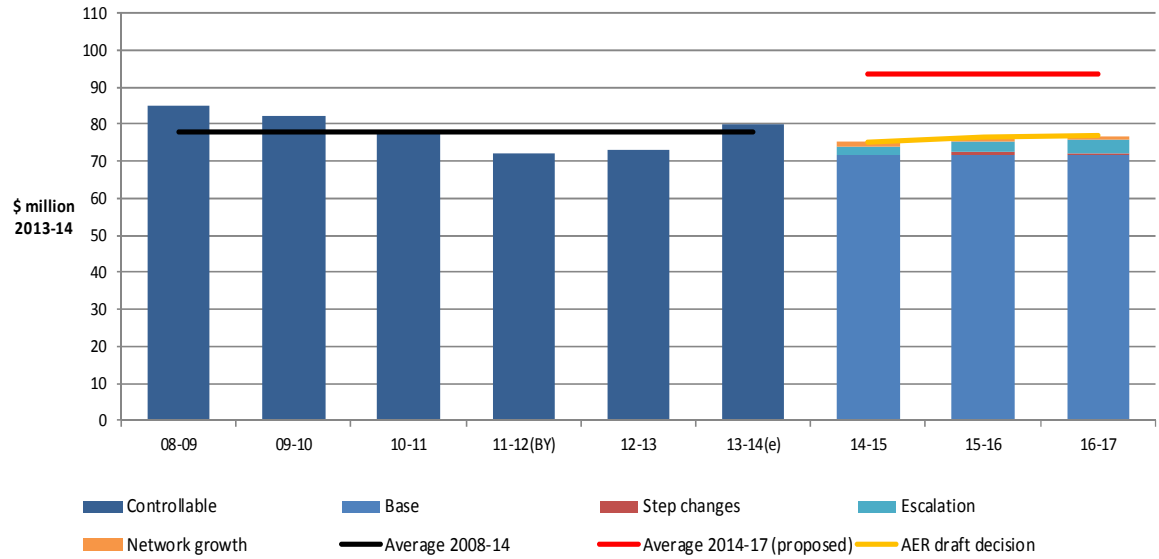
Source: AER analysis.
Note: * equity raising costs were capitalised.

Figure 8.1 AER's draft decision on SP AusNet's , total opex ($ million, 2013–14)



Source: SP AusNet, *Revenue proposal*, Table 5.22 (excludes efficiency payments) p.149; Table 3.5 p.57 and Table 3.6 p.60; SP AusNet, *Response to request AER RP 23*, 17 May 2013 and *Response to request AER RP 09 - revised opex model [confidential]*, 20 May 2013; AER analysis.
Note: Land and easement tax is excluded from non-controllable opex in this chart because, positive or negative variation (>1% MAR) between the actual tax paid and the forecast approved by us will be recovered/reimbursed via an annual recovery mechanism; (e) 2013–14 data is a budget estimate; (BY) is the base year.

Figure 8.2 AER's draft decision on SP AusNet's controllable opex ($ million, 2013-14)



Source: SP AusNet, *Revenue proposal*, Table 5.22 (excludes efficiency payments) p.149; Table 3.5 p.57; SP AusNet, *Response to request AER RP 23*, 17 May 2013 and; SP AusNet, *Response to request AER RP 09 - revised opex model [confidential]*, 20 May 2013; AER analysis.

Note: (e) 2013–14 data is a budget estimate; (BY) is the base year. Step change in 2014-15 is $0.1 million but is shown as a zero in the chart.

8.1.1 Summary of analysis and reasons

We reviewed SP AusNet's asset management and governance framework, and its expenditure forecast methodology. We tested SP AusNet's opex forecast using two primary approaches: a top down and a bottom up analysis. Our top down review and bottom up review of controllable opex showed SP AusNet's proposal is more than what is reasonably required to meet the opex objectives.

We also engaged consultants (EMCa and AM Actuaries) to review forecast opex, and both reviews found aspects of SP AusNet's bottom up forecast to be overstated. Further, our review of non-controllable opex found some elements of that part of the proposal also to be more than reasonably required to reflect the opex objectives.

Aspects of the proposed total opex forecast we are not satisfied with are set out below and discussed in full in Attachment 3:

- Methodology and governance review
- SP AusNet's bottom up forecasts for controllable opex (asset works and insurance)
- SP AusNet's base-step-trend forecast for controllable opex
- Non-controllable opex issues

We needed to engage with certain areas in some depth (asset works, insurance and self-insurance) and our analysis on these aspects is set out in appendices.[68]

8.1.2 Methodology and governance review

We are not satisfied that SP AusNet's method of forecasting opex results in a forecast that reasonably reflects the efficient costs of achieving the opex objectives, or a realistic expectation of cost inputs.[69]

[68] NER, clause 6A.6.6(e)(2).

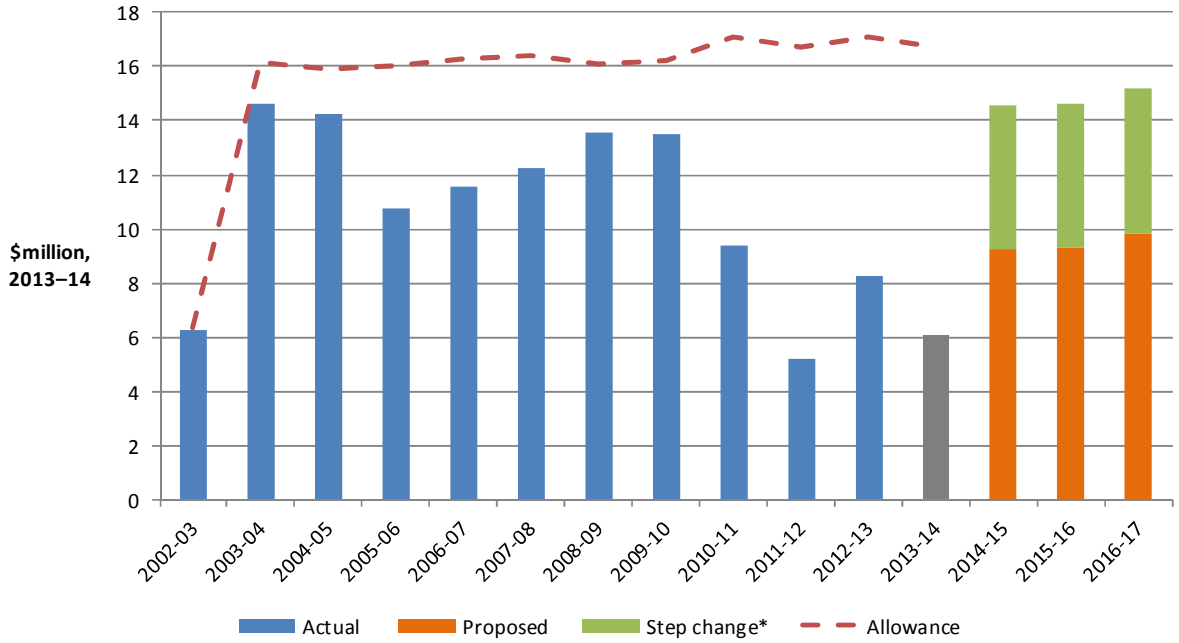
SP AusNet proposed using the revealed costs approach to forecast part of its controllable opex. However it proposed setting a proportion of its controllable opex, including that pertaining to asset works and insurance, using a separate bottom up build of costs. In this way, SP AusNet adopted a hybrid approach in its proposal.

We found the forecast method produced upwardly biased forecast estimates in the past and the same method has been used to forecast future requirements. For example, we found the sum of constituent projects put forward as part of the asset works program, or proposed step change, may not reflect portfolio level efficiencies that should be able to be achieved.[70] Also, the hybrid method SP AusNet used undermines the incentive properties of the regulatory framework, and leads to forecasts that do not fairly share 2008–14 underspends (efficiency gains) with customers. Most importantly, the method SP AusNet used means that consumers are being asked to fund the same works twice.

In addition, we note that in making decisions about forecast opex, clause 6A.6.6(e)(5) provides that the AER must have regard to the actual and expected opex of the TNSP during any preceding regulatory control periods.

Specifically, for every year since 2002–03, SPAusNet has achieved well below its forecast for asset works (Figure 8.3).

Figure 8.3 SP AusNet's asset works 2002–17 ($ million, 2013–14)



Source: SP AusNet, *Response to request AER RP 09 - revised opex model [confidential]*, 20 May 2013; SP AusNet, *Regulatory accounts 2012-13*, 1 August 2013; AER analysis.
Note: Grey indicates budget estimate data. Includes both asset works and asset works support costs.

SP AusNet underspent its asset works opex forecast by $44.3 million[71] (44 per cent) during the 2008–14 regulatory control period, for which it gave the following reasons:

- forecasting inaccuracies[72]

69 NER, clause 6A.6.6(c)(1)(3).
70 EMCa, *SP AusNet technical review*, August 2013, p. 12, paragraph 19.
71 Actual expenditure 2008-08 to 2012-13 and SP AusNet's proposed budget estimate in 2013-14.
72 SP AusNet, *Revenue proposal*, p. 59 and SP AusNet, *Response to information request EMCa 026*, p. 2.

- deferrals – financing constraints during the global financial crisis led SP AusNet to defer asset works opex to enable the continued delivery of its overall capex program (transmission, distribution and gas capex program)[73]

- capitalisation of asset works – optimisation of the capex portfolio which meant that a number of asset works projects were delivered as capex rather than opex[74]

- cost savings–realised through delivering projects in–house rather than outsourcing.[75]

EMCa found SP AusNet's method for planning and costing its expenditure program is reasonable as a bottom up process, but it noted that as SP AusNet develops its commitment plans for asset works, it will find that the actual work required is less than the indicative programs as was the case in the 2008–14 regulatory control period.[76] For its 2014–17 forecast, SP AusNet used a process similar to how it built up its asset works forecast for the 2008–14 regulatory control period. Given its significant underspend in 2008–14, we consider this approach to be a weakness in the proposal, and one that led to over-forecasting the expenditure needs for the next regulatory period. Consequently, we are not satisfied that the methodology used by SP AusNet results in forecast opex for achieving the opex objectives[77] that reasonably reflect the opex criteria.

By contrast to SP AusNet's bottom up method, our revealed costs method has the advantage of linking past expenditure to forecast expenditure. We consider the revealed cost approach reasonably reflects the opex criteria because it works in tandem with the incentive framework to provide a forecast of efficient recurrent operating expenditure.[78] Where a TNSP has operated under an effective incentive framework, actual past expenditure will be a good indicator of the efficient expenditure the TNSP requires in the future. The ex ante incentive regime provides an incentive to reduce expenditure because TNSPs can retain a portion of cost savings (i.e. by spending less than the AER's allowance) made during the regulatory control period.There was an efficiency benefit scheme operating in the year that SP AusNet nominated as a suitable base year.

8.2 SP AusNet's bottom up forecasts for controllable opex

We applied the revealed cost opex forecasting method to assess SP AusNet's opex forecast and, to derive a substitute opex forecast. We engaged with certain aspects of SP AusNet's controllable opex proposal in some detail—namely, the bottom-up controllable opex items: asset works, and insurance.

Asset works

We do not accept SP AusNet's proposed asset works forecast of $28.4 million. We assessed asset works in conjunction with three proposed step changes that SP AusNet classified (although relabelled) as asset works during 2008–14: line condition assessments ($3.9 million), corrosion risk mitigation ($9.5 million) and communications infrastructure ($2.6 million). We do not accept the total $44.4 million opex forecast because:

- it does not reasonably reflect the opex criteria, as it does not reasonably reflect the efficient cost of achieving the opex objectives and a realistic expectation of the cost inputs required to

[73] SP AusNet, *Response to information request EMCa 026*, 17 April 2013, p. 2; SP AusNet, *Response to information request AER RP 20*, p. 1–3.
[74] SP AusNet, *Revenue proposal*, p. 59.
[75] SP AusNet, *Revenue proposal*, p. 59.
[76] EMCa, *SP AusNet technical review*, August 2013, p.16, paragraph 38.
[77] NER clause 6A.6.6(a).
[78] AER, '*Better regulation-Draft expenditure forecast assessment guideline for electricity transmission*', August 2013, pp.7-9.

achieve those objectives. The proposed expenditure is significantly more than the revealed costs forecast ($16.1 million).[79]

- under the incentive framework in which SP AusNet operates, if we accept the forecast opex as proposed, Victorian transmission users would not fairly share in the efficiencies gains which SP AusNet has achieved, which is contrary to the intent of the efficiency benefit sharing scheme (EBSS) and the NER.
- SP AusNet would retain about 140 per cent of the efficiency benefit, when the intention of the EBSS is to share the benefits with customers at a ratio of 70 per cent to customers and 30 per cent to the business.
- Victorian electricity transmission users would be paying twice for the same work, which is contrary to the National Electricity Objective (NEO)[80] and not in the long term interests of users.
- it is contrary to the Revenue and Pricing Principles in the NEL, because it undermines the incentive framework and does not provide an effective incentive to promote economic efficiency.[81]

The asset works component of our total revealed costs opex forecast is $16.1 million. We consider that our forecast opex allowance will be sufficient for SP AusNet to achieve its opex objectives.[82]

Appendix E stets out our detailed consideration of asset works opex.

Insurance

We do not accept SP AusNet's insurance forecast of $19.0 million because it does not reasonably reflect the opex criteria. The forecast does not reasonably reflect the efficient cost of achieving the opex objectives and a realistic expectation of the cost inputs required to achieve those objectives. Further, the proposed expenditure is significantly more than the revealed costs forecast ($11.0 million).

We accepted AM Actuaries' advice that SP AusNet's proposed premium escalation factors are higher than a reasonable expectation of future premium increases for each class of insurance. SP AusNet increased the share of its insurance costs allocated to its transmission business for some of its insurances but did not provide sufficient evidence to justify this reallocation. Further, it included some insurance costs associated with its un-regulated businesses as well as a fire services levy (FSL) that ceased on 1 July 2013.

We substituted a forecast of $11.0 million for insurance using the revealed costs method. We applied step changes to: remove the FSL and unregulated costs; allow for specific increased costs and to capture SP AusNet's most recent premiums (2012–13). The net impact is a negative step change.

Appendix B sets out our detailed consideration of this issue.

79 This does not include the network growth component.
80 NEL, ss7 and 7A.
81 NEL, ss 7 and 7A.
82 NEL, s7A.

8.2.1 Base-step-trend forecast for controllable opex

Efficient base year costs

SP AusNet proposed 2011–12 as a base year for its maintenance and support opex (but not for insurance or asset works opex). We accept the year as a reference, but do not accept the forecast because SP AusNet included some costs in its base year for accrued provisional liabilities ($0.62 million) that do not represent actual costs incurred in the year. SP AusNet thus overestimated the base-year component of its forecast.

Our substitute forecast used base year costs for all controllable opex (including insurance and asset works) and adjusted to remove the provisional liabilities for employee entitlements.

Step changes

We may add step changes for other efficient costs not reflected in base opex. The main consideration for step changes is whether regulatory obligations have changed. A step change should relate to an new or changed obligation placed upon the TNSP, or to some change in its operating environment beyond its control. A step change should not be provided if a TNSP simply wants to operate differently.

We do not accept the amount of 11 of the 12 proposed step changes ($32.5 million) because the expenditure does not reasonably reflect the opex objectives. We found most of the proposed step changes are not driven by new obligations or, if they are, SP AusNet has no requirement for incremental expenditure. SP AusNet did not provide evidence of the current expenditure, so we could not be satisfied that the proposed costs are net of current expenditure. EMCa also found some double counting in some of the proposed step changes. However, we accept that SP AusNet has an additional opex requirement for two of the step changes, but we do not accept the amount proposed.

These are set out in Table 8.3.

SCADA enhancements–controller simulator training ($0.9 million)

SP AusNet proposed new IT opex totalling $0.9 million for the development of a new training system for network controllers. Currently, it trains staff using the live network under supervised controls but as part of its capex proposal, it proposed to develop a controller simulation training program (which we accept meets the capex objectives).[83] This step change is for additional 1.5 full time equivalent staff to develop and build test scenarios in relation to that capex program. We accept this step change because it represents good industry practice and reflects what many other TNSPs are implementing. We consider the reduction in risk from the program's development directly benefits consumers. EMCa recommended accepting the step change, noting the program is good industry practice and used by other TNSPs internationally.[84] [85]

Transitional arrangements for the Economic Regulation of NSPs rule change ($1.8 million)

SP AusNet proposed a $2.8 million step change for the transitional arrangements resulting from the Australian Energy Market Commission's (AEMC) rule change for the economic regulation of network service providers.[86] We do not accept this step change costs as proposed, because we consider SP AusNet's proposed opex is more than what is reasonably required to meet the opex objectives.

83 NER, clause 6A.6.7(a).
84 EMCa, *SP AusNet technical review*, August 2013, p.84 paragraph 303.
85 NER, clause 6A.6.6(e)(6).
86 NER, clause 11.59.3, version 54.

But we do accept a one-off (non-recurrent) step change of $1.9 million is required. We used actual costs in 2012–13 and 2013–14 to estimate the cost of preparing a future transmission regulatory proposal.

Security of critical infrastructure (C-i-C)

We do not accept SP AusNet's proposed step change of $4.8 million for the security of critical infrastructure. Most costs associated with this step change are not driven by new business or legislative requirements. And much of this step change comprises practices that we expect a prudent TNSP would already undertake. Further, the TNSP should demonstrate opex savings as a result of undertaking the proposed activities. However, we do recognise some additional costs are required due to legislative requirements.

Table 8.3 AER's draft decision on SP AusNet's proposed opex step changes ($ million, 2013–14)

Proposed step change	SPA	AER		AER's reasons
Overhead line condition assessment	3.9	0.0	Not accept	See assessment of asset works opex
Corrosion risk mitigation	9.5	0.0	Not accept	See assessment of asset works opex.
AEMO outage planning requirements	0.6	0.0	Not accept	This is a new obligation, but will not require additional staff because the data collection and collation is currently being done, only the interface has changed. Therefore no additional work is required, and in fact, efficiency benefits may result. [87]
Security of critical infrastructure (terminal stations)	4.8	CIC	Accept driver but not cost	This is not a new business requirement and a prudent business should already be undertaking these kinds of operations. It is not clear how the 2003 legislation drives the additional opex. We were unable to be satisfied of the opex already in the base year, but it is likely that security costs are in the base year. No opex savings have been demonstrated for the outsourcing of works. We applied an adjustment for some demonstrated increased costs driven by legislation change (CIC)[88]
Impact of the 'Clean Energy Future' plan on SF6 top ups	2.5	0.0	Not accept	The capex program will reduce SF6 leaks. Use of 2009–10 leaks is not reflective of future state of the network. Cost of $29/t is too high, given recent political announcements and treasury estimates. [89]
Transitional arrangements for the Economic Regulation of NSPs rule change	2.8	1.9	Accept driver but not cost	We accept the requirement for additional opex (incremental to base year) to prepare a transmission regulatory proposal. However, proposed cost exceeds reasonable requirements. We used actual costs in 2012–13 and 2013–14 to estimate future requirements. [90]
Potential transfer of planning responsibilities	n/a	n/a	Not assessed	No opex proposed.
SCADA enhancements – controller simulator training	0.9	0.9	Accept	Good industry practice with benefits of reducing network and operational risk.

87 NER, clause 6A.6.6(e)(5).
88 NER, clause 6A.6.6(e)(5).
89 NER, clause 6A.6.6(e)(5).
90 NER, clause 6A.6.6(e)(5).

SCADA security – Software QA/QC environment	0.6	0.0	Not accept	This is not a new obligation. A prudent TNSP would already have embedded security processes/systems. Security included in capex program.
IT network security	0.8	0.0	Not accept	This is not a new obligation. Prudent TNSP would already have embedded security processes/systems.
Service standard reporting tools – enable market reporting	0.5	0.0	Not accept	This is a new obligation, but no requirement for additional opex. Further, any additional opex offset by cost savings. [91]
Technology innovation program	1.7	0.0	Not accept	This is a self-funding innovation program.
Communications infrastructure	2.6	0.0	Not accept	This step change double counts communications opex which is in the base year. See also asset works. [92]
Other: capex-opex trade-off	–0.8	0.0	Not accept	SP AusNet proposed a reduction to its opex allowance for efficiency benefits it expects to achieve by spending $16.8 million on strategic IT capex in the same period, 2014–17 (Attachment 2). We did not accept the proposed IT capex (total of $47.9 million) because we did not accept the strategic IT costs met the capex criteria. Consistent with our decision on capex, we do not accept SP AusNet's proposed IT efficiency adjustment of $0.8 million because this was for benefits it expected to achieve from the $16.8 million strategic capital expenditure in the same period. [93]
Total step change opex	31.7	2.8		[This does not include the insurance step change or the security step change]

Sources: SP AusNet, *Revenue proposal*, pp. 128–36; EMCa, *SP AusNet technical review*, August 2013; AER analysis.
Note: n/a not applicable. CIC = Commercial in confidence. QA/QC = quality assurance/quality control.

Trends – rate of change increases

Real cost escalation

We do not accept SP AusNet's proposed real cost escalators reasonably reflect a realistic expectation of the cost inputs required to achieve the opex and capex objectives over the 2014–17 regulatory control period. Attachment 1 sets out the detailed reasons for our draft decision on SP AusNet's proposed real cost escalators.

We applied individual real cost escalators for each year of the 2004–17 regulatory control period. Our application differs from SP AusNet's proposal which applied an average of the forecast real cost escalators in each year. We consider our approach more reliably reflects the year on year movements in real cost escalation over the forecast. Our approach is consistent with SP AusNet's approach for its proposed capex forecast. This adjustment reduced SP AusNet's total opex requirements by $1.6 million.

Network growth

We accept SP AusNet's proposed approach to estimating the network growth escalator over the 2008–14 regulatory control period. It used its Group 3 asset roll in (network augmentation) to estimate a network growth escalator of 3.0 per cent which, reflects the net change in ratio between the RAB

91 NER, clause 6A.6.6(e)(5).
92 NER, clause 6A.6.6(e)(5).
93 NER, clauses 6A.6.6(e)(5) and (6).

and non-regulated asset base.[94] We applied this same approach in our 2008 final decision, and we consider the approach remains reasonable. But, in accepting SP AusNet's approach, we updated SP AusNet's opening RAB value at 1 April 2014 (an input) to reflect our draft decision. So, we revised the network growth factor from 3.06 per cent to 2.91 per cent.

Economies of scale

SP AusNet applied a scale factor of 70 per cent to routine maintenance and maintenance support and 100 per cent to corporate support costs. We do not consider the proposed scale factors reasonably reflect the costs that a prudent operator in the circumstances of the relevant TNSP would require to achieve the opex objectives.[95] We benchmarked the routine maintenance, maintenance support and corporate support scale factors against those of other TNSPs. We found that a factor of 95 per cent for routine maintenance, 25 per cent for maintenance support and 10 per cent for corporate support would achieve the opex objectives.[96]

The combined effect of changing the network growth escalator and the economies of scale factors reduces the amount of opex needed to account for network growth to $3.4 million, from the $5.2 million SP AusNet proposed.

8.2.2 Assessment of non-controllable opex

Self-insurance

Our substitute allowance for self-insurance is $5.0 million. We adjusted SP AusNet's proposed forecast of $6.4 million to remove the risk margin it proposed, and to remove allowances SP AusNet proposed for risks compensated through its opex allowance or which we consider are not reasonable. Our full reasoning is set out in Appendix C.

Equity raising costs

We converted the allowance for equity raising costs from perpetuity to an amount for capitalisation in the RAB. Consequently, the equity raising costs associated with SP AusNet's 2003 opening RAB and capex incurred over the 2003–08 regulatory control period will be provided through the regulatory depreciation and return on capital building blocks. So, we will not provide for these equity raising costs in the opex building block.

Debt raising costs

We accept SP AusNet's method but updated its proposed benchmark unit rate for debt raising costs to reflect the indicative WACC. We also updated the benchmark unit rate to reflect the number of 'standard' bond issuances required over the 2014–17 regulatory control period to finance the debt portion of SP AusNet's RAB. This update resulted in a benchmark unit rate for debt raising costs of 9 basis points per year. Accordingly, we determined a benchmark debt raising cost allowance of $4.5 million ($2013–14) in total for the 2014–17 regulatory control period.

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94 During a regulatory control period, AEMO or a distribution business may request SP AusNet to provide augmentations to the transmission network or distribution connection services. While the assets constructed due to these requests provide prescribed transmission services, the forecast capex associated with these assets sit outside of the revenue determination. This is because SP AusNet is not responsible for the planning of these capex. SP AusNet refers to these services as 'excluded prescribed services', and the assets which provide these services are referred to as 'Group 3' assets. Group 3 assets sit outside of the RAB and are governed by commercial contracts until they are rolled into the RAB, usually at the next revenue reset. (SP AusNet , *Revenue proposal*, p.30.)

95 NER, clauses 6A.6.6(c)(2) and (e)(4).

96 NER, clauses 6A.6.6(c)(2) and (e)(4).

Availability incentive scheme rebate

SP AusNet is currently subject to the Availability Incentive Scheme (AIS). Under this scheme, SP AusNet must pay rebates to AEMO for outages on its network. The rebates paid depend on the particular asset that is out of service and the time when the outage occurs (for example, off–peak, shoulder, peak). In its revenue proposal, SP AusNet provided a 'placeholder' rebate forecast of $9.9 million because this scheme was under review by AEMO. On 16 July, AEMO confirmed its intent to maintain the AIS for 2014–17. During our ongoing engagement with SP AusNet, we were informed that it would submit a revised AIS rebate forecast if AEMO decided to maintain the scheme for the 2014–17 regulatory control period. We will assess that forecast when it is received. On this basis, we have not provided any opex for AIS rebates in this draft decision.

9 Efficiency benefit sharing scheme

The efficiency benefit sharing scheme (EBSS) is a key component of incentive regulation employed under the NER. Because opex is largely recurrent and predictable, opex in one period is generally a good indicator of opex in the next period. We use a TNSP's actual opex incurred in a chosen base year of the regulatory control period to forecast opex for the next regulatory control period. To encourage TNSPs to become more efficient we need to permit them to keep a portion of any reductions in opex they achieve. This is done through the EBSS which lets TNSPs keep efficiency gains for a set number of years, usually five. They thus have a continuous incentive to achieve efficiency gains.

Under the EBSS, TNSPs are rewarded for underspending and penalised for overspending the opex allowance. Consumers benefit from an underspend through lower prices in the next regulatory control period-that is, forecast opex in the next regulatory control period will reflect the TNSP's lower level of opex in the current regulatory control period, so regulated prices will be lower too.

9.1 Draft decision

We are not satisfied SP AusNet's proposed EBSS carryover of $47.1 million from the 2008–14 regulatory control period complies with the scheme requirements. Rather, we determined that a carryover of $37.2 million complies with the scheme requirements. The difference in the EBSS carryover proposed by SP AusNet and the amount we approve arose mainly because we applied a five year carryover period for efficiency gains accrued in 2008–14 and SP AusNet applied a six year carryover period. Table 9.1 shows the carryover amounts that we consider comply with the EBSS. It also shows the adjusted opex forecasts for the EBSS for the 2014–17 regulatory control period.

Table 9.1 AER's draft decision on SP AusNet's carryover amounts and adjusted opex forecast for the EBSS ($ million, 2013–14)

	2014–15	2015–16	2016–17	Total
EBSS carryover amount	17.9	15.4	3.9	37.2
Adjusted opex forecast for EBSS	75.1	76.6	76.7	228.4

9.2 Summary of analysis and reasons

The scheme that applied to SP AusNet during the 2008–14 regulatory control period was the first proposed EBSS.[97] The scheme that will apply to SP AusNet for the 2014–17 regulatory control period is version one of the EBSS for electricity TNSPs.[98] The NER requires us to decide:[99]

- the carryover amounts that arise from applying the EBSS during the 2008–14 regulatory control period
- how the EBSS will apply to SP AusNet in the 2014–17 regulatory control period.

97 AER, *First proposed electricity transmission network service providers efficiency benefit sharing scheme*, January 2007. The NER (clauses 11.6.17 and 11.6.18) required us to apply the first proposed EBSS to SP AusNet for the 2008 determination, but not for subsequent determinations.

98 AER, *Electricity transmission network service providers efficiency benefit sharing scheme*, September 2007.

99 NER, clauses 6A.4.2(a)(6) and 6A.14.1(1)(iv).

We are not satisfied SP AusNet's proposed EBSS carryover of $47.1 million from the 2008–14 regulatory control period complies with the scheme requirements. Rather, we determine that a carryover of $37.2 million complies with the scheme requirements, on the basis of our determination of opex. The difference is because:

- we applied a five year carryover period consistent with the provisions of the first proposed EBSS and not a six year carryover period as SP AusNet proposed (–$6.9 million)
- when we calculated the carryover adjustments, we removed the movement in provisions from SP AusNet's actual opex as well as back cast and removed the movement in provisions in the allowance set at our last determination (–$0.3 million)
- we updated 2012–13 (estimated) data with audited data ($–2.5 million).

SP AusNet's current 2008–14 regulatory control period is six years. However, the first proposed EBSS only contemplates a five year regulatory control period and prescribes a five year carryover period.[100] We determine a five year carryover period because it is consistent with the first proposed EBSS. This reduces the carryover amount by $6.9 million.

Our draft decision on EBSS is linked to our assessment of opex. The approved carryover amount of $37.2 million rewards SP AusNet for achieving sustained efficiency gains that it must share with customers. This is achieved when we use the revealed costs method to forecast opex in conjunction with an EBSS carryover. If we were to change our decision on opex in the final decision, we would also need to review our decision on the EBSS.

When we calculate the carryover amounts for the 2014–17 regulatory control period:

- we will not adjust forecast opex for changes in demand
- we will exclude the following cost categories:
  - easement land tax
  - self-insurance
  - rebates made under the Availability Incentive Scheme
  - debt raising costs
  - the cost of priority projects approved under the network capability component of the service target performance incentive scheme (STPIS).
- we will adjust actual opex to reverse movements in provisions
- the length of the carryover period will be contingent on the length of the regulatory control period commencing in 2017.

Attachment 10 sets out the detailed reasons for our draft decision on the EBSS.

[100] AER, *First proposed electricity transmission network service providers efficiency benefit sharing scheme*, January 2007, p. 2.

10 Corporate income tax

The estimated cost of corporate income tax is one of the building blocks used to determine the total revenue requirements for SP AusNet over the 2014–17 regulatory control period. We calculated total revenue requirements using our post tax revenue model (PTRM). We used the PTRM to produce an estimate of the taxable income that would be earned by an efficient benchmark company operating the Victorian transmission network. It offsets all tax expenses against SP AusNet's forecast revenue to estimate the taxable income. We then applied the statutory income tax rate of 30 per cent to the estimated taxable income to arrive at a notional amount of tax payable. And we applied a discount to this amount, to account for the assumed use of imputation credits (gamma). We included this estimated tax amount as a separate building block to determine SP AusNet's total revenue. This amount enables SP AusNet to recover the costs associated with the estimated corporate income tax payable during the 2014–17 regulatory control period.

Attachment 7 sets out the detailed reasons for our draft decision on SP AusNet's estimated cost of corporate income tax.

10.1 Draft decision

We do not accept SP AusNet's proposed corporate income tax allowance of $24.6 million ($ nominal). Table 10.1 shows our draft decision on this allowance for the 2014–17 regulatory control period.

Table 10.1 AER's draft decision on SP AusNet's corporate income tax allowance ($million, nominal)

	2014–15	2015–16	2016–17	Total
Tax payable	23.4	23.0	24.5	70.9
Less: value of imputation credits	15.2	14.9	15.9	46.1
Net corporate income tax allowance	8.2	8.0	8.6	24.8

Source: AER analysis.

10.2 Summary of analysis and reasons

We do not accept SP AusNet's proposed corporate income tax allowance of $24.6 million ($ nominal) for the 2014–17 regulatory control period. We determine a substitute forecast of $24.8 million ($ nominal), which represents an increase of $0.3 million (or 1.0 per cent) on the proposal. This increase reflects the following reasoning:

- We accept SP AusNet's proposed method of establishing the opening tax asset base (TAB) at 1 April 2014. However, we increased SP AusNet's proposed TAB at 1 April 2014 to $2199 million ($ nominal) from $2171 million, due to our adjustments to the asset base roll forward model (RFM). As discussed in attachment 5, we capitalised in the RAB the perpetuity equity raising costs provided for SP AusNet in the 2002 revenue cap decision. Therefore, we included $53.4 million in the opening TAB, to be consistent with the RAB. Our adjustments to the actual capex values in the RFM also affect the opening TAB value.
- We accept SP AusNet's proposed standard tax asset lives for its asset classes. We determined a standard tax asset life of five years for the equity raising costs asset class for tax depreciation.

- We accept SP AusNet's proposed weighted average method to calculate the remaining tax asset lives at 1 April 2014. In accepting the weighted average method, we updated the proposed remaining tax asset lives to reflect our adjustments to SP AusNet's actual capex for 2008–14 in the RFM.
- Our determinations on other building blocks, including forecast opex (attachment 3) and forecast capex (attachment 2) also affected the estimated corporate income tax allowance.[101]

[101] NER, clause 6A.6.4.

11 Contingent projects

Contingent projects are significant capex projects that may arise in the regulatory control period. A TNSP's forecast capex does not include expenditure for these projects, because they are linked to unique investment drivers known as trigger events. The occurrence of the trigger event must be probable.[102] However, the event or the costs associated with the event must be uncertain.[103] If a trigger event occurs during the 2014–17 regulatory control period, then we will assess the contingent project's costs on application by SP AusNet. If we approve the contingent project's costs at that time, then we will amend SP AusNet's revenue determination to account for the increased costs associated with the contingent project.

11.1 Draft decision

We do not accept the three contingent projects that SP AusNet proposed for the 2014–17 regulatory control period. We consider each proposed contingent project:

- is not reasonably required to meet the capex objectives; and
- does not have an appropriate trigger event.[104]

11.2 Summary of analysis and reasons

SP AusNet proposed three contingent projects. One relates to events at the South Morang terminal station (the other two projects involve commercially sensitive information, so our analysis of them is not included here). The terminal station at South Morang has two aging transformer banks: H1 and H2. SP AusNet proposed a staged replacement, whereby stage 1 involves replacing the H2 bank in the 2014–17 regulatory control period. Stage 2 (scheduled for the 2021–25 regulatory control period) involves replacing the H1 bank. SP AusNet's proposed forecast capex for 2014–17 includes the cost of stage 1 only.

SP AusNet's proposed contingent project is to bring forward stage 2 into the 2014–17 regulatory control period if either of the H1 or H2 transformer banks fail. It proposed the trigger event as the 'Failure of any phase or phases of either the H1 or H2 transformers at South Morang Terminal Station before 31 March 2017'.[105] We do not consider the proposed contingent project to replace the H1 transformer bank is reasonably required to satisfy the capex objectives. Stage 1 will achieve that objective without the further assurance of a contingent project. Also, the proposed trigger event is not appropriate because it is unlikely to occur in the 2014–17 regulatory control period. For these reasons, we do not approve the proposed contingent project for the South Morang terminal station.

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102 NER, clause 6A.8.1(c)(5).
103 NER, clause 6A.8.1(c)(5)(i).
104 NER, clause 6A.8.1(b).
105 SP AusNet, *Revenue proposal for the 2014–17 regulatory control period*, Appendix G: Proposed contingent projects for the 2014–17 regulatory control period, 28 February 2013, p. 5.

12 Service target performance incentive scheme

We released a new service target performance incentive scheme (STPIS) in December 2012, which will apply to SP AusNet for the 2014–17 regulatory control period.[106] The new STPIS comprises three components: a service component, a network capability component and a market impact component. First, the service component is a financial incentive for SP AusNet to improve and maintain its service performance. This incentive counters the financial incentive under revenue regulation to reduce costs at the expense of service performance. SP AusNet's performance is compared against the performance target for each parameter during the regulatory control period. It may receive a financial bonus for service improvements, or a financial penalty for declines in service performance. The financial bonus (or penalty) is limited to 1 per cent of its MAR for the relevant calendar year.

Second, the network capability component funds and incentivises TNSPs to identify and implement incremental changes that would improve the capability of the network when it is most needed. Each year, SP AusNet will receive an incentive payment equal to 1.5 per cent of its MAR for each year except the final year of the 2014–17 regulatory control period. If the TNSP achieves its priority project improvement target for each priority project, then it will receive an incentive payment of 1.5 per cent of its MAR in the final year. If it does not achieve each priority project target, then we may reduce the incentive payment in the final year. We can reduce the final payment to –2 per cent of MAR if the TNSP does not achieve any of its proposed priority project improvement targets.[107]

Finally, the market impact component provides financial rewards to SP AusNet for improvements in its performance against a target. The TNSP can earn an additional increment of up to 2 per cent of its MAR for the relevant calendar year.[108] Unlike for the service component, no financial penalty is associated with the market impact component.

Attachment 9 sets out our detailed reasons for our draft decision on the STPIS.

12.1 Draft decision

Service component

We do not accept SP AusNet's proposed service component parameter values because they do not comply with the requirements in clauses 3.3 and 3.5 of the STPIS. Specifically, SP AusNet's proposed adjustment to the loss of supply sub parameter targets is not justified, and the distributions used to calculate caps and collars are inappropriate. We consider the caps and collars calculated using our principled approach will result in a materially stronger incentive to improve and maintain service performance. Table 12.1 sets out our draft decision on SP AusNet's service component parameter values.

106 AER, *Final – Service Target Performance Incentive Scheme,* December 2012.
107 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 5.2(k).
108 It would obtain an additional 2 per cent of MAR if it had a market impact performance of zero binding dispatch intervals in a calendar year.

Table 12.1 AER's draft decision on SP AusNet's parameter values and weightings for the service component of the STPIS

	Collar	Target	Cap	Weighting (% of MAR)
Average circuit outage rate				0.2
Line outage – fault	42.0	25.9%	14.8	0.2
Transformer outage – fault	31.7	16.1%	7.4	0.2
Reactive plant – fault	43.8	32.5%	23.4	0.1
Line outage – forced outage	17.7	14.9%	12.3	0.0
Transformer outage – forced outage	17.6	12.0%	6.2	0.0
Reactive plant – forced outage	28.3	14.8%	3.7	0.0
Loss of supply event frequency				
>0.05 system minutes	6	2	0	0.15
>0.3 system minutes	2	1	0	0.15
Average outage duration				
Average outage duration	293.5	98.0	5	0.2
Proper operation of equipment				
Failure of protection system	n/a	n/a	n/a	0.0
Material failure of SCADA	2	1	0	0.0
Incorrect operational isolation of primary or secondary equipment	n/a	n/a	n/a	0.0

Sources: SP AusNet, *Revenue proposal*, p. 158; AER analysis.

Network capability component

We accept SP AusNet's proposed priority projects and improvement targets because we consider they meet the requirements of the STPIS. As required SP AusNet engaged with AEMO and we considered AEMO's endorsement in making our decision. Table 12.2 sets out our draft decision on SP AusNet's proposed priority projects, improvement targets and project ranking.

Table 12.2 AER's draft decision on SP AusNet's network capability priority projects ($ 000, 2013–14)

Ranking	Project	Cost
1	Altona terminal station	14
2	Rowville – Malvern no. 1 & 2 220 kV circuits	400
3	Dederang circuits	586
4	South Morang – Thomastown no. 1 & 2 220 kv circuits	600
5	Wodonga terminal station (WOTS)	778
6	Rowville–East Rowville 220kV circuits and Rowville–Springvale 220kV circuit	999
7	Hazelwood – Loy Yang 500kV circuits	2
8	Templestowe terminal station	377
9	South Morang – Dederang 330kV circuits	72
10	Aluminium Customer Substation and Mortlake intertrip control schemes	400
11	M2 contingency control scheme	800
12	East Rowville– Cranbourne 220kV circuits	1033
13	Keilor – Sydenham 500kV circuit and Keilor – South Morang 500kV circuit	0
14	Thomastown terminal station	177
15	Ringwood terminal station	0
16	Increase instrumentation range	400
17	Investigate fault level withstand capability of 220 kV switchyards	5300
18	Fault level withstand capability to 40 kA at 220 kV switchyards	400
19	Geelong – Moorabool 220kV circuits	871
20	Geelong terminal station	0
21	Moorabool – Mortlake 500kV circuit and Moorabool – Terang 500kV circuit	0
22	Horsham terminal station	14
	Total cost	13 220

Market impact component

Under the latest version of the STPIS that applies to SP AusNet, we are not required to determine a market impact parameter target because it will be set as a rolling average during the 2014–17 regulatory control period. During this review of SP AusNet's revenue proposal, we will audit the latest performance data The target for the 2014 calendar year will be the average of the 2011, 2012 and 2013 market impact performance data. Likewise, the 2015 target will be set using the 2012, 2013 and 2014 data. We will publish these targets during our annual TNSP STPIS review process.

12.2 Summary of analysis and reasons

Service component

We do not accept SP AusNet's service component proposal because:

- the TNSP did not justify its proposed adjustments to performance targets for the two loss of supply subparameters
- the TNSP used inappropriate distributions to determine caps and collars

Adjustments to reliability targets for proposed capital works

We do not accept SP AusNet's proposed adjustments to the targets for the two loss of supply subparameters. The TNSP calculated the adjustments using assumptions that are likely to result in an inaccurate figure. We consider adjustments should be made using a bottom up estimate of the effect of capital works on reliability.

Caps and collars

We do not accept SP AusNet's proposed caps and collars because the TNSP's method of deriving them is not conceptually sound and reasonable. We applied a principled approach that uses a conceptually sound method, to test the reasonableness of SP AusNet's proposed caps and collars. We consider our principled approach results in caps and collars that provide a materially stronger incentive for the TNSP to improve and maintain service performance. We considered EMCa's advice in arriving at our draft decision on caps and collars.

Network capability component

We accept SP AusNet's proposed priority projects and priority project improvement targets, as submitted on 8 August 2013. We worked with AEMO and SP AusNet to develop a ranking of the proposed network capability projects. AEMO reviewed SP AusNet's proposed projects and proposed an additional seven priority projects. AEMO then ranked the priority projects.

Based on AEMO's review and our review of SP AusNet's revenue proposal, we accept SP AusNet's proposed priority projects and priority project improvement targets are consistent with the STPIS and will lead to a material benefit.[109]

Market impact component

SP AusNet submitted market impact component data with its revenue proposal. However, it did not incorporate an exclusion in the new STPIS (which was released shortly before SP AusNet's revenue proposal submission date). SP AusNet recalculated its data in accordance with the new scheme and recently provided that data to us. We will audit this data in time for our final decision and make any necessary adjustments.

[109] AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 5.2.

13 Pricing methodology

As part of a transmission determination, we must specify a pricing methodology for SP AusNet.[110] This methodology establishes a tariff structure for the TNSP and describes how it allocates its revenue to its prescribed transmission services and connection points.[111]

13.1 Draft decision

We approve the pricing methodology proposed by SP AusNet for the 2014–17 regulatory control period, because it gives effect to the pricing principles and complies with the pricing methodology guidelines.[112]

13.2 Summary of analysis and reasons

SP AusNet's proposed pricing methodology addresses only the pricing matters for which it has responsibility[113]—that is, prescribed entry and exit services. In Victoria, the pricing of all other prescribed transmission services is the responsibility of the AEMO.[114] AEMO is also the co-ordinating network service provider in Victoria. So, it is responsible for allocating the aggregate annual revenue requirement (AARR) for all TNSPs in the region including SP AusNet.[115]

We approve SP AusNet's proposed pricing methodology following our consideration of the unique transmission arrangements in Victoria. We determine the proposal meets each of the pricing principles and pricing methodology guideline requirements that are relevant to SP AusNet's responsibility for connection services. The pricing of other prescribed transmission services provided in Victoria—transmission use of system (TUOS) and common transmission services—will be addressed in AEMO's proposed pricing methodology for its next regulatory control period.[116]

110 NER, clause 6A.2.2(4).
111 NER, clauses 6A.24.1(b)(1) and (2).
112 NER, clause 6A.24.1(c).
113 SP AusNet, *Revenue proposal*, Appendix 13A: Pricing methodology, p. 4.
114 SP AusNet, *Revenue proposal,* Appendix 13A: Pricing methodology, p. 4.
115 NER, clause 6A.29.1.
116 AEMO, *Proposed pricing methodology and negotiating framework for regulatory control period commencing 1 July 2014,* 16 August 2013.

14 Negotiated transmission services

We do not determine the terms and conditions of negotiated transmission services. Under the NER, negotiated services are provided under an agreement or as a result of a determination of a commercial arbitrator. A negotiating framework and the negotiating transmission services criteria (NTSC) facilitate these processes. A TNSP must prepare a negotiating framework that sets out procedures for negotiating the terms and conditions of access to a negotiated transmission service. The NTSC set out criteria that a TNSP must apply in negotiating those terms and conditions, including the prices and access charges for negotiated transmission services. They also contain the criteria that a commercial arbitrator must apply to resolve disputes about such terms and conditions and/or access charges.

14.1 Draft decision

We approve SP AusNet's proposed negotiating framework because it meets the requirements in the NER.[117] Further, our draft decision is that the NTSC we published in April 2013 will apply to SP AusNet in the 2014–17 regulatory control period, because those criteria give effect to the negotiated transmission service principles.[118]

14.2 Summary of analysis and reasons

We approve SP AusNet's proposed negotiating framework because it specifies the minimum requirements in the NER.[119] Those requirements include, among other things, a statement that SP AusNet will negotiate in good faith and a description of procedures for dealing with disputes.

In April 2013, we invited submissions on the NTSC. Our draft decision is that the NTSC that we published with that invitation (reproduced in attachment 13) should apply to SP AusNet's 2014–17 regulatory control period, because those criteria adopt the negotiated transmission service principles. We did not receive stakeholder submissions on the NTSC.

117 NER, clause 6A.9.5(c).
118 NER, clause 6A.9.1.
119 NER, clause 6A.9.5(c).

15 Cost pass throughs

The pass through mechanism of the NER recognises a TNSP can be exposed to risks beyond its control, which may have a material impact on its costs. A cost pass through enables a business to recover (or pass through) the costs of defined unpredictable, high cost events that are not built into the transmission determination. We must decide which of the pass through events nominated by SP AusNet will apply for the 2014–17 regulatory control period. Attachment 14 sets out the detailed reasons for our draft decision on pass through events.

15.1 Draft decision

We do not accept a natural disaster event, a terrorism event or a liability above insurance cap event as nominated pass through events in the forms proposed by SP AusNet. Before we can accept these events as nominated pass through events, we require SP AusNet to amend its definitions. Attachment 14 contains the event definitions that we approve in this draft decision.

15.2 Summary of analysis and reasons

We assessed SP AusNet's nominated cost pass through events taking into account the nominated pass through event considerations. [120] When we were not satisfied that we should accept a nominated pass through event we considered whether amendments to the proposal would make the pass through event acceptable under the NER. We are also mindful of the overall context of incentive regulation. That is, we need to preserve the incentives for a TNSP to efficiently manage risk.

Below we set out our reasons for amending and approving the cost pass through events proposed by SP AusNet.

Natural disaster event

We do not accept the natural disaster event as nominated by SP AusNet in its revenue proposal. We included an explanation of 'major' in the definition.

Terrorism event

We do not accept the terrorism event definition nominated by SP AusNet because it referred to any event that 'materially increases the costs to a Distribution Network Service Provider (DNSPs) of providing direct control services'. A reference to a DNSP is not allowed in a determination for a TNSP.[121] We discussed the matter with SP AusNet, which agreed and subsequently amended its proposed definition.[122] We accept the revised definition.

Insurance cap event

We do not accept the liability above insurance cap event definition nominated by SP AusNet.[123] We consider SP AusNet's insurance cap event should be amended to correctly define it in the context of the TNSP's total opex allowance. For consistency across jurisdictions, we renamed the event as an 'insurance cap event'.

120 NER, definition of *nominated event pass through considerations*, chapter 10.
121 NER clause 6A.7.3(a).
122 SP AusNet, *Response to information request AER RP 32, Nominated terrorism pass through event*, 4 June 2013.
123 SP AusNet, *Revenue proposal*, p. 184.

Part 2 – Attachments

1 Real cost escalation

Real cost escalation accounts for expected changes in the costs of key input factors for the opex and capex forecasts. Due to market forces, these costs may not increase at the same rate as inflation.

1.1 Draft decision

We do not accept that SP AusNet's proposed real cost escalators reasonably reflect a realistic expectation of the cost inputs required to achieve the opex and capex objectives over the 2014–17 regulatory control period.[124] For this reason, we determined the substitute escalators (table 1.1 and table 1.2), which reflect our considerations that:

- labour cost forecasts developed by Deloitte Access Economics (DAE) reasonably reflect a realistic expectation of the cost inputs required to achieve the opex and capex objectives
- the inclusion of labour inputs in the material escalators double counts SP AusNet's forecast labour cost requirements
- forecast inputs for material escalation and exchange rates should be updated to reflect most recent data.

Table 1.1 AER's draft decision on real cost escalation—inputs (per cent)

	2012–13	2013–14	2014–15	2015–16	2016–17
Labour					
Internal	1.1	0.5	1.0	1.0	1.2
External	0.1	0.0	0.6	1.0	1.4
Materials					
Aluminium	–14.7	0.8	5.4	4.6	5.2
Copper	–7.9	–3.8	1.5	1.1	0.8
Steel	–12.8	4.7	3.4	1.3	0.8
Crude oil	–5.9	9.9	–4.1	–4.2	–2.9
Construction costs	1.3	8.3	0.5	0.4	0.4

Source: AER analysis.

[124] NER, clauses 6A.6.6(c) and 6A.6.7(c).

Table 1.2 AER's draft decision on real cost escalation (indices)

	2012–13	2013–14	2014–15	2015–16	2016–17
Asset classes					
Secondary	1.000	1.008	1.015	1.016	1.008
Switchgear	1.000	1.019	1.022	1.020	1.012
Transformers	1.000	1.030	1.029	1.024	1.016
Reactive	1.000	1.030	1.029	1.024	1.016
Overhead lines	1.000	1.032	1.023	1.016	1.013
Underground cables	1.000	1.014	1.017	1.014	1.009
Establishment	1.000	1.000	0.988	1.000	1.000
Communications (buildings, towers and site infrastructure)	1.000	1.000	1.000	1.000	1.000
Non-system other	1.000	1.030	1.043	1.040	1.021
Vehicles	1.000	1.000	1.000	1.000	1.000
Premises	1.000	1.000	1.000	1.000	1.000
Network switching centre	1.000	1.000	1.000	1.000	1.000
IT	1.000	1.000	1.000	1.000	1.000

Source: AER analysis, SP AusNet, *Response to information request AER RP 63, Updated material cost inputs for application through SKM's method,* 5 August 2013.

1.2 SP AusNet's proposal

SP AusNet included an allowance for forecast real labour cost increases—that is, cost increases greater than the forecast inflation rate—in both its opex and capex forecasts for the 2014–17 regulatory control period.[125] It also included an allowance for forecast movements in materials in its forecast capex.[126] Table 1.3 and table 1.4 outlines SP AusNet's real cost escalation forecasts.

[125] SP AusNet, *Revenue proposal*, pp. 82, 116–8.
[126] SP AusNet, *Revenue proposal*, p. 85.

Table 1.3 SP AusNet's real cost escalation forecast—inputs (per cent)

	2012–13	2013–14	2014–15	2015–16	2016–17
Labour					
Internal labour	2.0	1.5	2.2	2.3	1.6
External labour	1.3	1.5	2.1	2.1	1.8
Materials					
Aluminium	–16.4	6.6	9.2	7.9	8.5
Copper	–9.0	1.8	3.6	2.7	0.8
Steel	–3.7	6.5	3.6	–0.1	2.8
Crude oil	0.4	5.6	13.7	14.9	7.6
Construction costs	–0.4	0.0	–0.2	0.1	–0.0
General labour	1.1	1.5	1.5	1.1	1.1
Site labour	1.3	1.5	1.3	1.1	1.2

Source: SP AusNet, *Revenue proposal,* p. 82; BIS Shrapnel, *Real labour cost escalation forecasts to 2017–Australia & Victoria*, November 2012, p. iii; SKM, *Annual material escalators 2014/15–2016/17*, 19 November 2012, p. 2.

Table 1.4 SP AusNet's real cost escalation forecast (indices)

	2012–13	2013–14	2014–15	2015–16	2016–17
Asset classes					
Secondary	1.000	1.008	1.016	1.016	1.009
Switchgear	1.000	1.019	1.025	1.020	1.016
Transformers	1.000	1.030	1.035	1.025	1.024
Reactive	1.000	1.030	1.035	1.025	1.024
Overhead lines	1.000	1.032	1.030	1.018	1.025
Underground cables	1.000	1.014	1.026	1.023	1.011
Establishment	1.000	1.000	0.998	1.000	1.000
Communications (buildings, towers and site infrastructure)	1.000	1.000	1.000	1.000	1.000
Non-system other	1.000	1.030	1.043	1.037	1.026
Vehicles	1.000	1.000	1.000	1.000	1.000
Premises	1.000	1.000	1.000	1.000	1.000
Network switching centre	1.000	1.000	1.000	1.000	1.000
IT	1.000	1.000	1.000	1.000	1.000

Source: SKM, *Annual material escalators 2014/15–2016/17*, 19 November 2012, p. 2.

For labour cost escalation, SP AusNet proposed forecasts based on the labour price index (LPI) unadjusted for productivity.[127] It engaged BIS Shrapnel for advice on the labour cost outlook and applied its forecast growth for the Victorian:

- electricity, gas and water (EGW) industry for internal labour,
- construction industry for external labour.

SP AusNet also proposed real cost escalation be applied to its forecast materials.[128] It consulted SKM, which forecast escalation of SP AusNet's major equipment based on weighted key materials and inputs.[129] SKM forecast material and input costs of aluminium, copper, steel, crude oil, construction and labour based on future market prices and expert forecasts. It calculated material inputs in United States dollars ($US) and converted them into Australian dollars ($AUD). For some key inputs, it applied an additional component to reflect the impact of the carbon price mechanism.

1.3 Assessment approach

We assessed SP AusNet's proposed real cost escalators against the National Electricity Rules (NER) requirements. We must accept SP AusNet's opex and capex forecasts if satisfied they reasonably reflect the opex and capex criteria.[130] We must be satisfied those forecasts reasonably reflect a realistic expectation of cost inputs required to achieve the opex and capex objectives.[131]

In our assessment of labour cost escalation, we:

- reviewed the BIS Shrapnel report commissioned by SP AusNet[132]
- considered advice from our commissioned consultant, DAE[133]
- tested the expert's forecasts against each other.

In our assessment of material cost escalation, we:

- reviewed the SKM report commissioned by SP AusNet[134]
- forecast the price changes from prices traded in futures markets, such as contracts traded on the London Metal Exchange (LME) as well as forecasts from Consensus Economics, which derives an average from forecasts by a number of economic forecasters
- tested the input price changes against each other.

In forming our views, we also considered submissions by stakeholders.

1.4 Reasons for draft decision

Expert forecasters agree there is no perfect predictor of escalators but some forecasts are more reliable than others.[135] Consequently, we considered a range of material and views in reaching a

127 SP AusNet, *Revenue proposal*, pp. 116–8.
128 SP AusNet, *Revenue proposal*, p. 85.
129 SKM, *Annual material cost escalators 2014/15–2016/17*, 19 November 2012.
130 NER, clauses 6A.6.6(c) and 6A.6.7(c).
131 NER, clauses 6A.6.6(c)(3) and 6A.6.7(c)(3).
132 BIS Shrapnel, *Real labour cost escalation forecasts to 2017–Australia & Victoria*, November 2012.
133 DAE, *Response SP AusNet regulatory proposal*, 20 May 2013; DAE, *Forecast growth in labour costs in Victoria*, 13 June 2013, p. 80.
134 SKM, *Annual material escalators 2014/15–2016/17*, 19 November 2012.

conclusion. We are not satisfied that in all instances the forecasts proposed by SP AusNet satisfy the requirements of the NER. In these instances, we substituted an alternative forecast.

We acknowledge the Energy Users Coalition of Victoria's (EUCV) recommendation that we should continue to monitor and review forecasters' approaches and the accuracy of these approaches overtime.[136] As part of the Better Regulation program of work, we are reviewing real cost escalation approaches for future resets.

1.4.1 Labour cost escalation

We do not accept SP AusNet's proposed labour cost escalators reasonably reflect a realistic expectation of future labour costs. Our reasoning is that BIS Shrapnel:

- used less reliable data and assumptions in the forecast SP AusNet applied for escalating its internal labour costs for the 2014–17 regulatory control period
- inaccurately reflected 2011–12 Australian Bureau of Statistics (ABS) data in its analysis and led to inconsistencies in the forecast SP AusNet applied for escalating its external labour costs for the 2014–17 regulatory control period.

In contrast, we consider DAE's forecast assumptions are more reliable and better account for SP AusNet's requirements. So, we substituted DAE's labour cost forecasts because we consider they reasonably reflect a realistic expectation of the cost inputs that SP AusNet requires to achieve the opex and capex objectives over the 2014–17 regulatory control period.[137]

Adjusted versus unadjusted productivity forecasts

We consider that changes in labour costs comprise changes in labour price and the change in labour productivity. Because forecasters use a labour price measure such as the LPI, we consider that in theory labour productivity adjustments should apply to more appropriately reflect labour cost changes.[138] However, given the difficulty in estimating quality adjusted labour productivity estimates we cannot make this adjustment with appropriate certainty.

We acknowledge the EUCV's considerations that productivity adjustments should be applied.[139] However while we expect labour productivity to improve in the long run, estimation difficulties mean we did not seek to address this effect in SP AusNet's forecast of labour costs.

Review of expert forecasts

We reviewed the forecasts prepared by BIS Shrapnel and DAE.[140] Although both experts developed forecast labour cost escalators using LPI measures; they used different inputs, approaches and assumptions. In determining which forecast provides a realistic expectation of cost inputs given SP AusNet's circumstances for the 2014–17 regulatory control period, we reviewed the following components of the forecasts.

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135 DAE, *Response SP AusNet regulatory proposal*, 20 May 2013, p. 2; BIS Shrapnel, *Labour cost escalation forecasts to 2017/18—Australia and South Australia*, April 2012, pp. i–iii; SKM, *Annual material cost escalators 2014/15—2016/17*, 19 November 2012, p. ii.

136 EUCV, *SP AusNet application: a response by the Energy Users Coalition of Victoria*, May 2013, pp. 13–7.

137 NER, clauses 6A.6.6(c)(3) and 6A.6.7(c)(3).

138 AER, *Final decision, ElectraNet transmission determination*, April 2013, p.54; AER, *Final decision, SP AusNet gas distribution access arrangement*, Part 3, March 2013, pp. 7–12.

139 EUCV, *SP AusNet application: a response by the Energy Users Coalition of Victoria*, May 2013, p. 14.

140 BIS Shrapnel, *Real labour cost escalation forecasts to 2017—Australia and Victoria*, November 2012; DAE, *Forecast growth in labour costs in Victoria*, 13 June 2013.

Internal labour cost escalation

We do not accept SP AusNet's forecast internal labour cost escalators for the 2014–17 regulatory control period. The proposed BIS Shrapnel EGW forecast is based on an industry data set which was last published in 2009. Thus we question the reliability of BIS Shrapnel's forecast as there is a lack of available robust data for comparative analysis. We also consider BIS Shrapnel's assumptions based on data before 2009 are less reliable than assumptions based on contemporary data.

In comparison, we consider DAE's Electricity, Gas, Water and Waste Services (EGWWS) forecast to be more reliable because it uses an available data set and applies more up to date assumptions. For these reasons, we substituted DAE's forecast because it reflects a realistic expectation of cost inputs required by SP AusNet to achieve the opex and capex objectives over the 2014–17 regulatory control period.[141]

We consider the reliability of the forecast should be a significant consideration when determining a forecast that reasonably reflects a realistic expectation of SP AusNet's internal labour costs for 2014–15 to 2016–17. As discussed below, we do not consider BIS Shrapnel's EGW forecast is reliable.

Consistent with our previous decisions, we consider the use of forecast growth in the EGWWS industry is a good proxy for escalating a network service provider's (NSP) internal labour costs. It is a good reflection of all general internal labour. The ABS publishes this industry data series regularly at the national level and often at the state level. About the series, the ABS previously advised:[142]

> ...regardless of the type of job, if the job was selected from a business classified to the electricity, gas, water and waste services industry, the job pay movements contributes to this industry.

Also, the ABS EGWWS industry data is publicly available which increases transparency. Consequently, we consider forecasts based on ABS published data to be reliable.

However, SP AusNet considered its labour requirements differ from those of the waste services sector.[143] So it excluded the waste services component of the EGWWS industry data series because it:[144]

> ...introduces a systematic downward bias in the forecasts of real labour costs that SP AusNet would be likely to face.

Based on this reasoning, SP AusNet proposed BIS Shrapnel's EGW forecast as its internal labour escalator.[145] While we acknowledge SP AusNet's preference to use an EGW forecast, we consider BIS Shrapnel's EGW forecast is less reliable than DAE's EGWWS forecast given:

- the lack of available robust EGW industry data
- the assumption that EGW industry wages will always grow at a faster rate than EGWWS industry wages.

Firstly, we note the lack of available robust data for the EGW industry. The ABS stopped publishing the LPI for the EGW industry data series almost four years ago (November 2009). While it is unclear how BIS Shrapnel created the EGW LPI historical data series post 2009,[146] it applied weight to the

141 NER, 6A.6.6(c) and 6A.7(c).
142 ABS, *Email from Kathryn Parlour to Fleur Gibbons*, 8 July 2010.
143 SP AusNet, *Revenue proposal*, p. 116.
144 SP AusNet, *Revenue proposal*, p. 116; BIS Shrapnel, *Real labour cost escalation forecasts to 2017*, November 2012, p. 23.
145 SP AusNet, *Revenue proposal*, pp. 116–8.
146 DAE, *Response SP AusNet regulatory proposal*, 20 May 2013, p. 15.

data series prior to 2009 in forecasting EGW industry wage movements.[147] We consider there is some uncertainty regarding the reliability of a forecast that uses historical movements in the industry data series to inform a forecast to 2017, some eight years after its last ABS publication. This uncertainty becomes greater over time, making the historical assumptions less reliable and less transparent. We consider a forecast based on more recent and public available data (such as the EGWWS industry data) is more reliable.

We also question why SP AusNet based its forecast on a discontinued published data series such as the EGW industry when one reason it preferred the LPI measure over the average weekly ordinary time earnings (AWOTE) measure is due to:[148]

> ...the discontinuation of a number of data series used for average weekly ordinary time earnings (AWOTE)...

If the discontinuation of the ABS publication for AWOTE data series is reason for SP AusNet to prefer the publicly available LPI measure then it appears contradictory for the TNSP to use the discontinued ABS publication of the EGW industry when the EGWWS industry is publicly available.

Second, we question BIS Shrapnel's assumption that the EGW industry will continue to grow faster than the EGWWS industry.[149] BIS Shrapnel's historical analysis demonstrated this outcome is not always so. Table 1.5 is from BIS Shrapnel's report, and it shows the EGW and EGWWS industries demonstrated similar growth in 2000 and 2002, while the EGWWS industry grew faster than EGW in 2008.

Table 1.5 BIS Shrapnel's EGW versus EGWWS analysis

Year	AWOTE					LPI					EMPLOYMENT				
Ended	EGW		EGWWS		Difference	EGW		EGWWS		Difference	EGW		EGWWS		Difference
June	$/week	%CH	$/week	%CH	%CH	2004=100	%CH	2009=100	%CH	%CH	'000	%CH	'000	%CH	%CH
1998	832	7.5	796	6.3	1.2	79		64			64.5	-2.9	78.4	-2.5	-0.5
1999	867	4.2	827	3.9	0.3	82	3.2	66	3.0	0.2	64.8	0.6	78.9	0.6	-0.1
2000	923	6.4	867	4.8	1.6	85	3.8	68	3.8	0.0	64.2	-0.9	79.5	0.8	-1.7
2001	982	6.4	918	6.0	0.5	88	3.9	71	3.8	0.2	65.4	1.9	80.5	1.2	0.7
2002	1 055	7.4	981	6.8	0.6	92	4.2	74	4.2	0.0	67.5	3.1	83.1	3.2	-0.1
2003	1 085	2.8	1 001	2.1	0.8	96	4.3	77	4.1	0.1	72.8	7.9	89.6	7.8	0.1
2004	1 156	6.5	1 057	5.5	1.0	100	4.3	80	4.0	0.3	75.3	3.4	91.5	2.1	1.3
2005	1 195	3.4	1 091	3.2	0.2	104	4.4	83	4.3	0.1	76.7	1.9	95.2	4.1	-2.3
2006	1 214	1.6	1 111	1.9	-0.2	110	5.5	88	5.3	0.2	87.4	14.0	106.0	11.2	2.7
2007	1 262	4.0	1 152	3.7	0.3	115	5.0	92	4.8	0.1	85.1	-2.6	105.7	-0.3	-2.3
2008	1 304	3.3	1 183	2.7	0.6	120	4.1	96	4.1	-0.1	89.9	5.6	113.1	7.0	-1.4
2009	1 389	6.5	1 255	6.1	0.3	126	4.5	100	4.4	0.1	na	na	134.8	19.2	na
Average Growth Rates															
1998-09		4.8		4.2	0.6		4.3		4.2	0.1		3.8		4.6	-0.3

Source: BIS Shrapnel, *Real labour cost escalation forecasts to 2017—Australia and Victoria*, November 2012, p. 23.

Based on this analysis we consider the proposal that the EGW industry will always grow at a faster rate than the EGWWS industry is not reliable. DAE made a similar observation:[150]

> Deloitte Access Economics agrees that, for the period for which comparable data is available, the EGWW sector did grow more slowly, on average than the EGW sector. However there were instances where the EGWW sector grew at a faster quarterly rate than that of the EGW, so it is clearly not cut and dried.
>
> Additionally, the argument that, because waste services has seen slower growth in the past, it will continue to do so in the future is another case of BIS Shrapnel arguing that the status quo on growth rates will

147 BIS Shrapnel, *Real labour cost escalation forecasts to 2017—Australia and Victoria*, November 2012, p. 23.
148 SP AusNet, *Revenue proposal*, p. 116.
149 BIS Shrapnel, *Real labour cost escalation forecasts to 2017—Australia and Victoria*, November 2012, p. 23.
150 DAE, *Response SP AusNet regulatory proposal*, 20 May 2013, p. 15.

> continue forever. As we have argued previously, one industry cannot continue to increase relative wages indefinitely. As some point, other industries have trouble attracting people, and a period of catch up ensues.

Whether the EGWWS industry will grow at a faster rate than the EGW industry in every year over the 2014–17 regulatory control period is thus uncertain. However, because the ABS has not recently published the EGW industry data series a forecaster has limited robust information on the frequency or likelihood of this faster rate occurring.

Based on our assessment we consider DAE's forecast is based on a more reliable data set and contains less uncertain assumptions over the 2014–17 regulatory control period. So we substituted DAE's forecast because we consider it reflects a realistic expectation of cost inputs required by SP AusNet to achieve the opex and capex objectives over the 2014–17 regulatory control period.[151]

External labour cost escalation

We do not accept SP AusNet's forecast external labour cost escalators for the 2014–17 regulatory control period. We consider the proposed escalators, which are based on BIS Shrapnel's Victorian construction industry forecasts, inaccurately reflected 2011–12 ABS data in its analysis and contained inconsistencies between the commentary in its report and its forecast. In comparison, we consider DAE's Victorian construction industry forecast is an appropriate forecast. So we substituted DAE's forecast, because we consider it reflects a realistic expectation of cost inputs required by SP AusNet to achieve the opex and capex objectives over the 2014–17 regulatory control period.

Both DAE and BIS Shrapnel had some common views on the Victorian construction industry. Both forecasters noted the strong growth in the Victorian construction industry over the past decade.[152] This strength was largely due to strong employment growth and stronger population growth, which led to a demand for housing and infrastructure construction. Also, public sector construction in Victoria contributed to the industry's strength. Because Victoria has relatively fewer natural resources, it did not experience the level of wage pressures from the mining sector that other states experienced.

Further, both forecasters noted the relative easing of the Victorian construction wage growth in recent years, and considered this trend will continue in the short term.[153] They also considered a recovery in wages growth will occur over the medium term, although their forecast timing differs by a year. However, a considerable divergence between the two forecasts is apparent over the 2014–17 regulatory control period (table 1.6).

Table 1.6 Comparison of DAE's and BIS Shrapnel's Victorian construction LPI forecasts (nominal, per cent)

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17
DAE—Victoria	3.1	2.8	2.8	3.1	3.7	4.0
BIS Shrapnel—Victoria	3.8	3.4	4.1	4.6	4.6	4.3

Source: DAE, *Forecast growth in labour costs in Victoria*, 13 June 2013, p. 85; BIS Shrapnel, *Real labour cost escalation forecasts to 2017—Australia and Victoria*, November 2012, p. iii.

This divergence could reflect the timing of the information used by the two forecasters. The BIS Shrapnel forecasts were based on ABS data up to and including June quarter 2012,[154] while

151 NER, clauses 6A.6.6(c) and 6A.6.7(c).
152 DAE, *Response SP AusNet regulatory proposal*, 20 May 2013, pp. 78–82.
153 DAE, *Response SP AusNet regulatory proposal*, 20 May 2013, pp. 78–82; BIS Shrapnel, *Real labour cost escalation forecasts to 2017—Australia and Victoria*, November 2012, p. 44.
154 BIS Shrapnel, *Real labour cost escalation forecasts to 2017—Australia and Victoria*, November 2012, p. 1.

DAE's forecasts were based on ABS data up to and including March quarter 2013. While this timing difference may explain some of the divergence in forecasts, inconsistencies in BIS Shrapnel's report make its forecast less reliable than DAE's forecast.

DAE considered the recent easing in the construction industry led annual wages growth to fall to around 3 per cent.[155] Its consideration is consistent with the 2011 and 2012 ABS data for the Victorian construction industry.[156] DAE noted this easing in wages growth has come at a time when Victoria is experiencing rental vacancies at an eight year high and a lack of investment in current and upcoming engineering construction outside the transport and utilities sectors.

However, on the back of this recent easing, DAE noted the outlook for housing construction in Victoria remains somewhat solid.[157] Further, in keeping with general construction forecasts, it considered some slow acceleration in Victorian construction wages is likely across the 2014–17 regulatory control period.[158] We note DAE's outlook is consistent with the Victorian Government's 2013–14 Budget Strategy and Outlook which stated:[159]

> To ensure Victoria remains a leading place to do business and invest, the Government is continuing to reduce red tape and expedite project approvals. It is also undertaking significant planning zone reforms, retargeting the First Home Owner Grant to boost new construction, streamlining identification of surplus government land and bringing it to market…

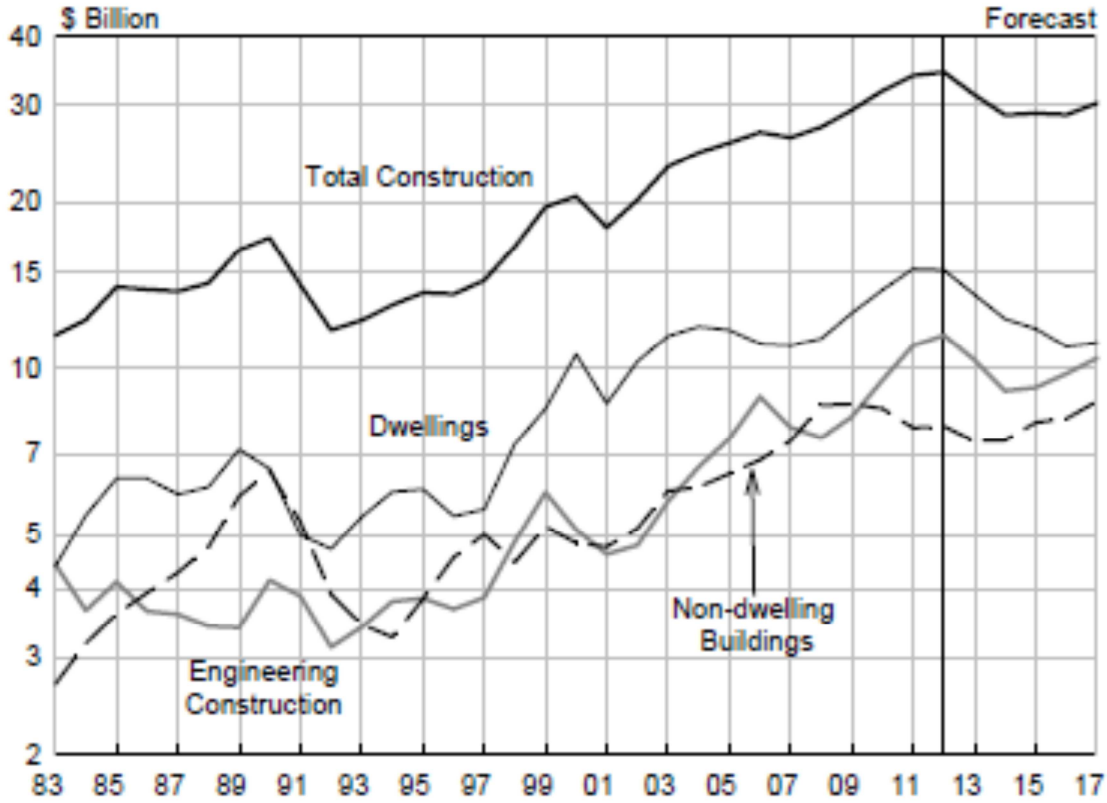
In comparison, BIS Shrapnel's 2011–12 Victorian construction LPI values are out of step with the ABS data.[160] BIS Shrapnel overstated the 2011–12 LPI value by about 0.7 per cent in nominal terms.[161]

In addition, BIS Shrapnel's forecast appears to be inconsistent with its commentary. In relation to the timing of the recovery of the Victorian construction industry's wages growth over the 2014–17 regulatory control period, BIS Shrapnel stated that a recovery in overall construction is projected from 2015–16.[162] However, BIS Shrapnel's forecast starts trending upwards from 2013–14 (table 1.6).

The reason for this inconsistency is unclear. We note BIS Shrapnel stated that construction activity typically has a strong influence on construction wages, and its forecast is based on the construction activity in Victoria.[163] Figure 1.1 below is from BIS Shrapnel's report, demonstrating the consultant's analysis of construction activity in Victoria. It shows the total construction forecast starts trending upwards in 2015–16 which is consistent with its commentary but inconsistent with the values included in its forecast. The supporting information in BIS Shrapnel's report thus appears to support a recovery in 2015–16 and not 2013–14. Given these inconsistencies we consider BIS Shrapnel's construction forecast is less reliable than the forecasts prepared by DAE.

155 DAE, *Forecast growth in labour costs in Victoria*, 13 June 2013, p. 80.
156 ABS, catalogue number 6345.0.
157 DAE, *Forecast growth in labour costs in Victoria*, 13 June 2013, p. 80.
158 DAE, *Forecast growth in labour costs in Victoria*, 13 June 2013, p. 80.
159 Victorian Department of Treasury and Finance, *Victorian State Budget 2013–14: Budget Paper 2: Strategy and Outlook*, 7 May 2013, p. 3.
160 ABS, catalogue number 6345.0.
161 BIS Shrapnel, *Real labour cost escalation forecasts to 2017—Australia and Victoria*, November 2012, p. 45.
162 BIS Shrapnel, *Real labour cost escalation forecasts to 2017—Australia and Victoria*, November 2012, p. 43.
163 BIS Shrapnel, *Real labour cost escalation forecasts to 2017—Australia and Victoria*, November 2012, p. 43.

Figure 1.1 BIS Shrapnel's total construction analysis — value of work done, Victoria (2009–10 prices)



Source: BIS Shrapnel, *Real labour cost escalation forecasts to 2017—Australia and Victoria*, November 2012, p. 44.

The inconsistencies in BIS Shrapnel's report make its forecast less reliable. In contrast, we consider DAE's forecast is more reliable because it accurately reflected the 2011–12 ABS data and is consistent with the Victorian Government's 2013–14 Budget Strategy and Outlook. Thus, we substituted DAE's forecast, because we consider it reflects a realistic expectation of cost inputs required by SP AusNet to achieve the opex and capex objectives over the 2014–17 regulatory control period.[164]

1.4.2 Material cost escalation

Overall we do not accept SP AusNet's proposed material escalators based on SKM's forecast for the 2014–17 regulatory control period.[165] While we accept SKM's material escalation method, we are not satisfied in all instances its forecast inputs reasonably reflect a realistic expectation of the cost inputs required by SP AusNet to achieve the capex objectives.[166] Specifically, we consider the inclusion of labour cost inputs in SKM's material escalators inherently double counts SP AusNet's forecast labour cost increases. We also consider SKM's assumptions about the impact of the carbon price mechanism are out–dated. For the inputs we consider are appropriate, we updated them for the latest available data and conversion rates. We will update these inputs again for the final decision.

We do not accept SKM's inclusion of labour inputs into its material escalators because such an inclusion double counts SP AusNet's future labour cost requirements.

164 NER, clauses 6A.6.6(c) and 6A.6.7(c).
165 SKM, *Annual material cost escalators 2014/15–2016/17*, 19 November 2012.
166 NER, clause 6A.6.7(c).

SP AusNet's capex forecast applies both BIS Shrapnel's labour forecasts and SKM's material escalators. As discussed, SP AusNet adopted BIS Shrapnel's labour forecasts to escalate its internal and external labour costs over the 2014–17 regulatory control period. However, SKM's proposed material escalators also included forecast labour cost increases for general and site labour.[167]

The current SKM report does not state what the general and site labour inputs reflect. However, a previous SKM report prepared for SP AusNet stated:[168]

> The SKM projections for labour increases have been based on forecasts from the Australian Treasury with a differentiation between general labour (regarded as design, project management and approvals) and site labour responsible for on-site construction.

As the application of BIS Shrapnel's forecasts already account for the future changes in costs for these types of labour, we do not accept forecast labour cost inputs in SP AusNet's forecast material escalators.

We also do not accept SKM's forecast inputs relating to the impact of the carbon pricing mechanism. Due to timing, SKM's future carbon pricing mechanism assumptions are out-dated.

SKM applied an additional escalation on the primary materials SP AusNet sources from local manufacturers to reflect the impact of the carbon pricing mechanism. SKM's method accounted for a number of factors including SP AusNet's asset classes, component profiles, suppliers of materials and available competitors. To this extent we are satisfied that SKM has only applied its forecast impact to those inputs that are likely to be affected by the carbon pricing mechanism. No adjustments were made by SKM to imported materials.

SKM based its estimated impact of the carbon pricing mechanism on a combination of previous Treasury modelling and information from the European Energy Exchange.[169] SKM produced its report in November 2012 but the outlook of the carbon pricing mechanism has since changed.

The Prime Minister announced in July 2013 that Australia would move to a floating price on carbon emissions from 1 July 2014.[170] Prior to this announcement the carbon price in Australia was to be fixed until 2014–15 but from 2015–16 would be influenced by the trading of credits in Europe. SKM's method applied previous Treasury modelling, which forecast the nominal carbon price as $25.40 in 2014–15, $28.60 in 2015–16 and $30.51 in 2016–17. However, the carbon price forecast is now around $6.00 in 2014–15, $12.10 in 2015–16 and $18.60 in 2016–17.[171] As noted in the Australian Government's 2013–14 Budget Papers:[172]

> The price of carbon in Europe has fallen in large part to ongoing economic weakness. Carbon price estimates have been revised down in this Budget, with carbon price revenue now estimated to be lower, particularly from 2015–16 onwards.

Consistent with the Australian Government's revision, we have also updated SKM's method with a more recent outlook of future contract prices taken from the European Energy Exchange. We will update the carbon pricing impact inputs again for our final decision.

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167 SKM, *Annual material cost escalators 2014/15–2016/17*, 19 November 2012, p. 2.
168 SKM, *Escalation factors affecting capital expenditure forecasts*, 21 February 2007, p. 30.
169 SKM, *Annual material cost escalators 2014/15–2016/17*, 19 November 2012, p. 24.
170 The Honourable Mark Butler MP, *Australia to move to a floating price on carbon pollution in 2014*, 16 July 2013, http://minister.innovation.gov.au/markbutler/mediareleases/pages/australiatomovetoafloatingpriceoncarbonpollutionin2014.aspx
171 Commonwealth of Australia, *Budget strategy and outlook: Budget Paper 1*, 14 May 2013, p. 2-48; Department of Climate Change, *What does an early ETS mean for businesses? Fact sheet*, p. 2. Cited 17 July 2013: http://climatechange.gov.au/sites/climatechange/files/files/reducing-carbon/carbon-pricing-policy/what-does-early-ets-mean-businesses.pdf
172 Commonwealth of Australia, *Budget strategy and outlook: Budget Paper 1*, 14 May 2013, p. 1-17.

SKM calculated some of its material prices and indices in $US and then converted into $AUD.[173] It used this approach because the relative materials are produced in either $US or currencies that are significantly influenced by the $US. We consider this approach is reasonable and we updated the latest material input data to reflect the updated forecast currency conversions. We provided the updated inputs to SKM who revised its material escalators based on this latest data. The updates had the effect of reducing SP AusNet's proposed capex by $1.1 million ($2013–14). Table 1.7 shows SP AusNet's proposed exchange rate forecast and our updated exchange rate forecast for the draft decision.

Table 1.7 Australian dollar to US dollar exchange rate forecast

	2012–13	2013–14	2014–15	2015–16	2016–17
SKM/SP AusNet	1.04	1.02	0.98	0.95	0.92
AER draft decision	1.04	1.02	0.93	0.91	0.89

Source: AER analysis; SKM, *Annual material cost escalators 2014/15–2016/17*, 19 November 2012, p. 11.

1.5 Revisions

Revision 1.1: Table 1.2 sets out our draft decision substitute real cost escalators for the 2014–17 regulatory control period.

[173] SKM, *Annual material cost escalators 2014/15–2016/17*, 19 November 2012, pp.10–11.

2 Capital expenditure

The National Energy Rules (NER) require SP AusNet to include its total forecast capital expenditure (capex) in its revenue proposal to the Australian Energy Regulator (AER) for the 2014–17 regulatory control period.[174] The return on capex and the return of capex (depreciation) are components of the building block revenue requirement.[175] We must either accept SP AusNet's proposed forecast capex or substitute our own forecast.[176] Forecast capex must reasonably reflect the capex criteria set out in the NER.[177] If it is overstated, then the tariffs that consumers pay will be higher than they should be.

Capex is generally broken down into network and non-network related categories:

- network load driven (augmentation, connection and land/easements)
- network non-load driven (replacement, refurbishment, security/compliance and inventory spares)
- non-network (business information technology (IT) and buildings/facilities).

SP AusNet's revenue proposal did not include any forecast network load driven capex. This exclusion is consistent with the transmission arrangements in Victoria, which differ from those in other regions in the National Electricity Market (NEM). The Australian Energy Market Operator (AEMO) has the role of transmission planner in Victoria and is responsible for augmenting the transmission network. When augmentation is contestable, AEMO procures the augmentation assets by competitive tender, and the assets remain outside of SP AusNet's regulatory asset base (RAB). When augmentation is not contestable and AEMO requires SP AusNet to fund the augmentation, the assets are rolled into SP AusNet's RAB at the end of the relevant regulatory control period.

2.1 Draft decision

We do not accept SP AusNet's total forecast capex of $564.2 million ($2013–14).[178] Instead, we are satisfied that capex of $396.2 million ($2013–14) will reasonably reflect the capex criteria. This is 30 per cent less than SP AusNet's forecast. Table 2.1 shows our draft decision compared with SP AusNet's total forecast capex.

174 NER, clause 6A.6.7(a).
175 NER, clause 6A.5.4.
176 NER, clauses 6A.6.7(d), 6A.6.7(f) and 6A.14.1(2).
177 NER, clause 6A.6.7(c).
178 SP AusNet, *Revenue proposal*, p. 84. The figure of $564.2 million ($2013–14) differs from the $575 million ($2013–14) in Table 4.4 (p. 84) of SP AusNet's revenue proposal. Since submitting its revenue proposal, SP AusNet informed us of errors in the 'major stations replacement' category in Table 4.4 (p. 84) of its revenue proposal.

Table 2.1 AER's draft decision capex and SP AusNet's forecast capex ($ million, 2013–14)

Category	2014–15	2015–16	2016–17	Total	SP AusNet	Difference
Major stations:						
Richmond	31.4	22.2	24.0	77.6	79.5	–1.9
West Melbourne	nil	nil	nil	nil	106.4	–106.4
Other stations	29.9	44.3	58.8	132.9	149.8	–16.9
Total major stations	61.3	66.5	82.7	210.6	335.7	–125.1
Asset replacement	32.9	33.0	37.4	103.3	121.1	–17.7
Safety and compliance	13.9	12.6	11.4	38.0	44.7	–6.8
Non-system	14.9	14.9	14.4	44.3	62.7	–18.4
Total	**123.1**	**127.1**	**146.0**	**396.2**	**564.2**	**–168.0**

Source: SP AusNet, *Revenue proposal*, p. 84; AER analysis. Numbers may not add due to rounding.

2.2 SP AusNet's proposal

Table 2.2 shows a breakdown by category of SP AusNet's total forecast capex of $564.2 million ($2013–14) for the 2014–17 regulatory control period. Table 2.2 also compares the average annual forecast capex ($188.1 million ($2013–14)) with the average annual actual and estimated capex for the 2008–14 regulatory control period ($131.5 million ($2013–14)). On average, SP AusNet's forecast capex is 43 per cent higher per year than its actual and expected capex for the 2008–14 regulatory control period.[179] The most significant change is an average annual increase of 91 per cent in capex for rebuilding and refurbishing major stations.

[179] Forecast capex of $564.2 million is averaged over three years, whereas actual and expected capex of $788.7 million is averaged over six years.

Table 2.2 SP AusNet's forecast capex ($million, 2013–14)

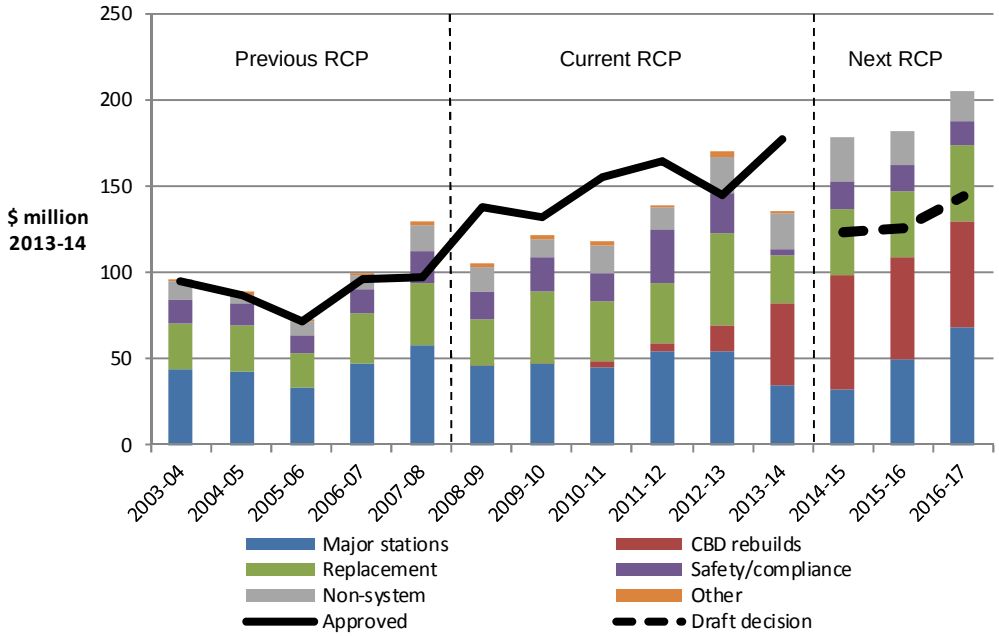
Category	2014–15	2015–16	2016–17	Total	Average 2014–17	Average 2008–14	Difference (%)
Major stations:							
Richmond	32.0	22.8	24.7	79.5			
West Melbourne	32.0	35.5	37.3	106.4			
Other stations	32.1	49.9	67.7	149.8			
Total major stations	97.8	108.2	129.6	335.7	111.9	58.7	91
Asset replacement	38.2	38.8	44.1	121.1	40.4	36.4	11
Safety/compliance	16.3	14.9	13.5	44.7	14.9	18.5	-19
Non-system	25.4	19.4	17.8	62.7	20.9	15.9	31
Total	**177.8**	**181.3**	**205.1**	**564.2**	**188.1**	**131.5**	**43**

Source: SP AusNet, *Revenue proposal*, p. 84. Numbers may not add due to rounding.
Note: Section 4 of SP AusNet's revenue proposal further breaks down these cost categories into components.
Some figures in the table above differ from those in table 4.4 (p. 84) of SP AusNet's revenue proposal. Since submitting its revenue proposal, SP AusNet informed us of errors in the 'major stations replacement' category.

Figure 2.1 compares SP AusNet's actual and expected capex by category for the 2008–14 regulatory control period with its forecast capex for the 2014–17 regulatory control period. Figure 2.1 also shows the capex that we allowed for the 2008–14 regulatory control period and our draft decision on forecast capex for the 2014–17 regulatory control period. Overall, SP AusNet expects it will underspend its capex allowance by $120.5 million in the 2008–14 regulatory control period. Only in one year (2012–13) does SP AusNet expect to overspend its allowance.[180]

[180] The reasons SP AusNet gave for the underspend are set out in its *Revenue proposal*, p. 51.

Figure 2.1 Comparison of SP AusNet's past and forecast capex ($ million, 2013–14)



Source: SP AusNet, *Revenue proposal*, pp. 51 and 84; SP AusNet, *Response to information request AER RP 023, time series opex and capex*, 28 May 2013 [confidential]; AER, *Final decision Victorian transmission network revenue caps 2003–2008*, 11 December 2002, p. 64; AER analysis.
Note: Years 2003–04 to 2011–12 are actual capex, while years 2012–13 and 2013–14 are expected capex.
RCP = regulatory control period.

2.3 AER's assessment approach

We must accept SP AusNet's forecast capex if we are satisfied it reasonably reflects the capex criteria.[181] Otherwise, we must not accept SP AusNet's forecast capex and we must substitute our own.[182] Forecast capex must reflect the efficient costs that a prudent operator in SP AusNet's circumstances would incur, based on a realistic expectation of the demand forecast and cost inputs to achieve the capex objectives (the capex criteria).[183] We must perform our function in a manner that will or is likely to contribute to the achievement of the National Electricity Objective (NEO). We must also have regard to the capex factors and the revenue and pricing principles in the National Electricity Law (NEL).[184]

Further, we must form a view on the forecast capex in total, rather than for individual projects or programs.[185] However, because the total forecast is separated into components, we may assess these components to make our decision on the total amount.

We considered the material that SP AusNet submitted in its revenue proposal and supporting information. Our considerations included an assessment of SP AusNet's asset management framework, its forecasting method, and the key inputs and assumptions underlying its total forecast capex. We engaged with SP AusNet throughout the review process, including a workshop over four days in March 2013 attended by AER staff, SP AusNet, and our technical consultants—Energy Market Consulting associates and Strata Energy Consulting (EMCa).[186] In addition, EMCa presented

181 NER, clause 6A.6.7(c).
182 NER, clauses 6A.6.7(d), 6A.6.7(f) and 6A.14.1(2).
183 NER, clause 6A.6.7(c). The capex objectives are set out in NER, clause 6A.6.7(a).
184 NER, clause 6A.6.7(e); NEL, ss. 7 and 7A.
185 NER, clause 6A.14.1(2).
186 This attachment refers to Energy Market Consulting Associates and Strata Energy Consultants collectively as EMCa.

its initial findings to SP AusNet on 30 May 2013. We have considered the issues that stakeholders raised in submissions to us on SP AusNet's revenue proposal.

We engaged EMCa to provide expert technical advice on SP AusNet's total forecast capex.[187] EMCa's approach included a review of capex in the 2008–14 regulatory control period to inform its advice on SP AusNet's forecast capex for the 2014–17 regulatory control period. To assess forecast capex EMCa used both a top down approach and a bottom up approach. Under the top down approach, EMCa assessed to what extent SP AusNet's management framework was likely to produce capex forecasts that are prudent and efficient. Under the bottom up approach it assessed how SP AusNet applied its asset management framework by reviewing a sample of SP AusNet's forecast capex projects.[188] We used EMCa's review as one element of our assessment of SP AusNet's forecast capex and to develop our substitute forecast. While we sought EMCa's advice and expertise in helping us to understand the proposal from a technical perspective, we are not bound to use its recommended forecasts or adjustments to SP AusNet's forecasts.

We also engaged McGrathNicol to assist us in assessing whether some of SP AusNet's cost allocations were consistent with the approved cost allocation methodology.[189]

Under the NER, we cannot review historical capex in the 2008–14 regulatory control period for prudency and efficiency.[190] SP AusNet's actual capex is rolled into the RAB. Nevertheless, in assessing SP AusNet's total forecast capex we must have regard to the actual and expected capex in the 2008–14 regulatory control period.[191] Given the lumpy and non-recurrent nature of most capex, actual capex in one regulatory control period may not be a good indicator of capex in the next regulatory control period. We still consider, however, reviewing past performance may be useful for assessing forecast capex—for example, examining the prudent deferral of capex projects in the past helps us to determine whether any projects SP AusNet proposed for the 2014–17 regulatory control period could be prudently deferred. Similarly, examining differences in cost estimates and actual costs as projects developed from a concept to completion helps us to assess forecast capex.

2.4 Reasons for draft decision

Overall, we are not satisfied that SP AusNet's proposed total forecast capex reasonably reflects the capex criteria. Generally, we consider SP AusNet has good management policies and procedures. We have some concerns, however, with how SP AusNet applied them in deriving its forecast capex. We consider that in deriving its forecast SP AusNet did not sufficiently allow for its commitment to continuous improvement in delivering its capex program. We analysed SP AusNet's performance over the 2008–14 regulatory control period and found SP AusNet achieved cost savings through prudent re-scoping, optimising the design, and/or deferring certain projects. We consider SP AusNet will make similar cost savings over the 2014–17 regulatory control period and SP AusNet should factor these expected savings into its forecast capex.

In addition, in July 2013 SP AusNet informed us of recent developments which might affect the timing and costs of one of its capex projects, the rebuilding of the West Melbourne terminal station (WMTS).

Accordingly, we substituted a lower forecast capex than SP AusNet's forecast. In doing so we considered:

187 EMCa, *SP AusNet technical review* August 2013.
188 EMCa, *SP AusNet technical review*, August 2013, pp. 8–9, paragraphs 9–12.
189 McGrathNicol, *Review of SP AusNet Expenditure*, [confidential], 19 August 2013.
190 NER, clause 11.59.4.
191 NER, clause 6A.6.7(e)(5).

- we should not allow SP AusNet's forecast capex for the WMTS
- we should make a prudency adjustment and a cost estimation adjustment to site-specific projects and programs of work, to reflect continuous improvements during the 2014–17 regulatory control period that result in lower costs
- we should not approve Strategic IT investment because SP AusNet did not quantify the benefits of that investment.

2.4.1 Asset management framework and forecasting methodology

Asset management

We reviewed SP AusNet's asset management framework and consider SP AusNet has good management policies and procedures. We agree with EMCa that SP AusNet generally undertakes appropriate analysis to establish the need, scope and proposed timing of individual projects and programs of work.[192] We consider, however, that SP AusNet relied too much on its bottom up build of the cost estimates of individual projects without adequately considering the size and scope of its forecast capex at a portfolio level. Consequently, SP AusNet set itself a challenging capex program over the 2014–17 regulatory control period, particularly if it redevelops the WMTS and Richmond terminal station (RTS) in parallel. We also consider SP AusNet did not apply its asset management framework diligently in implementing its strategic IT program. We do not consider SP AusNet adequately demonstrated or quantified the benefits to justify the level of its forecast strategic IT expenditure. Moreover, we consider that in deriving its forecast capex SP AusNet has not adequately accounted for its own commitment to continuous improvement in the delivery of its capex program. We also have some concerns with SP AusNet's cost estimation process. These last two issues are discussed in section 2.4.2.

SP AusNet's asset management approach is set out in section 2.7 and appendix 2A of its revenue proposal. In 2008 SP AusNet became accredited to the British Standards Institution's Publicly Available Specification 55 (PAS 55). SP AusNet submitted 'PAS 55 is the internally recognised standard for the optimised management of physical infrastructure assets to achieve a desired and sustainable outcome.'[193] The accreditation is relevant in the context of SP AusNet's corporate governance and overall asset management framework. SP AusNet submitted its 'prudent decision-making practices are supported by a robust project governance framework which incorporates continuous improvements to ensure projects are delivered at lowest efficient cost'.[194]

EMCa reviewed SP AusNet's asset management policies and procedures, and how SP AusNet applied them. It noted the PAS 55 accreditation is evidence that SP AusNet's asset management framework meets international practice. EMCa found SP AusNet has established an asset management framework that is benchmarked against international good practice standards that includes well-documented:

- policies
- corporate level strategies
- specific asset strategies

192 EMCa, *SP AusNet technical review*, August 2013, p. 12, paragraph 18.
193 SP AusNet, *Revenue proposal*, p. 45.
194 SP AusNet, *Revenue proposal*, p. 70.

- procedures.[195]

While EMCa concluded SP AusNet's asset management framework provides a sound basis for asset management, it considered SP AusNet's application of it could be improved. EMCa stated: [196]

> We take this view because the forecast expenditures rely on a bottom-up aggregation with insufficient attention to the aggregate portfolio forecast that results, and its realism.

In coming to our decision on the overall capex forecast, we agree with EMCa's opinion that SP AusNet gave insufficient attention to the aggregate portfolio level forecast. We have therefore reduced the forecast capex for prudency adjustments (section 2.4.2).

Forecasting method

Overall we consider SP AusNet's method for forecasting capex of individual projects, which is based on a bottom up build of individual project costs to form an initial total forecast capex, to be sound. We also agree with SP AusNet's approach of estimating the cost of asset failures by using historical failure rates to predict future rates. We agree with EMCa, however, that SP AusNet should have applied a similar approach to forecasting its capex.[197] In other words, having determined its capex requirements using its bottom up approach, SP AusNet should have adjusted its forecast by comparing past forecast capex with historical capex.

SP AusNet's forecasting method is set out in section 4.3 of its revenue proposal. Once SP AusNet formed its total forecast capex, it then escalated (or de-escalated) costs to account for changes in input costs. To provide the final forecast capex SP AusNet submitted it applied the expected level of savings delivered across the capex program in the 2014–17 regulatory control period from continuous capital project management and governance improvements (capex efficiency) in that period.[198] It submitted that it assessed individual projects and replacement programs using economic evaluations. It evaluated the expected total cost of asset failures, which is a function of consequence and probability. It also evaluated the costs and benefits of feasible options that addressed the risk of asset failure.[199] Table 2.3 summaries how SP AusNet selects its capex projects.

Table 2.3 SP AusNet's project selection method

Stage	Action
Asset condition and risk modelling	Risks identified through asset condition reports and modelling. Cost of risk quantified taking into account supply risk, safety risk and environmental risk.
Technical options developed and costed	Options to address risk scoped and costed.
Economic evaluation of risk	NPV analysis of costs and benefits of options.
Preferred project	Option with lowest PV cost selected. Detailed design prepared and costed.

Source: SP AusNet, *Revenue proposal*, p. 77.

EMCa considered the method for establishing the projects and programs to be sound and likely to result in an accurate assessment of the level of work required to maintain the asset portfolio on a

195 EMCa, *SP AusNet technical review*, August 2013, pp. 34–5, paragraphs 74–7.
196 EMCa, *SP AusNet technical review*, August 2013, p. 48, paragraph 128.
197 EMCa, *SP AusNet technical review*, August 2013, pp. 36–7, paragraphs 87–91.
198 SP AusNet, *Revenue proposal*, p. 76.
199 SP AusNet, *Revenue proposal*, pp. 76–7.

bottom up basis. EMCa considered, however, such a forecast should also be subject to a rigorous top down assessment. EMCa noted SP AusNet used such an approach to predict future asset failure rates. Similarly, EMCa expected SP AusNet would have applied a top down assessment of historical forecasts versus actual capex to inform its forecast capex. EMCa stated:[200]

> Whilst we observed the use of a feedback loop to calibrate the calculated failure rate predictions we did not observe a similar feedback loop for the calibration of the resulting expenditure forecast. Given that the methodology is well established, we would have expected that a top down calibration against historical forecast vs actual would have been applied.

We agree with EMCa's opinion that a top down calibration is appropriate.

Real cost escalators

We do not consider SP AusNet's proposed real cost escalators reasonably reflect a realistic expectation of the cost inputs required to achieve the opex and capex objectives over the 2014–17 regulatory control period. So, we determined substitute escalators, which reflect our considerations that:

- labour cost forecasts developed by Deloitte Access Economics (DAE) reasonably reflect a realistic expectation of the cost inputs required to achieve the opex and capex objectives
- the inclusion of labour inputs in the material escalators double counts SPA AusNet's forecast labour cost requirements
- SP AusNet should update its forecast inputs for material escalation and exchange rates to reflect the most recent data.

Attachment 1 contains our assessment of SP AusNet's proposed real cost escalators. Table 2.4 shows the impact of our real cost escalators on SP AusNet's forecast capex.

Table 2.4 Impact of the AER's real cost escalators ($ million, 2013–14)

	2014–15	2015–16	2016–17	Total
SP AusNet's proposal	4.7	7.2	10.2	22.1
AER's draft decision	1.5	2.8	4.4	8.6
Difference	3.2	4.4	5.9	13.5

Source: AER analysis. Numbers may not add due to rounding.

2.4.2 Prudency and cost estimation

Prudency

We reduced SP AusNet's forecast capex by $26.4 million to account for prudent changes we expect SP AusNet will make to its capex program during the 2014–17 regulatory control period. We consider that in deriving its forecast capex SP AusNet has not adequately accounted for its own commitment to continuous improvement in delivering its capex program. As projects and work programs progress from being a concept to being fully scoped, a prudent transmission network service provider (TNSP) is likely to find ways to make improvements. For example, a TNSP might change the scope of a project, optimise a project's design and specification, defer certain projects, and find economies of

[200] EMCa, *SP AusNet technical review*, August 2013, p. 37, paragraph 90.

scope by integrating projects. Such continuous improvement will lead to a prudent TNSP revising its cost estimates as projects develop.

We consider SP AusNet's asset management framework (including SP AusNet's commitment to continuous improvement) will lead to SP AusNet finding economies and making prudent changes to certain projects during the 2014–17 regulatory control period. During this period SP AusNet should be able to identify projects for which it would be prudent to change the scope, optimise the design and specification, integrate with other projects, and/or defer projects. As identified by EMCa, such changes occurred during the 2008–14 regulatory control period, so actual capex was less than SP AusNet estimated.[201] Further, EMCa stated:[202]

> At a portfolio level, we consider that there will be considerable opportunities to rationalise this [capex] program, to de-scope certain projects through prudent engineering, to prudently defer projects as more information is gathered and to refine cost estimates. We consider that the evidence from the current RCP outcomes leads to the conclusion that SP AusNet will find that it needs to spend less at a portfolio level than it has currently proposed.

SP AusNet's forecast capex is built up from the cost estimates of its individual projects and programs of work. However, taking account of the continuous improvement to its capex delivery program during the 2014–17 regulatory control period, at a portfolio level we consider SP AusNet's efficient and prudent capex requirements will be less than it has forecast. We consider that in developing a portfolio of capital projects that make up the total capex forecast, SP AusNet should account for these prudent adjustments.

We adopted EMCa's recommended method to determine the prudency adjustments that should be made to SP AusNet's capex forecast. EMCa compared SP AusNet's forecast capex with its historical capex in the 2008–14 regulatory control period. It reviewed 57 projects, of which it classified 14 as site-specific projects and the remaining 43 as programs of work. All of the 14 site-specific projects relate to the 'major stations' capex category, while the programs of work cover the 'asset replacement' and the 'safety, security and compliance' categories. For those projects that had business cases, EMCa found SP AusNet's cost estimates were relatively accurate, with only a 1.4 per cent over-estimation bias.

For those projects and programs without business cases, EMCa found SP AusNet spent on average 11.7 per cent less than it proposed on site-specific projects and 12.6 per cent less on programs of works. In its review of those projects EMCa found the reason for this underspend was a combination of prudent changes to the scope of some projects, optimising the engineering design and specification, and the prudent deferral of some projects.[203] EMCa also found cost estimation bias accounted for 1.4 percentage points of this underspend (discussed in the subsection below). The remaining underspend—10.3 percentage points for site-specific projects and 11.2 percentage points for programs of work—are for prudency gains. Except for the projects for which it recommended specific adjustments (section 2.4.3 of this draft decision) EMCa recommended we reduce SP AusNet's forecast capex for the 2014–17 regulatory control period by the these percentages, which are:

- a 1.4 per cent reduction for projects and programs of work with business cases (other than those that are substantially underway)
- an 11.7 per cent reduction for other site-specific projects

[201] EMCa, *SP AusNet technical review*, August 2013, p. 40, paragraph 100.
[202] EMCa, *SP AusNet technical review*, August 2013, p. 49, paragraph 134.
[203] EMCa, *SP AusNet technical review*, August 2013, pp. 38–41, paragraphs 95–101.

- a 12.6 per cent reduction for other programs of work that are not site-specific.[204]

As in the 2008–14 regulatory control period, SP AusNet's forecast capex for the 2014–17 regulatory control period is built up from SP AusNet's cost estimates for 35 individual projects or programs of work. SP AusNet's total forecast capex includes 16 site-specific projects (plus one project that is an aggregate of existing committed projects that are underway) and 18 programs of work that are not site-specific. Of the site-specific projects, five are well underway (all of these projects have business cases), three other projects have business cases, and eight do not have business cases. None of the 18 programs of work have business cases. We expect SP AusNet will identify prudent changes to its capex program over the course of the 2014–17 regulatory control period similar to the prudent changes it made during the 2008–14 regulatory control period. So at the portfolio level we expect SP AusNet's actual total capex in the 2014–17 regulatory control period will be less than the aggregate of the forecast capex for each of its individual projects and programs of work. We consider these expected changes should be reflected in lower forecast capex than SP AusNet forecast by applying the adjustments that EMCa recommended.

Cost estimation bias

Although we consider SP AusNet's cost estimation process for individual projects and programs of work to be generally sound, we consider there is an over-estimation bias which is likely to flow into SP AusNet's forecast capex. For this reason we reduced SP AusNet's forecast capex by $3.9 million to eliminate the expected over-estimation bias. This over-estimation bias stems from concerns we and EMCa have with certain aspects of SP AusNet's cost estimation process:

- SP AusNet uses a spreadsheet-based approach which we consider may lead to errors. These errors could include SP AusNet applying unit rates inconsistently to different projects and making calculation errors for some projects.
- SP AusNet's labour cost estimates do not appear to be based on competitive outcomes—for example, projects sourced internally are allocated to project delivery teams and competitive quotes are not sought.
- SP AusNet did not provide comparable benchmark information to demonstrate that its labour costs are competitive.[205]

For these reasons, EMCa undertook an ex post analysis of how SP AusNet applied its cost estimation process during the 2008–14 regulatory control period to test the reasonableness of the cost estimates used to derive its forecast capex for the 2014–17 regulatory control period. EMCa found that for projects with business cases (and which were not substantially underway at the commencement of the 2008–14 regulatory control period) SP AusNet's cost estimates were within an acceptable range (compared with the eventual actual costs). However, it found an over-estimation bias of 1.4 per cent. Accordingly, EMCa recommended we reduce SP AusNet's forecast capex by 1.4 per cent (other than for projects that are substantially underway).[206] We accept EMCa's recommendation that the over-estimation bias should be removed from SP AusNet's forecast capex. This 1.4 per cent adjustment is not in addition to the prudency adjustments identified in the previous subsections, but rather it is inherent in those adjustments—for example, of the 11.7 per cent adjustment for site-specific projects, we attribute 1.4 percentage points to cost estimation bias and 10.3 percentage points to prudent changes.

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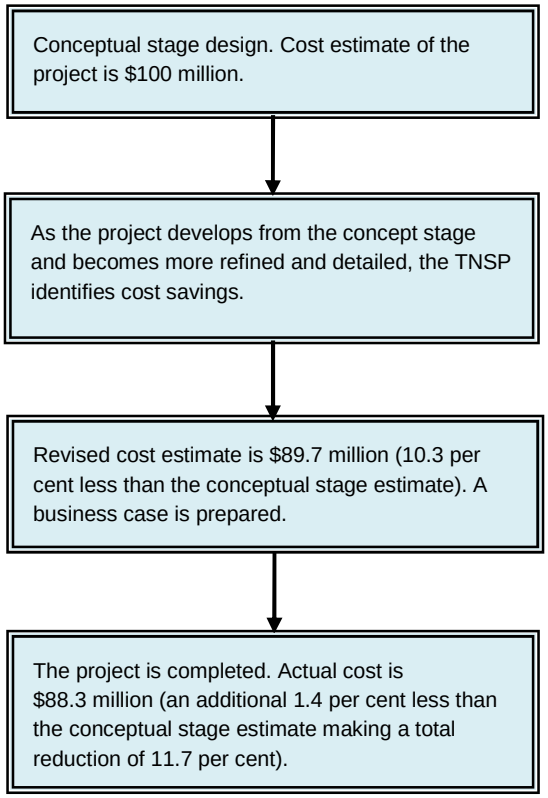
[204] EMCa, *SP AusNet technical review*, August 2013, p. 49, paragraph 135.
[205] EMCa, *SP AusNet technical review*, August 2013, pp. 44–6, paragraphs 115–9.
[206] EMCa, *SP AusNet technical review*, August 2013, p. 49, paragraph 135.

Summary

A simple, hypothetical example of how the 11.7 per cent adjustment is applied to a site-specific project is set out below. In short, as the project progresses from the concept stage to completion, SP AusNet is likely to make prudent changes to the project, resulting in a reduction in the estimated cost of 10.3 per cent (on average). Once the project is substantially underway, because of the over-estimation bias, actual costs are likely to be a further 1.4 per cent lower than the conceptual stage cost estimate.



In summary, we reduced SP AusNet's forecast capex by $30.4 million for the following factors (excluding projects that are substantially underway and projects for which we made specific adjustments):

- a cost estimation adjustment of 1.4 per cent
- a prudency adjustment of 10.3 per cent (11.7 per cent less 1.4 per cent) for site-specific projects
- a prudency adjustment of 11.2 per cent (12.6 per cent less 1.4 per cent) for programs of work.

Table 2.5 shows the effect of each of the prudency and cost estimation factors on SP AusNet's forecast capex.

Table 2.5 Effect of prudency and cost estimation factors on SP AusNet's forecast capex ($ million, 2013–14)

	CBD rebuilds	Major stations	Asset replacement	Safety and compliance	Non-system	Total
SP AusNet forecast capex	185.9	149.8	121.1	44.7	62.7	564.2
Part of capex to which 1.4% factor applies	nil	116.6	120.2	44.7	nil	281.6
Amount of 1.4% adjustment	nil	1.6	1.7	0.6	nil	3.9
Part of capex to which 10.3% factor applies	nil	77.2	nil	nil	nil	77.2
Amount of 10.3% adjustment	nil	8.0	nil	nil	nil	8.0
Part of capex to which 11.2% factor applies	nil	nil	120.2	44.7	nil	165.0
Amount of 11.2% adjustment	nil	nil	13.5	5.0	nil	18.5
Total adjustment	nil	9.6	15.2	5.6	nil	30.4
Adjusted capex	185.9	140.2	105.9	39.1	62.7	533.8

Source: EMCa and AER analysis. Numbers may not add due to rounding.
Note: We made no prudency or cost estimation adjustment to the 'CBD rebuilds' category because the RTS is substantially underway and we allowed no capex for the WMTS.
Most of the non-system capex is IT capex for which we made a specific adjustment, and so we made no adjustment to IT capex to account for the cost estimation and prudency factors.

2.4.3 Major stations rebuilding and refurbishment program

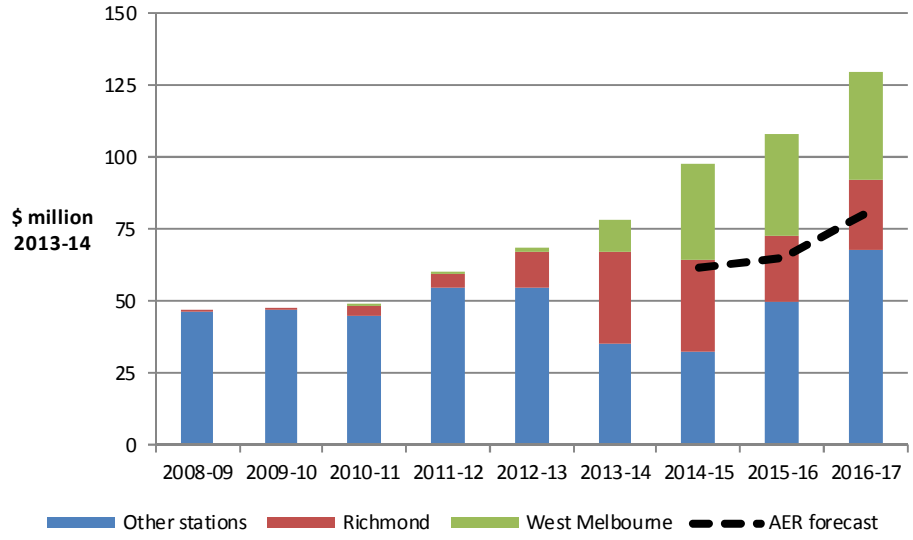
SP AusNet forecast capex of $335.7 million ($2013–14) for its major station rebuilding and refurbishment program. We are not satisfied with how SP AusNet developed this category of its overall capex forecast. Our concerns with this capex category are discussed below. Our substitute forecast is $210.6 million ($2013–14).

Figure 2.2 compares SP AusNet's actual and expected capex for this category for the 2008–14 regulatory control period with its forecast capex for the 2014–17 regulatory control period. It also shows our forecast capex. Included in SP AusNet's forecast capex of $335.7 million ($2013–14) are the 'CBD rebuilds', which are the redevelopment of the RTS ($79.5 million, $2013–14) and the WMTS ($106.4 million, $2013–14).[207] The figure also reflects our draft decision to include forecast capex for the RTS ($77.6 million[208]) and to exclude forecast capex for the WMTS.

[207] SP AusNet, *Revenue proposal*, p. 91. The sum of the two projects ($189 million) in table 4.6 (p. 91) of SP AusNet's proposal differs from the total amount ($185.8 million) in Table 4.4 (p. 84) of SP AusNet's revenue proposal because the individual amounts in Table 4.6 (p. 91) have not had the efficiency factor of 1.44 per cent applied to them (SP AusNet, *Revenue proposal*, p. 83).

[208] The difference between SP AusNet's forecast capex and our substitute capex for the RTS reflects differences between SP AusNet's proposed real cost escalators and ours.

Figure 2.2 SP AusNet's major stations capex ($ million, 2013–14)



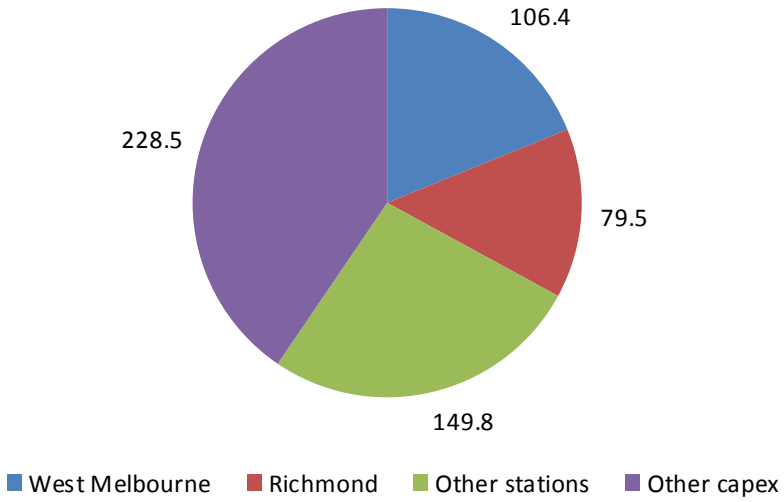
Source: SP AusNet, *Revenue proposal*, p. 84 and p. 91; AER analysis.

Figure 2.2 shows major station capex (including the CBD rebuilds) is forecast to increase significantly from less than $50 million (2013–14) a year in the first three years of 2008–14 to over $125 million in the last year of the 2014–17 regulatory control period. Figure 2.2 also shows the significant contribution of the two CBD rebuilds to the forecast capex. SP AusNet's forecast capex for this cost category is an average increase of 91 per cent per year on actual and expected capex in the 2008–14 regulatory control period. This category, including the rebuilding of the WMTS and RTS, is the main driver behind the forecast increase in total capex. SP AusNet commenced this works program in 2001 and expects to complete most of it by 2030, after which the program will taper off.[209]

As shown in Figure 2.3, SP AusNet's rebuilding and refurbishment program accounts for well over half of its forecast total capex. Together the RTS and WMTS account for 33 per cent of SP AusNet's total forecast capex for all categories.

[209] SP AusNet, *Revenue proposal*, pp. 86–7.

Figure 2.3 SP AusNet's forecast capex for major stations refurbishment and rebuilding, 2014–17 ($ million, 2013–14)



Source: SP AusNet, *Revenue proposal*, p. 84 and p. 91; AER analysis.

The Energy Users Association of Australia (EUAA) submitted SP AusNet could defer part of its replacement capex. It noted SP AusNet relied on AEMO's demand forecasts in 2012 (which showed expected peak demand in 2012–13 at 9 690 MW and an average 1.6 per cent per year increase from 2012–13 to 2021–22)[210] to inform its replacement program.[211] EUAA submitted that on this basis the expected peak demand by the end of the 2014–17 regulatory control period would be 10 325 megawatts (MW). In contrast, it submitted annual demand fell by 17 MW from 2007 to 2012, and, if that trend continued, expected peak demand by the end of the 2014–17 regulatory control period would be 9 342 MW (983 MW or 10 per cent less than the forecast that SP AusNet used). The EUAA submitted this difference was sufficiently large to affect the timing of some of SP AusNet's capital projects. It also submitted the high level of replacement capex, both actual and forecast, is substantially increasing the average age of certain types of assets. For this reason and its submission on demand forecasts, the EUAA questioned whether SP AusNet needed such a high level of replacement capex and considered SP AusNet could defer some capex without putting supply at risk.[212]

Similarly, based on an assessment of remaining asset lives, the Energy Users Coalition of Victoria (EUCV) submitted SP AusNet is likely to have overstated the capex that it needs. Moreover, it submitted SP AusNet could defer some replacement projects until the regulatory control period commencing 2017–18 with little risk to supply.[213]

SP AusNet used demand forecasts, as well as discount rates and asset failure rates, in its sensitivity analysis to test the robustness of the economic evaluations of its projects. It used demand forecasts at terminal stations to inform its decisions to replace certain assets. Specifically, SP AusNet used those demand forecasts to assess the level of load at risk if a transformer fails. This assessment formed part of SP AusNet's economic evaluation of options to replace assets.

210 AEMO, *National electricity forecasting report*, 2012, chapter 8, p. 10.
211 EUAA, *Submission*, p. 11.
212 EUAA, *Submission*, pp. 11–2.
213 EUCV, *Submission*, p. 43.

We consider it reasonable for SP AusNet to use AEMO's demand forecasts in 2012 to inform its replacement capex program that it submitted in its revenue proposal. We also note that in its 2013 report AEMO has revised its demand growth rate to an average of 0.8 per cent (half its forecast demand growth rate in 2012).[214]

Generally, we consider the submissions of the EUAA and EUCV have some merit. SP AusNet set itself a challenging capex program over the 2014–17 regulatory control period, particularly if the RTS and WMTS projects proceed in parallel. Although we made no specific adjustment to SP AusNet's forecast capex to account for AEMO's revised demand forecasts, the prudency adjustment that we made (section 2.4.2) accounts for (among other things) potential prudent deferral of capex owing to changing circumstances.

CBD rebuilds

SP AusNet proposed to rebuild the RTS and WMTS concurrently, expecting to complete both projects in 2017–18.[215] By contrast, five years ago in its revenue proposal for the 2008–14 regulatory control period, SP AusNet expected work on the RTS would be well underway before work commenced on the WMTS. It had forecast the WMTS would be completed two years after the RTS was completed.[216]

While SP AusNet rescheduled the RTS, it did not change the scheduling for the WMTS as envisaged in its original revenue proposal for the 2008–14 regulatory control period (although SP AusNet deferred some work from that period).[217]

Richmond rebuild

We and EMCa agree with SP AusNet's proposed RTS rebuild and its timing, given most of the equipment is at the end of its useful life. We also agree with the use of gas insulated switchgear (GIS), rather than the less expensive air insulated switchgear (AIS), given the site is confined on all sides and replacement with AIS would be extremely difficult and risky.[218]

SP AusNet deferred rebuilding the RTS from the 2008–14 regulatory control period to the 2014–17 regulatory control period, following a revision to the project's scope in 2012. It decided to redevelop the entire 66 kilovolt (kV) switchyard with GIS rather than AIS, because it found the site's foundations could not support the weight of AIS. Moreover, SP AusNet decided to 'improve the site's visual amenity consistent with the expectations of the local community and council'.[219] In our last review we assessed the project and included forecast capex for it in SP AusNet's capex allowance. Following SP AusNet's review in 2012, we also accept the scope of the project needed to change owing to site conditions, which increases costs.

SP AusNet submitted on 16 July 2013 that it will incur additional capex relating to moving assets owned by distributors at the RTS (about $7.6 million). It foreshadowed that it would provide further material that explained and justified the capex early in August. It also submitted that it would include more accurate forecasts of the capex in its revised revenue proposal.[220] Because SP AusNet

214 AEMO, *National electricity forecasting report*, 2013, chapter 6, p. 4.
215 SP AusNet, *Revenue proposal*, pp. 92–4.
216 SP AusNet, *Electricity transmission revenue proposal, 2008–14*, p. 64.
217 SP AusNet proposed to commence redeveloping the 220 kV switchyard and converting it to GIS in the 2008–14 regulatory control period. SP AusNet, *Electricity transmission revenue proposal, 2008–14*, p. 68.
218 EMCa, *SP AusNet technical review*, August 2013, pp. 52–3, paragraphs 148–55.
219 SP AusNet, *Revenue proposal*, pp. 92–3.
220 SP AusNet, *Identified additional costs – SP AusNet electricity transmission revenue proposal 2014–15 to 2016–17*, 16 July 2013.

submitted this material late, we had no time to consider it for our draft decision. We will consider it for our final decision when we receive SP AusNet's revised revenue proposal.

West Melbourne rebuild

Given the age and condition of the WMTS, we agree with SP AusNet that it needs to be rebuilt. However, on 22 July 2013 SP AusNet submitted it may have to materially revise the project timing and costs indicated in its revenue proposal given recent developments. It stated the current proposed solution may be unworkable, because the Linking Melbourne Authority notified SP AusNet it might compulsorily acquire part of the land at the WMTS site for road works. SP AusNet submitted any revisions to the WMTS project would not be available in time for our draft decision.[221]

Given these latest developments and the uncertainty over the timing and costs of the WMTS project, for our draft decision we cannot make a reasonable forecast of capex for the 2014–17 regulatory control period that complies with the requirements of the NEL and NER. Accordingly, we reduced SP AusNet's total forecast capex by the forecast capex for the WMTS ($106.4 million, $2013–14). For our final decision, we will consider any revised proposal for the WMTS that SP AusNet submits in its revised revenue proposal.[222]

Other projects

In addition to the RTS and WMTS rebuilds, SP AusNet forecast total capex of $149.8 million ($2013–14) for major station replacement projects.[223] We do not agree with SP AusNet's forecast capex for one of these projects. We do not consider SP AusNet needs to replace the transformer at the Fisherman's Bend terminal station (FBTS) during the 2014–17 regulatory control period. After also adjusting for the prudency and cost estimation factors (except for the FBTS), our substitute forecast for this category of SP AusNet's forecast capex is $132.9 million ($2013–14).

EMCa reviewed five projects that account for most of SP AusNet's forecast capex in this category:[224]

- Heatherton terminal station—$39.4 million
- Yallourn power station switchyard—$19.7 million
- South Morang terminal station—$30.3 million
- Fisherman's Bend terminal station—$15.6 million
- Hazelwood power station switchyard—$0.9 million

While EMCa supported the first three of these projects in full, it did not support the remaining two as SP AusNet proposed. Given the condition of the transformer at Fisherman's Bend terminal station, EMCa considered SP AusNet could defer replacing it to the 2017–22 regulatory control period without any undue risk. It recommended we reduce the forecast capex for this project by 25 per cent.[225] We agree with EMCa's assessment and reduced SP AusNet's forecast capex from $15.6 million to $11.7 million ($2013–14).

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221 SP AusNet, *Material developments at West Melbourne terminal station*, 22 July 2013.

222 Before SP AusNet submitted this additional material, we were considering SP AusNet's forecast capex of $106.4 million for this project and EMCa's assessment of it. EMCa's assessment is set out in section 5.2.2 and an addendum to its report. EMCa, *SP AusNet technical review*, pp. 53–61, paragraphs 156–92 and pp. 118–21, paragraphs 429–47.

223 SP AusNet, *Revenue proposal*, p. 84.

224 EMCa, *SP AusNet technical review*, August 2013, pp. 62–4, paragraphs 193–219.

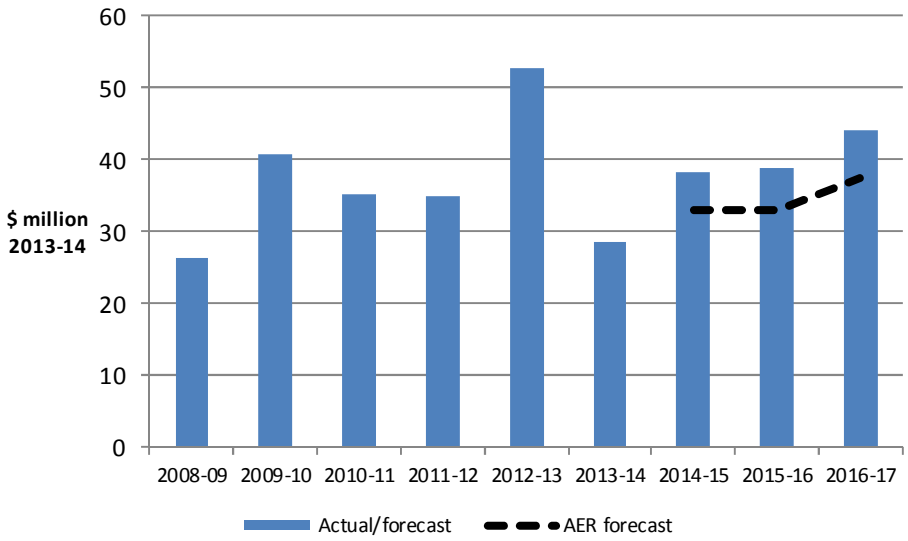
225 EMCa, *SP AusNet technical review*, August 2013, p. 62, paragraphs 194–6.

For the Hazelwood power station switchyard, EMCa recommended we reduce the forecast capex by about 50 per cent for the 2014–17 regulatory control period to $0.5 million ($2013–14).[226] However, notwithstanding EMCa's recommendation we did not reduce SP AusNet's forecast capex of $0.9 million for 2014–17 regulatory control period because this is only a small part of the expected costs of this project and the reduction would be marginal.

2.4.4 Asset replacement program

We do not agree with SP AusNet's forecast total capex of $121.1 million for replacing certain assets, such as lines and plant. By reducing the forecast capex by $17.7 million to account for our real cost escalators (section 2.4.1) and the prudency and cost estimation factors (section 2.4.2), our substitute forecast for this category of SP AusNet's forecast capex is $103.3 million. Figure 2.4 compares SP AusNet's forecast capex with our forecast capex.

Figure 2.4 SP AusNet's asset replacement capex ($ million, 2013–14)



Source: SP AusNet, *Revenue proposal*, p. 51 and p. 84; AER analysis.

SP AusNet's forecast capex for this category is an average annual increase of 11 per cent on actual and expected capex in the 2008–14 regulatory control period. SP AusNet submitted the capex is required to maintain the resilience and reliability of the network, and to address operational or asset failure risk.[227]

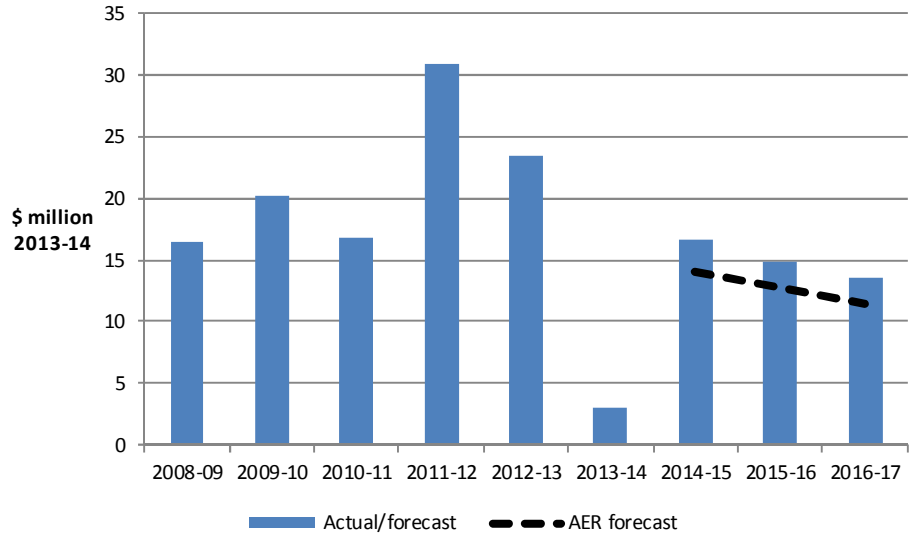
We agree the proposed work is appropriate and we should allow capex for this purpose. However, we reduced the forecast capex by the prudency and cost estimation factors in accordance with our assessment of SP AusNet's forecast capex for its programs of work (section 2.4.2).

2.5 Safety, security and compliance

We do not agree with SP AusNet's forecast total capex of $44.7 million for safety, security and compliance. By reducing the forecast capex by $6.8 million to account for the our real cost escalators (section 2.4.1) and prudency and cost estimation factors (section 2.4.2), our substitute forecast for this category of SP AusNet's forecast capex is $38.0 million. Figure 2.5 compares SP AusNet's forecast capex with our forecast.

226 EMCa, *SP AusNet technical review*, August 2013, pp. 62–3, paragraphs 201–10.
227 SP AusNet, *Revenue proposal*, p. 97.

Figure 2.5 SP AusNet's safety, security and compliance capex ($ million, 2013–14)



Source: SP AusNet, *Revenue proposal*, p. 51 and p. 84; AER analysis.

SP AusNet's forecast total capex of $44.7 million is an average annual decrease of 19 per cent on actual and expected capex in the 2008–14 regulatory control period. SP AusNet submitted the capex is required to comply with various laws, regulations and standards.[228] We consider the proposed work is appropriate and we should allow capex for this purpose. However, we reduced the forecast capex by the prudency and cost estimation factors in accordance with our assessment of SP AusNet's forecast capex for its programs of work (section 2.4.2).

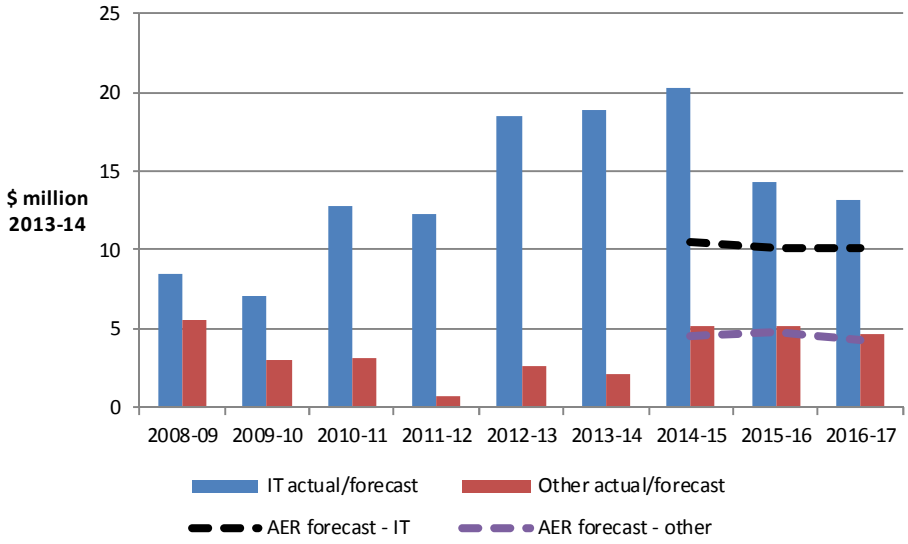
2.5.1 Non-system capex

SP AusNet forecast total capex of $62.7 million for non-system capex.[229] This category includes capex on buildings and property, IT and vehicles.[230] We are not satisfied with how SP AusNet developed this category of its overall capex forecast. Specifically, we do not consider SP AusNet adequately demonstrated and quantified the benefits of its $16.8 million strategic IT investment. For this reason we do not consider SP AusNet justified that component of its forecast IT capex.

Figure 2.6 shows SP AusNet's actual and estimated non-system capex for the 2008–14 regulatory control period, and forecast capex for the 2014–17 regulatory control period. It also shows our substitute total non-system forecast capex of $44.3 million.

228 SP AusNet, *Revenue proposal*, pp. 51 and 99–102.
229 SP AusNet, *Revenue proposal*, p. 84.
230 SP AusNet, *Revenue proposal*, pp. 51 and 102.

Figure 2.6 SP AusNet's non-system capex ($ million, 2013–14)



Source: SP AusNet, *Revenue proposal*, p. 51 and p. 102; AER analysis.

SP AusNet's forecast non-system capex is an average annual increase of 31 per cent on actual and expected capex in the 2008–14 regulatory control period.

Information technology

Most of SP AusNet's forecast non-system capex is for IT. SP AusNet forecast IT capex of $47.9 million ($2013–14), which is 76 per cent of the total forecast non-system capex of $62.7 million. To justify its forecast, SP AusNet submitted:

- the forecast IT capex builds on programs completed in the 2008–14 regulatory control period
- the capex is necessary to maintain IT infrastructure and systems to enable SP AusNet to deliver reliable prescribed transmission services
- its IT program is an integrated program across its three businesses; gas distribution, electricity distribution, and electricity transmission
- the forecast builds on the capex we approved previously in our decisions for electricity and gas distribution.[231]

The EUAA submitted we should closely examine the substantial increase in forecast IT capex.[232] The EUCV submitted SP AusNet had not justified its proposed increase in IT capex.[233]

EMCa reviewed SP AusNet's forecast IT capex, which it considered had a strategic component and a replacement cycle component. It recommended we approve the part of SP AusNet's proposed capex that is replacement IT capex, because that part is consistent with the expected IT asset replacement cycle. EMCa recommended we not approve strategic IT investment capex of $16.8 million, which EMCa considered SP AusNet did not justify. EMCa had the following concerns about SP AusNet's forecast strategic IT capex:

231 SP AusNet, *Revenue proposal*, pp. 103–4.
232 EUAA, *Submission*, p. 13.
233 EUCV, *Submission*, p. 40.

- an insufficient business case to justify the investment
- SP AusNet did not quantify the benefits (other than $695,000 in opex savings)
- SP AusNet did not quantify synergies across SP AusNet
- the shifting allocation (in percentage terms) of IT capex across SP AusNet's three businesses over time.[234]

EMCa stated:

> The proposed strategic investments in IT systems should only be made if there are clear quantifiable benefits that will be derived from the investment. SP AusNet has not adequately identified where these benefits lie.[235]

We agree with EMCa's assessment. SP AusNet should demonstrate and quantify the benefits of its strategic IT investment as part of an efficient and prudent forecast for its transmission business, otherwise:

- customers are underwriting strategic costs without seeing the benefits quantified
- the timeframe for recovering benefits is unknown
- customers bear the risk of benefits not being realised because an ex post analysis may reveal that no benefits were achieved.

We note SP AusNet's submission that its strategic IT capex is part of an enterprise-wide program covering all three of its businesses. We had previously approved similar capex for its electricity distribution and gas distribution businesses. However, for the electricity and gas distribution reviews we reviewed SP AusNet's forecast IT capex only within the scope of each review. We did not decide on the enterprise-wide capex or the amounts allocated to SP AusNet's other businesses.[236] Similarly, for this review, we assessed SP AusNet's forecast capex for its electricity transmission business only, and not its enterprise-wide program, in accordance with the NER. We consider SP AusNet did not quantify sufficient benefits to justify its forecast strategic IT capex (confidential appendix A). A prudent TNSP would not incur the costs of strategic investment without evidence that the benefits outweigh the costs.

Cost allocation

Appendix A (confidential) contains our assessment of how SP AusNet allocates its shared IT capex among its three businesses—electricity transmission, electricity distribution and gas distribution.

Other non-system capex

Excluding IT capex, SP AusNet forecast total non-system capex of $14.9 million ($2013–14). This amount included $0.7 million ($2013–14) for buildings and property and $5.2 million ($2013–14) for motor vehicles. SP AusNet submitted the capex for motor vehicles is required to maintain the existing capability of its fleet. The remaining forecast capex of $9.0 million ($2013–14) is for 'other' capex, including expenditure to procure tools and measurement equipment.[237]

234 EMCa, *SP AusNet technical review*, August 2013, pp. 69–77, paragraphs 241–70.
235 EMCa, *SP AusNet technical review*, August 2013, p. 75, paragraph 265.
236 AER, *Access arrangement draft decision 2013–17 SPI Networks (Gas) part 2 attachments*, September 2012, p. 66.
237 SP AusNet, *Revenue proposal*, p 102.

We agree with SP AusNet that the proposed capex is required to maintain the service capability of these assets so we accept SP AusNet's forecast capex (subject to reductions for cost escalators).

2.6 Revisions

Revision 2.1: Make all necessary amendments to reflect the AER's draft decision on forecast capital expenditure for the 2014–17 regulatory control period as set out in Table 2.1.

3 Operating expenditure

Operating expenditure (opex) refers to the operating, maintenance and other non-capital costs incurred in the provision of prescribed transmission services. It includes labour costs and other non-capital costs. We must accept SP AusNet's proposed forecast opex for the 2014–17 regulatory control period, if satisfied the forecast reasonably reflects the opex criteria set out in the NER.[238] If not satisfied, we must give reasons for not accepting the proposal and estimate the total required opex that reasonably reflects the opex criteria.[239] In doing so, we must have regard to the opex factors.[240]

3.1 Draft decision

We do not accept SP AusNet's proposed total opex of $607.2 million[241] ($2013–14, mid-year)[242] for the 2014–17 regulatory control period because we are not satisfied the proposed total opex forecast reasonably reflects the opex criteria.[243]

Total opex comprises controllable and non-controllable expenditure. We examined SP AusNet's controllable opex proposal using two approaches: a top down assessment and a detailed bottom up technical review.[244] Both controllable opex reviews showed SP AusNet's forecast opex is more than what is reasonably required to reasonably reflect the opex criteria.[245] We also examined non-controllable opex and found elements of the proposal to be more than what is required to reasonably reflect the opex criteria.[246]

We substituted a total opex forecast developed from our preferred forecasting approach: a top down method for controllable opex, but we included step changes when we assessed they were necessary to reflect the opex criteria.[247] Our substitute forecast opex for the 2014–17 regulatory control period is $543.2 million, which is $64.0 million less than SP AusNet proposed (Table 3.1).[248] In annual terms, it is a decrease of 4.5 per cent (real) on the transmission network service provider's (TNSP) annual average opex in the 2008–14 regulatory control period.[249] Figure 3.1 shows our draft decision for total opex and Figure 3.2 shows our draft decision for controllable opex.

238 NER, clause 6A.6.6 (c).
239 NER, clause 6A.6.6 (c).
240 NER, clauses 6A.6.6 (d), 6A.12.1(c) and 6A.14.1(3)(ii).
241 SP AusNet's proposal (table 5.22, p.149) reported total opex as $657.6 million. However, the sum of elements is $658.6 million. This includes amounts for the efficiency benefits sharing scheme (EBSS) carryover ($47.1 million) and equity raising costs (ERC) ($3.4 million) which are excluded from the total reported here.
242 SP AusNet reported its costs based on the Singapore financial year 1 April to 31 March. Unless otherwise specified, all prices in this chapter are in $2013–14 dollars mid-year.
243 NER, clause 6A.6.6 (c).
244 NER, clause 6A.6.6(e)(1).
245 NER, clause 6A.6.6 (c).
246 NER, clause 6A.6.6(e)(1).
247 NER, clause 6A.6.6(e)(3) and (5).
248 SP AusNet proposed total opex of $657.6 million, which included an efficiency benefit payment of $47.1 million and asset works of $28.8 million (SP AusNet, *Revenue proposal*, table 5.22, p.149). This information did not reconcile with other information. SP AusNet subsequently provided revised forecast [SP AusNet, *Response to AER request AER RP 23*, 17 May 2013].
249 Based on total opex excluding the land and easement tax.

Table 3.1 AER's draft decision and SP AusNet's proposed total* opex ($ million, 2013–14)

Year ending 31 March	2014–15	2015–16	2016–17	Total
SP AusNet's proposal*	198.9	204.7	203.6	607.2
AER's draft decision	179.2	183.2	180.8	543.2
Difference	-20.9	-22.6	-22.8	-64.0

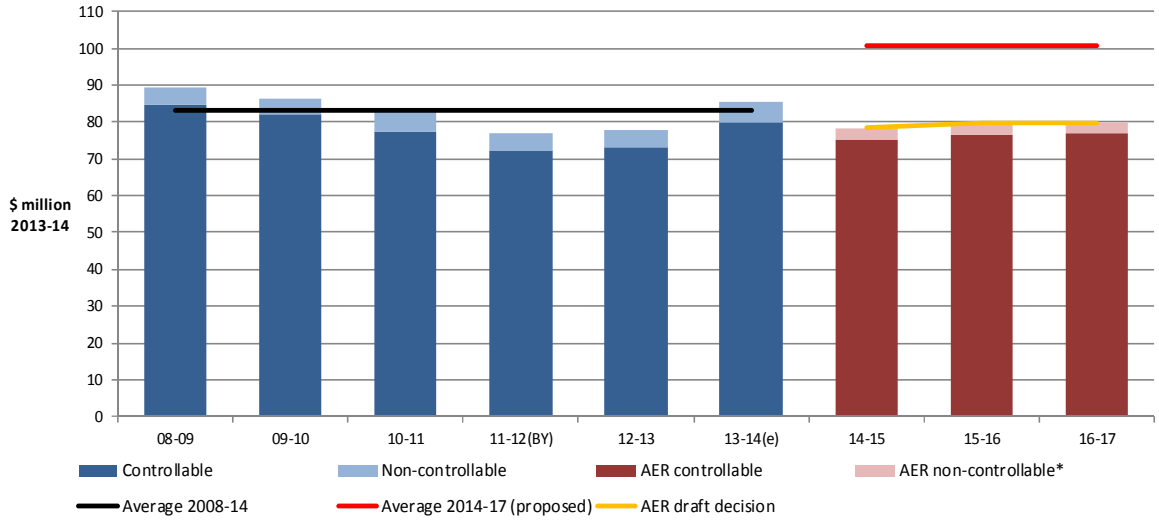
Source: SP AusNet, *Revenue proposal*, Table 5.22 (excludes efficiency payments) p.149; AER analysis.
Note: * Excludes equity raising costs (ERC), which were capitalised and therefore removed from opex consideration.

Table 3.2 AER's draft decision on total opex ($ million, 2013–14)

Year ending 31 March	2014–15	2015–16	2016–17	Total
Base year opex	71.6	71.6	71.6	214.7
Network growth	1.1	1.1	1.1	3.4
Labour escalation	2.5	2.9	3.3	8.8
Step changes	-0.1	1.0	0.7	1.6
Total controllable opex	**75.1**	**76.6**	**76.7**	**228.5**
Self-insurance	1.7	1.7	1.6	5.0
Debt raising costs	1.5	1.5	1.5	4.5
Equity raising costs	0.0	0.0	0.0	0.0
Availability Incentive Scheme rebates	0.0	0.0	0.0	0.0
Subtotal: non controllable excl land tax	3.2	3.2	3.1	9.5
Easement land tax	100.9	103.4	100.9	305.2
Total non-controllable opex	**104.1**	**106.6**	**104.0**	**314.7**
Total opex	**179.2**	**183.2**	**180.8**	**543.2**

Source: AER analysis.
Note: Equity raising costs were capitalised.

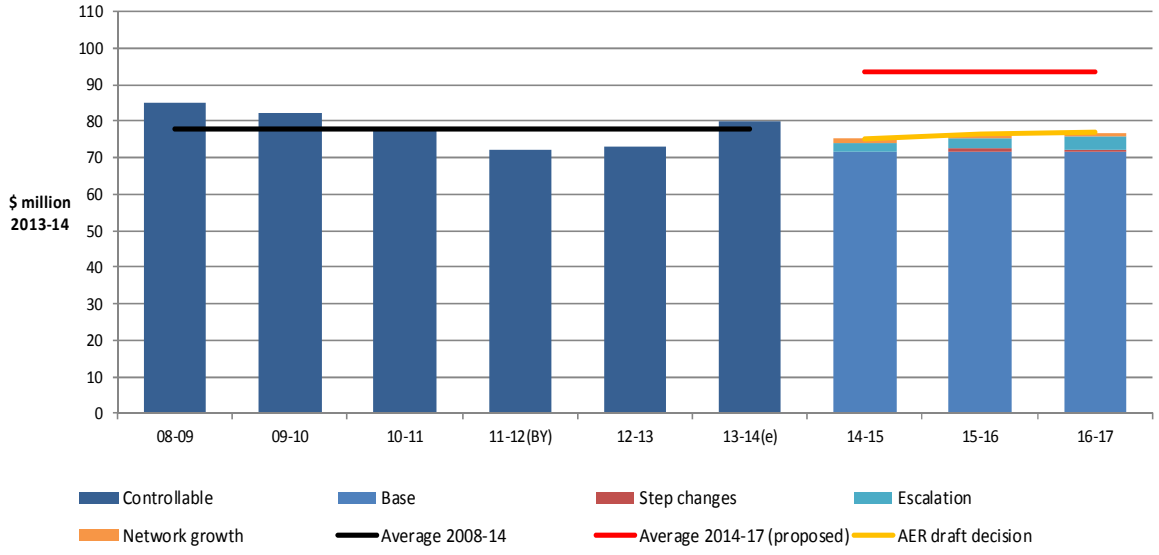
Figure 3.1 AER's draft decision on SP AusNet's total* opex ($ million, 2013–14)



Source: SP AusNet, *Revenue proposal*, Table 5.22 (excludes efficiency payments) p.149; Table 3.5 p.57 and Table 3.6 p.60; SP AusNet, *Response to request AER RP 23*, 17 May 2013 and *Response to request AER RP 09 - revised opex model [confidential]*, 20 May 2013; AER analysis.

Note: * Land and easement tax is excluded from non-controllable opex in this chart because, positive or negative variation (>1% MAR) between the actual tax paid and the forecast approved by us will be recovered/reimbursed via an annual recovery mechanism; the 2013–14 data is a budget estimate; (BY) is the base year. Non-controllable opex includes AIS rebate in 2008–14.

Figure 3.2 AER's draft decision, controllable opex ($ million, 2013-14)



Source: SP AusNet, *Revenue proposal*, Table 5.22 (excludes efficiency payments) p.149; Table 3.5 p.57; SP AusNet, *Response to request AER RP 23*, 17 May 2013 and; SP AusNet, *Response to request AER RP 09 - revised opex model [confidential]*, 20 May 2013; AER analysis.

Note: (e) 2013–14 data is a budget estimate; (BY) is the base year. Step change in 2014-15 is $0.1 million but is shown as a zero in the chart.

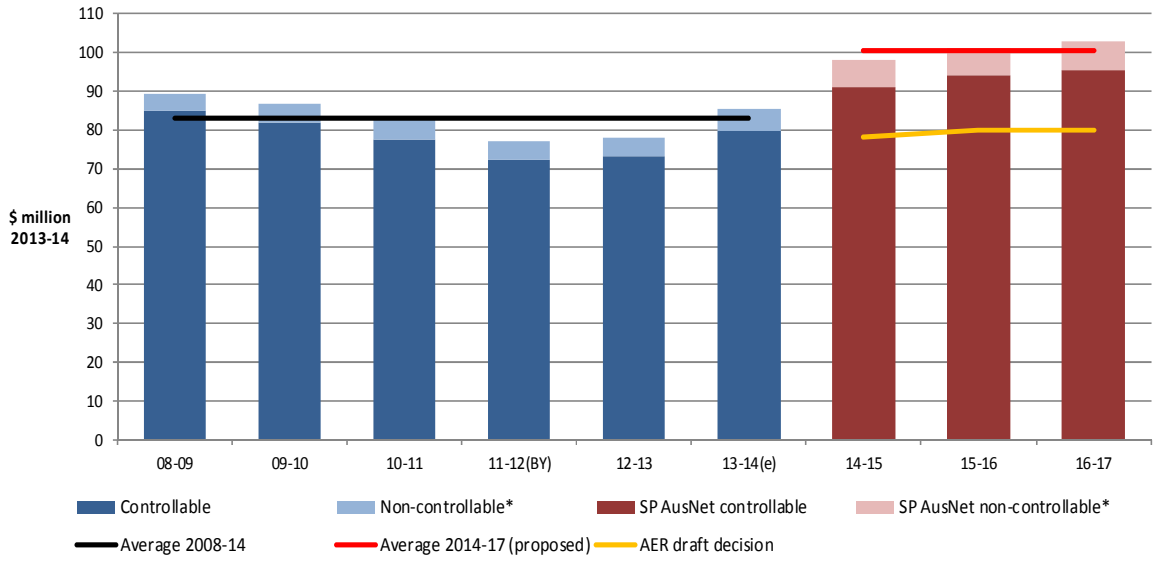
3.2 SP AusNet's proposal

SP AusNet proposed a forecast opex of $607.2 million[250] for the 2014–17 regulatory control period (Figure 3.3) of which $281.0 million is controllable expenditure (Figure 3.4) and $326.2 million[251] is

[250] Excludes equity raising costs.
[251] Excludes equity raising costs.

non-controllable expenditure. About 93 per cent of the non-controllable amount ($305.2 million) comprises a Victorian Government easement land tax liability.

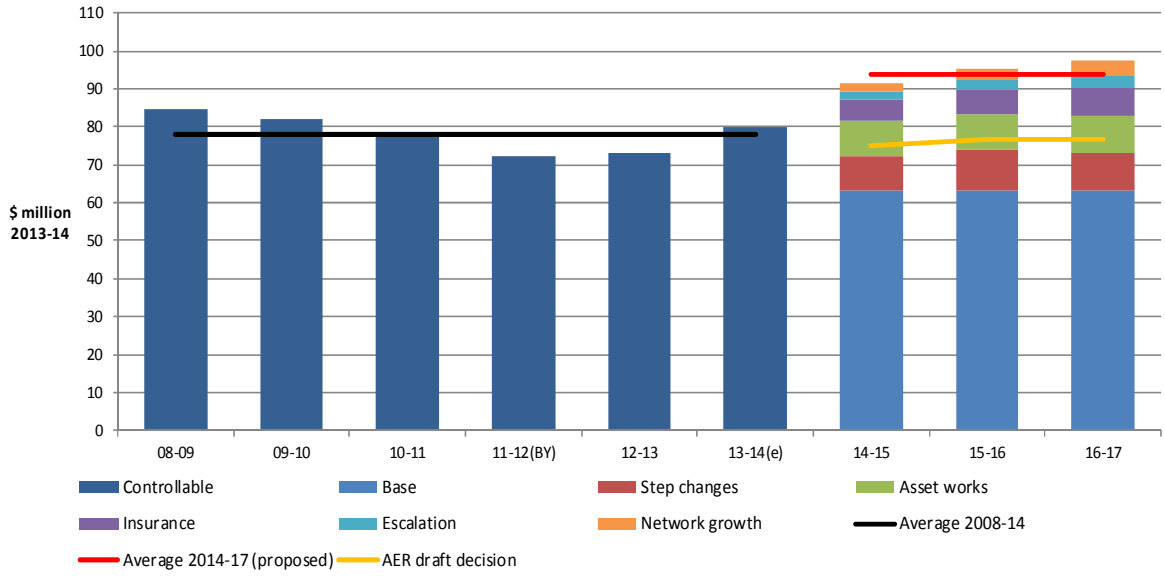
Figure 3.3 SP AusNet's proposed, total* opex ($ million, 2013-14)



Source: SP AusNet, Revenue proposal, Table 5.22 (excludes efficiency payments) p.149; Table 3.5 p.57 and Table 3.6 p.60; SP AusNet, Response to request AER RP 23, 17 May 2013 and *Response to request AER RP 09 - revised opex model [confidential]*, 20 May 2013; AER analysis.

Note: *Land and easement tax is excluded from non-controllable opex in this chart because, positive or negative variation (>1% MAR) between the actual tax paid and the forecast approved by us will be recovered/reimbursed via an annual recovery mechanism; (e) 2013–14 data is a budget estimate; (BY) is the base year.

Figure 3.4 SP AusNet's proposal, controllable opex ($ million, 2013-14)



Source: SP AusNet, *Revenue proposal*, Table 5.22 (excludes efficiency payments) p.149; Table 3.5 p.57; SP AusNet, *Response to request AER RP 23*, 17 May 2013 and; SP AusNet, *Response to request AER RP 09 - Revised opex model [confidential]*, 20 May 2013; AER analysis.

Note: (e) 2013–14 data is a budget estimate; (BY) is the base year.

SP AusNet proposed an average increase of 21.0 per cent on total opex (excluding easement tax), which is largely driven by its forecast increase in controllable opex (Table 3.3). We used annual

averages because we compared regulatory control periods of different lengths. The controllable opex increase is principally driven by: proposed step changes, asset works and insurance forecasts, real labour escalations, and network growth.[252]

Table 3.3 SP AusNet's annual average opex by cost category, 2008–14 and 2014–17 ($ million, 2013–14)

	2008-14	2014–17	Increase $	Increase %
Controllable	78.3	93.7	15.4	19.7
Non–controllable* (excl easement tax)	4.9	7.0	2.1	43.2
Total opex excluding easement tax	83.2	100.7	17.5	21.0

Source: SP AusNet, *Revenue proposal*, Appendix A, Cost information templates.
Note: Excludes equity raising costs. Non-controllable opex includes AIS rebate in 2008–14.

3.2.1 SP AusNet's approach

SP AusNet categorised its opex as either controllable or non-controllable. It divided controllable opex into three main categories: routine maintenance (including insurance), corporate support and asset works but also classified controllable opex as system and non-system costs, and recurrent and non-recurrent costs (Figure 3.5). SP AusNet's non-controllable opex includes self-insurance costs, easement land tax, debt raising costs (DRC), equity raising costs (ERC) and availability incentive scheme (AIS) rebates. SP AusNet also included its efficiency benefits sharing scheme (EBSS) carryover benefits as part of its total opex forecast (as a non-controllable opex item).

Figure 3.5 SP AusNet's opex classification

<table>
<tr><th></th><th>Category</th><th colspan="2">Sub category</th><th>Description</th><th>Method</th></tr>
<tr><td rowspan="8">Total opex</td><td rowspan="5">Controllable</td><td rowspan="4">Non system
System</td><td rowspan="3">Recurrent</td><td>Corporate support</td><td rowspan="2">Base year</td></tr>
<tr><td>Routine maintenance</td></tr>
<tr><td>Insurance</td><td rowspan="7">Bottom up</td></tr>
<tr><td>Non recurrent</td><td>Asset works</td></tr>
<tr><td rowspan="4">Non controllable</td><td colspan="2" rowspan="4">Not applicable</td><td>Self-insurance</td></tr>
<tr><td>Availability incentive scheme</td></tr>
<tr><td>Debt raising costs</td></tr>
<tr><td>Equity raising costs</td></tr>
<tr><td></td><td></td><td colspan="2"></td><td>Easement tax</td></tr>
</table>

Source: AER analysis based on SP AusNet, *Revenue Proposal*, 28 February 2013, pp. 114-115.

SP AusNet used a combination of base year and bottom up methods to forecast opex.[253] Its total controllable opex forecast was a hybrid approach because it combined both base year and bottom up methods at sub–category level. Non-controllable opex was forecast using bottom up techniques.

3.3 AER's assessment approach

We must accept SP AusNet's proposed forecast opex for the 2014–17 regulatory control period, if satisfied the forecast reasonably reflects the opex criteria set out in the NER.[254] If not satisfied, we

252 SP AusNet, *Revenue proposal*, 28 February 2013, p.109.
253 SP AusNet refers to the bottom up forecasts as 'zero based' forecasts. We have used the term 'bottom up' forecast.
254 NER, clause 6A.6.6 (c).

must give reasons for not accepting the proposal and estimate the total required opex that reasonably reflects the opex criteria.[255] In doing so, we must have regard to the opex factors.[256]

We examined key documents, processes and assumptions, and compared historical expenditure to the proposal, to understand the key drivers behind SP AusNet's proposed forecast opex.

We engaged technical experts to review areas of the opex proposal. EMCa[257] reviewed the proposed controllable opex forecast (excluding insurance).[258] AM Actuaries reviewed SP AusNet's insurance and self-insurance forecasts.[259] Deloitte Access Economics assessed labour cost escalation.[260] We also engaged McGrathNicol to assist us in assessing whether some of SP AusNet's cost allocations were consistent with the approved cost allocation methodology.[261]

We sought input directly from stakeholders and details of our engagement process can be found in appendix G.[262]

AER's assessment framework

We typically review processes including governance, strategic planning, risk management, asset management and prioritisation.[263] A favourable governance review will not of itself satisfy us that a TNSP's proposed expenditure reasonably reflects the expenditure criteria. A governance review may, however, indicate a TNSP's likely overall efficiency and areas for further analysis. We engaged EMCa to review SP AusNet's governance processes.

We also assess the methodology the TNSP utilises to derive its total opex expenditure forecasts, including assumptions, inputs and models. Similar to the governance framework review, we will assess whether the TNSP's methodology is a reasonable basis for developing expenditure forecasts that reasonably reflect the NER criteria.[264] We expect TNSPs to justify and explain how its forecasting method results in a prudent and efficient forecast, so if a method (or aspects of it) do not appear reasonable, we will require further justification from the TNSP. If we are not satisfied with further justification, we will adjust the method such that it is a reasonable basis for developing expenditure forecasts that reasonably reflect the NER criteria.[265]

As well as the governance and methodology reviews, we apply both top down and bottom up assessments to the proposed total opex forecast (Figure 3.6). If we are not satisfied that the total forecast reasonably reflects the opex criteria we substitute our own assessment. An important component of both our assessment of the forecast and, if necessary, our substitution of an alternative opex is our use of the revealed costs approach to assessing controllable opex.

255 NER, clauses 6A.6.6 (d), 6A.12.1(c) and 6A.14.1(3)(ii).
256 NER, clause 6A.6.6 (e).
257 This attachment refers to Energy Market Consulting Associates and Strata Energy Consultants collectively as EMCa.
258 NER, clause 6A.6.6 (e) and in particular, (e)(3).
259 AM Actuaries, *Review of SP AusNet (Transmission) insurance premiums and self-insurance - 2014–17*, [confidential], July 2013.
260 NER, clause 6A.6.6 (e) and in particular, (e)(3) and (6)-(8).
261 McGrathNicol, *Review of SP AusNet Expenditure*, [confidential], 19 August 2013.
262 NER, clause 6A.6.6 (e)(2).
263 NER, clauses 6A.6.6(e)(4) and (12).
264 NER, clauses 6A.6.6(c) and (e)(3).
265 NER, clause 6A.6.6(c).

Figure 3.6 AER's assessment framework

			AER			SPA
			Review method		Forecast method	Forecast method
			Top down	Bottom up		
Total opex	Controllable	Corporate (IT, HR, finance)	Base year	Consultant	Base year	Base year
		Maintenance (routine maintenance, system operations, taxes)	Base year	Consultant	Base year	Base year
		Insurance	Base year	Consultant	Base year	Bottom up
		Asset works (repairs, refurbishment, condition monitoring)	Base year	Consultant	Base year	Bottom up
	Non controllable	Self-insurance	n/a	Consultant	Bottom up	Bottom up
		Availability Incentive Scheme		Internal	Bottom up	Bottom up
		Debt raising costs		Internal	Bottom up	Bottom up
		Land & easement tax		Internal	Bottom up	Bottom up
		Equity raising costs		Internal	Bottom up	Bottom up

Source: AER analysis; SP AusNet, *Revenue proposal*, pp. 114-115

Given the importance of the revealed costs approach in our assessment, we explain the following points in more detail in the following section:

- the revealed costs approach for assessing controllable opex
- why we consider the revealed costs approach provides the most reliable tool for assessment of controllable opex
- how this approach fits with the broader incentive arrangements established by the regulatory scheme
- how expert engineering reviews also assist us when making our assessments.

The revealed costs approach for assessing controllable opex

We use the revealed costs approach to assess and determine forecast controllable opex. This is a top-down forecasting method which we also refer to as a 'base-step-trend' approach.

Under this approach, we first select an historical 'base year' of expenditure as the basis for the forecast. We look at the revealed (actual) costs for that base year and we then make adjustments to account for changes in circumstances between the base year and the forecast period. In some instances, the revealed cost approach is not appropriate because historical expenditure in the base year is inefficient and thus revealed costs cannot be expected to form a basis for efficient forecasts. For this reason we will scrutinise the efficiency of proposed base year expenditures and may adjust that base year expenditure.

Base

When choosing a base year, our key consideration is selecting a year which is most reflective of future costs. Typically, we use the revealed costs of the second or third last year in a regulatory control period as the base year. The second last year is the most recent available data at the time of the determination, so likely to best reflect the forecast period. Sometimes, we use the third last year, being the most recent year of available data when the TNSP submitted its regulatory proposal. An important consideration in assessing whether the base year controllable opex is efficient is whether an efficiency sharing mechanism applied during the base year, as this acts as an incentive on the TNSP to actually incur only efficient costs. However, we still scrutinise the efficiency of the base year expenditure and will make adjustments for inefficiencies, or non-recurrent costs, where necessary.

Once we are confident the base year reflects efficient and recurrent ongoing costs, the focus of our assessment is on the magnitude and form of incremental adjustments to be made to the revealed costs forecast so that the forecast reasonably reflects the opex criteria. This is the step and trend part of the approach.

Step

We may also add step changes for other efficient costs not reflected in base opex. Our main consideration for step changes is changes to regulatory obligations. Step changes should relate to a new obligation or some change in its operating environment beyond its control. A step change should not be provided if a TNSP simply wants to do things differently. Our submission guideline provides:[266]

> the operating expenditure forecast must include any necessary adjustments for changes in responsibilities that result from compliance with a new or amended law or licence, or other statutory or regulatory requirements, including a requirement that can be demonstrated to arise directly from a recognised policy, practice or policy generally applicable to similar firms participating in the National Electricity Market.

Trend

We trend forward base opex by accounting for forecast changes to input costs, output growth and productivity improvements (such as economies of scale) in the forecast period.

Testing the proposal

If a TNSP's total opex forecast (or components of the forecasts) is greater than estimates we develop using our assessment techniques and there is no satisfactory explanation for this difference, we may form the view that the TNSP's estimate does not reasonably reflect the expenditure criteria. In this case, we will amend the TNSP's forecast or substitute our own estimate that reasonably reflects the expenditure criteria.[267]

Why we use the revealed costs approach as an assessment tool

We prefer the revealed costs approach to other forecasting methods for controllable opex for many reasons; we discuss these in full in our '*Better regulation: Draft expenditure forecast assessment guideline for electricity transmission*' (August 2013).[268] Throughout this draft decision we note specific instances where the revealed costs approach is likely to provide a better forecast than the alternative proposed by SP AusNet. However, in summary:

- Controllable opex has a recurrent nature and historical costs therefore usually provide a good indicator of future costs. If the actual costs in a base year are efficient then those revealed costs will generally provide a good indicator of future efficient costs. Using revealed costs, we can thus perform a non-intrusive assessment of and determination on opex allowances.
- The revealed cost approach works in tandem with the incentive framework to provide a forecast of efficient recurrent operating expenditure.[269] Where a TNSP has operated under an effective incentive framework, actual past expenditure should be a good indicator of the efficient expenditure the TNSP requires in the future. The ex ante incentive regime provides an incentive to reduce expenditure because TNSPs can retain a portion of cost savings (i.e. by spending less than the AER's allowance) made during the regulatory control period.

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266 AER, *Submission guidelines*, section 4.3.4(c)(3).
267 We assessed non-controllable opex items using a bottom up review.
268 See also: AER, 'Better regulation- expenditure forecast assessment guideline for electricity transmission'- issues paper, December 2012.
269 AER, '*Better regulation-Draft expenditure forecast assessment guideline for electricity transmission*', August 2013, pp.7-9.

- Bottom up builds of costs, by contrast, are disconnected from the incentive framework. Bottom-up builds are difficult to assess as efficient because of the disconnect from actual past expenditure. We provide some examples of this interaction at the end of this chapter (section 3.4.3). Further, efficiencies that may be achieved at portfolio-level may not be reflected in the bottom up aggregation of constituent projects.

- The revealed costs approach mitigates the problem of information asymmetry faced by regulators of natural monopolies. It can help balance the natural tendency for TNSP's to act strategically in relation to information in its control.

How the revealed costs approach interacts with opex incentive schemes

Under the NER's chapter 6A incentive framework, TNSPs are subject to an EBSS and a revenue cap control mechanism. The revenue cap control mechanism means revenue is fixed during the regulatory control period, so the TNSP retains any cost savings. The application of our EBSS provides a continuous incentive for TNSP's to make savings because the TNSP is allowed to retain the benefits of an efficiency gain for five years, irrespective of the year of the regulatory control period in which it made the efficiency gain.[270] The TNSP thus faces a constant incentive to pursue efficiency gains over a regulatory control period. The EBSS allows efficiency benefits to be shared between customers and the TNSP; the TNSP is rewarded approximately 30 per cent of the net present value of the 'saving' and the remaining 70 per cent of the benefits flow through to consumers. The interaction of the EBSS and revealed costs system works, irrespective of whether the underspend was recurrent or non-recurrent efficiency gain.[271]

How expert technical reviews assist our assessment

We engaged expert technical advisors to review the proposed opex from a bottom up technical perspective. The purpose of this part of our assessment is to help us determine whether the proposed expenditure is reasonable in terms of cost, scope and timing. If the consultant advises the forecast is overstated and requires adjustment then we may not be satisfied the proposed expenditure reasonably reflects the opex criteria.

While we seek the consultants' advice and expertise in helping understand the proposal from a technical perspective, we are not bound to use the consultants' forecast or adjustments as a replacement. Instead we take into account all the available relevant information and then use judgement and a broader array of interconnecting information to arrive at a balanced decision. In this we consider the historical expenditure, incentives, risk transfers and economic principles. Importantly, our assessment is on total opex and considers the wider economic context and the regulatory framework.

3.4 Reasons for draft decision

In deciding whether we are satisfied that the proposed opex forecast meets the opex criteria, we must have regard to the opex factors.[272] We took these factors into account as noted throughout this attachment. The most relevant factors with regard to our decision were:

- the information included in or accompanying the revenue proposal[273]

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270 This assumes adjacent regulatory control periods of equal length.

271 The mechanism differs for how the benefits are shared, depending on whether the underspend is a recurrent or non-recurrent efficiency – we show this in an example at the end of this attachment; assumes adjacent regulatory control periods of equal length.

272 NER, clause 6A.6.6(e).

- submissions received when consulting on the revenue proposal[274]
- the analysis undertaken by the AER and analysis undertaken for the AER which is published as part of this draft decision[275]
- benchmark opex an efficient TNSP would incur over the regulatory control period[276]
- the actual and expected opex of the provider during any preceding regulatory control periods[277]
- the relative prices of operating and capital inputs[278]
- the substitution possibilities between opex and capex[279]

3.4.1 Reasons for not accepting the proposal

We tested the proposed expenditure using two primary approaches: a top down and a bottom up analysis. These reviews found that SP AusNet's opex forecast was more than reasonably required to achieve the opex criteria. Our detailed reasons for why we are not reasonably satisfied the proposed forecast reasonably reflects the opex criteria are discussed under the following subheadings:

- Methodology and governance review
- SP AusNet's bottom up forecasts for controllable opex (asset works and insurance)
- SP AusNet's base-step-trend forecast for controllable opex
- Non-controllable opex issues

Two fundamental points are relevant to how we perform our assessment. First, the NER requires us to form a view on forecast total opex, rather than subcomponents such as individual projects and programs.[280] Second, we may have regard to a range of information to determine the reasonableness of a proposal and (if necessary) the appropriate substitute.[281]

Methodology and governance review

SP AusNet proposed using the revealed costs approach to forecast part of its controllable opex however it has proposed setting a proportion of its controllable opex, including that pertaining to asset works and insurance, using a separate bottom up build of costs. In this way, SP AusNet has adopted a hybrid approach in its proposal.

Such information may be useful in assisting us to decide on the potential efficiency of particular projects or programs but this information does not necessarily provide meaningful insights on the efficiency of the TNSP's overall expenditures, or its expenditure relative to other TNSPs and over time.

273 NER, clause 6A.6.6(e)(1).
274 NER, clause 6A.6.6(e)(2).
275 NER, clause 6A.6.6(e)(3).
276 NER, clause 6A.6.6(e)(4).
277 NER, clause 6A.6.6(e)(5).
278 NER, clause 6A.6.6(e)(6).
279 NER, clause 6A.6.6(e)(7).
280 NER, clause 6A.6.6(c).
281 NER, clause 6A.6.6(e).

There are potential inadequacies in an assessment approach that relies in part on a bottom up proposal of controllable costs nominated by a TNSP. In particular:

- Over-forecasting—the sum of constituent projects put forward as a program, or proposed step change, may not reflect portfolio level efficiencies that should be able to be achieved.[282]
- Expenditure re-classification—hybrid models may undermine the incentive properties of the regulatory framework through disaggregation.
- Information asymmetry—TNSPs have, in general, an incentive to act strategically in relation to information in its control.
- Consumers may fund the same works twice

We found specific examples of these forecasting weaknesses in SP AusNet's proposal. The first three points are discussed under the respective sub-headings and the latter is discussed in our asset works review. Consequently, we are not satisfied that the method used by SP AusNet results in forecast opex that reasonably reflect the opex criteria.[283]

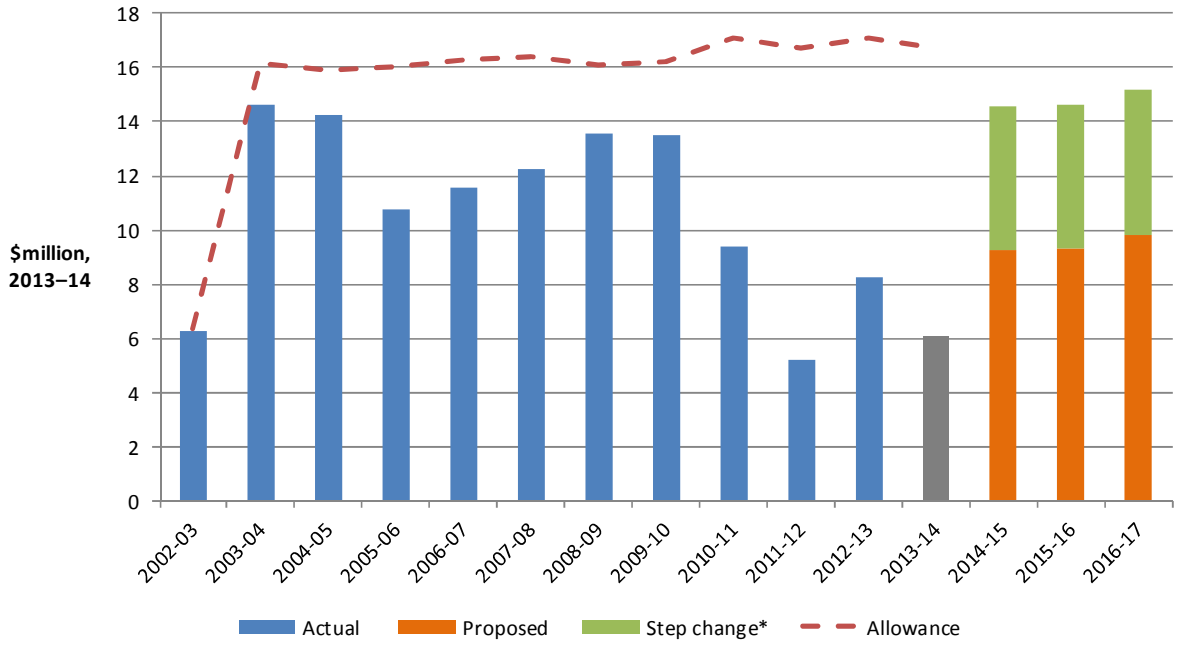
Over-forecasting

Previous statements made in this attachment about comparisons between bottom up builds and the revealed costs approach are particularly relevant here. In addition, we note that in making decisions about forecast opex, clause 6A.6.6(e)(5) provides that the AER must have regard to the actual and expected opex of the TNSP during any preceding regulatory control periods.

SP AusNet has a history of over-forecasting its opex, and in particular its asset works requirements. Figure 3.7 shows that, for every year since 2002–03, SPAusNet achieved well below its allowance (and its allowance was not more than its revenue proposal forecasts). It used the same bottom up method to forecast its requirements for the two previous regulatory control periods (2002–14) as for 2014-17. We are concerned this method has led it to develop over-inflated forecasts for 2014–17.[284]

282 EMCa, *SP AusNet technical review*, August 2013, p. 12, paragraph 19.
283 NER clause 6A.6.6(a).
284 NER, clause 6A.6.6(e)(5).

Figure 3.7 SP AusNet's asset works opex, 2002–17 ($ million, 2013–14)



Source: SP AusNet, *Response to request AER RP 09 - revised opex model [confidential]*, 20 May 2013; SP AusNet, *Regulatory accounts 2012-13*, 1 August 2013; AER analysis.
Note: Grey indicates budget estimate data. Includes both asset works and asset works support costs.

EMCa's review of SP AusNet's method for planning and costing its expenditure program found the method to be reasonable as a bottom up process, but that it lacked a top down portfolio-level assessment of whether SP AusNet could reasonably deliver the whole program that had been built up.[285]

> We have found that, while SP AusNet's asset management framework can provide a sound basis for the management of the assets, the application of the framework when developing expenditure forecasts could be improved. We take this view because the forecast expenditures rely on a bottom up aggregation with insufficient attention to the aggregate portfolio forecast that results, and its realism.

We consider these aggregation issues apply to the asset works proposal because the cost estimates for asset works are developed using a similar project costing methodology as described for capex projects.[286] In its assessment of the opex asset works program, EMCa formed the view that the dominant issue is the scope and scale of programs achieved and it focused on this, although EMCa also found indications from the current regulatory period (2008–14) that unit costs used for opex cost estimation may also be biased towards over-estimation.[287]

EMCa also noted:

> Whilst we have seen evidence that SP AusNet apply top down assessments and adjustments to the bottom up derived expenditure estimates, we have remaining concerns that this has been insufficient. Our concerns are significantly influenced by our review of expenditure outcomes in the current regulatory control period, which in many areas fall well short of what SP AusNet projected in 2007/08.[288]
>
> We suggest that SP AusNet could improve the validity of outcomes from its otherwise sound asset management framework, by addressing these issues, and thereby developing expenditure forecasts that

285 EMCa, *SP AusNet technical review*, August 2013, p. 48, paragraph128.
286 EMCa, *SP AusNet technical review*, August 2013, p. 47, paragraph 126.
287 EMCa, *SP AusNet technical review*, August 2013, p. 47, paragraph 126.
288 EMCa, *SP AusNet technical review*, August 2013, p. 48, paragraph 130.

> better reflect what is likely to be spent. This could be assisted by obtaining a more strategic-level review of expenditure proposals, to strengthen the governance process.[289]

We accept EMCa's findings that the lack of aggregate portfolio-level adjustment to its asset works program of expenditure has led SP AusNet to develop an opex forecast for 2014-17 that does not reflect what is likely to be spent. We are concerned that, SP AusNet repeated a process similar to how it built up its asset works forecast for the 2008–14 regulatory control period, and, given its significant underspend in 2008–14, we consider this approach to be a weakness in the proposal. By contrast to the TNSP's bottom up method, our revealed costs method has the advantage of linking past expenditure to forecast expenditure. For these reasons we cannot be satisfied the proposed method of forecasting has led SP AusNet to develop a total opex forecast that reasonably reflects the efficient costs of achieving the operating expenditure objectives, the costs that a prudent operator in the circumstances of SP AusNet would require to achieve the opex objectives or a realistic expectation of cost inputs.[290]

SP AusNet's reason for 2008-14 budget variance

SP AusNet's proposed operating expenditure forecast for the regulatory period 2008–14 included an amount for asset works expenditure that covered materially the same proposed works as that covered in the current proposal. However, much of that asset works expenditure that had been anticipated was not carried out in the period 2008–14 for various reasons. For example, it was found on further investigation that some of the work that had been forecast for the 2008–14 period was not actually necessary and was therefore deferred, this includes the fact that assets were in better condition than previously thought.[291] Some of the work could not be undertaken as a result of changing priorities and unexpected capital works and was therefore also deferred.[292] In addition, some of the work was able to be carried out in the course of other capital projects and was therefore reclassified as capital expenditure.[293] There were instances where savings may have been made due to better management. For example, savings were achieved through delivering some projects in-house rather than through outsourcing. [294] However, in total, we found that approximately $44 million of work on which the opex allowance for 2008–14 was based was simply not carried out.[295] A further allowance of the same amount is being forecast for that work in the upcoming regulatory control period.

On this matter, EMCa observed:[296]

> It is difficult, given information on the current regulatory control period, to have a high degree of confidence in SP AusNet's asset works program budget for the next regulatory control period. Our view is that the significant variance to budget can be ascribed to one or a combination of factors and we have no evidence to suggest that these factors have materially changed. These include:
>
> That the need was conservatively over-estimated
>
> That the unit costs for the program were conservatively over-estimated
>
> That needs that were reasonably estimated based on information available at the time of proposing for an RCP tend to be later found not to exist, or to be less than has been reasonably estimated
>
> Noting that recurrent expenditure was considerably higher than was proposed, starting from the first year of the current regulatory control period, it is possible that work that was proposed as asset works has in fact

289 EMCa, *SP AusNet technical review*, August 2013, p. 48, paragraph 132.
290 NER, clauses 6A.6.6(c)(1)–(3).
291 SP AusNet, *Revenue proposal*, p. 59 and SP AusNet, *Response to information request EMCa 026*, p. 2.
292 SP AusNet, *Response to information request EMCa 026*, 17 April 2013, p. 2; SP AusNet, *Response to information request AER RP 20*, pp. 1–3.
293 SP AusNet, *Revenue proposal*, p. 59.
294 SP AusNet, *Revenue proposal*, p. 59.
295 Actual expenditure 2008-08 to 2012-13 and SP AusNet's proposed budget estimate in 2013-14.
296 EMCa, *SP AusNet technical review*, August 2013, p. 94, paragraph 329.

> been undertaken under recurrent maintenance, or has been capitalised. In either case, this would be a concern as, unless adjusted for, it leads to "double dipping". Other than in the specific instances referred to above, we have not found further evidence for this, however it would require a regulatory accounting audit of current regulatory control period expenditure to unequivocally rule out this possibility and it indicates a need to focus on expenditure categorisation in regulatory accounting;
>
> That SP AusNet has held over work that reasonably should have been done, in order to obtain the three-pronged benefits of (a) increased profit and increased cash-flow within the regulatory period (since revenue was not reduced for the work not done), (b) an EBSS efficiency benefit and (c) obtaining an allowance for the same work to be undertaken in its proposal for the next regulatory control period.

The revealed costs approach adequately factors in portfolio level efficiencies, likely unit costs and whether work is more likely to be undertaken as recurrent maintence or capital works. This is because it is based on actual historical controllable expenditure.

Expenditure reclassification

A TNSP has discretion over how it spends its opex allowance and how it classifies its expenditure at a sub–category level.

Reclassification of expenditure from one opex sub-category to another, or relabelling projects from one regulatory period to the next can potentially lead to double counting of costs. It can distort comparisons and make trend analysis very difficult under a bottom up build. This can make it more difficult to assess whether expenditure is really necessary from one period to the next, whether the TNSP is acting efficiently and prudently over regulatory control periods and whether expenditure is truly recurrent or non-recurrent.

SP AusNet's asset works forecast is complicated because it encompasses a number of opex sub–categories (controllable and non-controllable), and it reclassified and relabelled some expenditure from 2008–14 in 2014–17, for example:

- Overhead line condition assessment—$3.9 million. SP AusNet included this work in its 'Condition monitoring' asset works project in the 2008–14 regulatory control period.
- Corrosion risk mitigation—$9.5 million. SP AusNet called this work 'Tower corrosion—tower painting' in the 2008–14 regulatory control period.
- Communications infrastructure—$2.6 million. SP AusNet included this work in 'Miscellaneous asset works' in the 2008–14 regulatory control period.

SP AusNet's reclassification makes comparisons over time and over sub–categories difficult, however a total opex approach that involves a top down assessment of controllable opex, such as the revealed costs approach, overcomes these difficulties.

Another concern we have with a bottom up build of controllable opex is (if we accept the method) that TNSP's may be able to achieve benefits through reclassification of expenditure, rather than by pursuing efficient practices and actually realising tangible efficient expenditure gains through actual realised management effort. We found examples of this issue in SP AusNet's proposed forecast. SP AusNet reclassified some base year expenditure to asset works and vice versa and also used self-insurance (non-controllable opex) to manage some asset works expenditure.[297] Our revealed costs method takes a top down focus on total controllable opex, so our method mitigates this problem of disaggregated controllable opex.

[297] Machinery breakdown (below insurance deductible expenses), property damage for urgent maintenance.

Information asymmetry

A TNSP in its revenue proposal must also provide submission templates. These submission templates include information about its proposed opex by category. EMCa was unable to reconcile SP AusNet's submission template with the proposed step changes and found that the step change justifications do not align with the increases in expenditure that are proposed in the opex model template.[298] It sought information from SP AusNet on these apparent discrepancies, and to assist in deciding which forecasts should be considered as the definitive proposed expenditures. In response SP AusNet explained the differences as follows:[299]

> The AER's submission templates provide recurrent maintenance splits on an indicative basis only and therefore caution must be exercised when using the information reported……
>
> As such the forecast maintenance costs in the above categories have been derived by:
>
> 1. Taking the total maintenance cost found in SP AusNet's opex model ..
>
> 2. Allocating the total amount between asset types based on the average activity levels across the current regulatory control period……"

This means the asset breakdown for the proposed expenditure was pro-rated on the current regulatory control period breakdown and cannot be aligned with the proposed step changes.[300] Such information, if reliable, would be useful in assessing changes in the application of opex by asset type, and thus, the alignment of the proposed expenditure with SP AusNet's asset management strategies.[301]

EMCa also sought information on the current regulatory control period expenditures in each of the areas for which a step increase is proposed. Within the timeframe of its primary analysis, SP AusNet did not have the information available and stated that it would require a forensic accounting exercise of around 4 weeks' effort.[302] EMCa commented:[303]

> The fact that SP AusNet had proposed step increases without having information on baseline expenditures raised a degree of doubt that some of the proposed expenditure may already be inherent in baseline opex and that there may be an element of double counting, SP AusNet subsequently provided baseline information on current costs for some, but not all, of the proposed step change categories.

With respect to metrics for the asset works program, EMCa sought the metrics that were proposed in the 2008 determination process for the 2008–14 regulatory control period for the $53.9 million proposed of which only $23.3 million was spent. The metrics show that comparison between the cost variances indicated a tendency towards actual unit costs being lower than those used as the basis for the original estimation. However, SP AusNet was not able to provide program metrics for $36 million of proposed expenditure ($26 million of actual expenditure), either because the programs as originally proposed did not have such metrics or they could not be readily accessed, or because the nature of the programs was such that it is practical or meaningful to quantify volumes of work.[304]

SP AusNet's bottom up forecasts for controllable opex (asset works and insurance)

This section discusses the reasons we are not satisfied the bottom up elements of SP AusNet's hybrid proposal (that is, asset works and insurance) reasonably reflect the opex criteria. We needed to engage with some areas of the proposal in some depth and our analysis on these aspects is set

298 EMCA, *SP AusNet technical review*, August 2013, p. 82, paragraph 286.
299 SP AusNet, *Reponse to EMCa 027*, 23 April 2013.
300 EMCA, *SP AusNet technical review*, August 2013, p. 83, paragraph 287.
301 EMCA, *SP AusNet technical review*, August 2013, p. 83, paragraph 288.
302 SP AusNet, *Response to EMCa 032*, 22 May 2013; EMCA, *SP AusNet technical review*, July 2013, p. 80,paragraph 280.
303 EMCA, *SP AusNet technical review*, August 2013, p. 80, paragraph 280.
304 EMCA, *SP AusNet technical review*, August 2013, p. 91,paragraph 317-319.

out in appendices: Appendix B – Insurance forecast, Appendix D – Step changes and Appendix E – Asset works.[305]

The fact that we may nominally compare the AER's draft decision along the same opex categories as proposed by SP AusNet should not be construed as the AER having specified an allowance for each opex category.

Asset works

We do not accept SP AusNet's proposed asset works forecast of $28.4 million. We assessed asset works in conjunction with three proposed step changes which SP AusNet classified as asset works during 2008–14: line condition assessments ($3.9 million), corrosion risk mitigation ($9.5 million) and communications infrastructure ($2.6 million).

We do not accept the total $44.4 million opex forecast because:

- It does not reasonably reflect the opex criteria, as it does not reasonably reflect the efficient cost of achieving the opex objectives and a realistic expectation of the cost inputs required to achieve those objectives. The proposed expenditure is significantly more than the revealed costs forecast ($16.1 million).[306]
- Under the incentive framework in which SP AusNet operates, if we accept the forecast opex as proposed, Victorian transmission users would not fairly share in the efficiency gains which SP AusNet has achieved, which is contrary to the intent of the EBSS and NER 6A.6.5.
- SP AusNet would retain about 140 per cent of the efficiency benefit, when the intention of the EBSS is to share the benefits with customers at a ratio of 70 per cent to customers and 30 per cent to the business.
- Victorian electricity transmission users would appear to pay twice for the same work, which is contrary to the National Electricity Objective (NEO) and not in the long term interests of users; and
- It is contrary to the Revenue and Pricing Principles because it undermines the incentive framework and does not provide an effective incentive to promote economic efficiency.[307]

Our full consideration of SP AusNet's asset works opex forecast is at appendix E.

Insurance

We do not accept SP AusNet's insurance forecast of $19.0 million because it does not reasonably reflect the opex criteria, as it does not reasonably reflect the efficient cost of achieving the opex objectives and a realistic expectation of the cost inputs required to achieve those objectives. The proposed expenditure is significantly more than the revealed costs forecast ($11.0 million).

We considered and accepted AM Actuaries' advice, that SP AusNet's proposed premium escalation factors are higher than a reasonable expectation of future premium increases for each class of insurance proposed (liability, property and 'other'). SP AusNet increased the share of its insurance costs allocated to its transmission business for some of its insurances but did not provide sufficient

[305] NER, clause 6A.6.6(e)(2).
** This does not include the network growth component.
[307] NEL, ss. 7 and 7A.

evidence to justify this reallocation. Further, it included some insurance costs associated with its un-regulated businesses as well as a fire services levy (FSL) which ceased on 1 July 2013.

Our full consideration of this issue is at appendix B.

SP AusNet's base-step-trend forecast for controllable opex

This section discusses the reasons we are not satisfied the base-step-trend elements of SP AusNet's hybrid proposal reasonably reflect the opex criteria. We discuss the method and basis of our substitute base-step-trend forecast in the next section (section 3.4.2).

Efficient base year costs

SP AusNet proposed 2011–12 as a base year for its maintenance and support opex (but not insurance or asset works). We accept the year as a reference, but do not accept the forecast because SP AusNet included some costs in its base year for accrued provisional liabilities ($0.62 million) that do not represent actual costs incurred in the year. The base-year component of its forecast is therefore overestimated.

Consistent with standard accounting practice, employee entitlements are appropriately recorded in a provisions account as they are accrued. However, we consider a provision should be distinguished from other liabilities because the timing of the future expenditure required in settlement is uncertain. Whether particular expense provisions will materialise in the future may also be uncertain. Given these uncertainties, it is more appropriate to consider such costs as they are incurred, not as liabilities accrued for opex forecasting purposes. For these reasons, provisions accrued in a given year do not represent actual costs incurred in that year and should be removed from base year expenditure. We recognise cash paid out for the expenses to which the provisions relate, by reversing the movements in provisions in the base year. [308]

Proposed step changes

SP AusNet proposed 12 step changes totalling $32.5 million.[309] We accepted one step change as proposed: 'SCADA enhancements—controller simulation training' ($0.9 million). We also accepted that cost increases will occur for the 'transitional arrangements for the AEMC rule change', but that the proposed costs ($2.8 million)[310] were more than reasonably reflect the efficient costs of achieving the opex objectives. We accepted that increased costs are required for the 'Security of critical infrastructure' step change, albeit lower than proposed. These costs are commercial in confidence (CIC) and not reported in the step change totals in this document. We do not accept that the remaining proposed step changes ($28.5 million) are reasonably required adjustments to the base year forecast.[311]

EUCV submitted that many of the aspects of the SP AusNet application in relation to opex which SP AusNet uses to justify an increase in the opex are not new and therefore are not step changes as such.[312]

Our reasons are summarised in Table 3.4 and our full reasoning is in Appendix D.

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308 NER, clause 6A.6.6(e)(5).

309 $32.5 million step changes for increases in opex (12 proposed step changes plus one proposed with no costs). Sp AusNet also proposed a $0.8 million step change decrease (for IT efficiency gains). This is the escalated value of the step change. The value of the step changes for increased opex, without escalation, is $31.2 million.

310 Escalated value.

311 NER, clause 6A.6.6(e)(5).

312 EUCV, *Response to 2013 AER review of Victorian electricity transmission*, May 2013, p.29

Table 3.4 AER's draft decision on proposed step changes ($ million, 2013–14)

Proposed step change	SPA	AER		AER's reasons
Overhead line condition assessment	3.9	0.0	Not accept	See assessment of asset works opex
Corrosion risk mitigation	9.5	0.0	Not accept	See assessment of asset works opex.
AEMO outage planning requirements	0.6	0.0	Not accept	This is a new obligation, but will not require additional staff because the data collection and collation is currently being done, only the interface has changed. Therefore no additional work is required, and in fact, efficiency benefits may result. [313]
Security of critical infrastructure (terminal stations)	4.8	CIC	Accept driver but not cost	This is not a new business requirement and a prudent business should already be undertaking these kinds of operations. It is not clear how the 2003 legislation drives the additional opex. We were unable to be satisfied of the opex already in the base year, but it is likely that security costs are in the base year. No opex savings have been demonstrated for the outsourcing of works. We applied an adjustment for some demonstrated increased costs driven by legislation change (CIC)[314]
Impact of the 'Clean Energy Future' plan on SF6 top ups	2.5	0.0	Not accept	The capex program will reduce SF6 leaks. Use of 2009–10 leaks is not reflective of future state of the network. Cost of $29/t is too high, given recent political announcements and treasury estimates. [315]
Transitional arrangements for the Economic Regulation of NSPs rule change	2.8	1.8	Accept driver but not cost	We accept the requirement for additional opex (incremental to base year) to prepare a transmission regulatory proposal. However, proposed cost exceeds reasonable requirements. We used actual costs in 2012–13 and 2013–14 to estimate future requirements. [316]
Potential transfer of planning responsibilities	n/a	n/a	Not assessed	No opex proposed.
SCADA enhancements – controller simulator training	0.9	0.9	Accept	Good industry practice with benefits of reducing network and operational risk.
SCADA security – Software QA/QC environment	0.6	0.0	Not accept	This is not a new obligation. A prudent TNSP would already have embedded security processes/systems. Security included in capex program.
IT network security	0.8	0.0	Not accept	This is not a new obligation. Prudent TNSP would already have embedded security processes/systems.
Service standard reporting tools – enable market reporting	0.5	0.0	Not accept	This is a new obligation, but no requirement for additional opex. Further, any additional opex offset by cost savings. [317]
Technology innovation program	1.7	0.0	Not accept	This is a self-funding innovation program.
Communications infrastructure	2.6	0.0	Not accept	This step change double counts communications opex which is in the base year. See also asset works. [318]
Other: capex-opex trade-off	**–0.8**	**0.0**	Not accept	SP AusNet proposed a reduction to its opex allowance for efficiency benefits it expects to achieve by spending $16.8 million on strategic IT capex in the same period, 2014–17 (attachment 2). We did not accept the proposed IT capex (total of $47.9 million) because we did not accept the strategic IT costs met the capex criteria. Consistent with our decision on capex, we do not accept SP AusNet's proposed IT efficiency adjustment of $0.8 million because this was for benefits it expected to achieve from the $16.8 million strategic capital expenditure in the same period. [319] [320]
Total step change opex	**31.7**	**2.8**		[This does not include the insurance step change or the security of critical infrastructure step change]

Sources: SP AusNet , *Revenue proposal*, pp. 128–36; EMCa, *SP AusNet technical review*, August 2013, p. 20; AER analysis.
Note: n/a - these step changes do not include escalation. The 'security of critical infrastructure' step change is not included in the total.

313 NER, clause 6A.6.6(e)(5).
314 NER, clause 6A.6.6(e)(5).
315 NER, clause 6A.6.6(e)(5).
316 NER, clause 6A.6.6(e)(5).
317 NER, clause 6A.6.6(e)(5).
318 NER, clause 6A.6.6(e)(5).
319 NER, clause 6A.6.6(e)(5).
320 NER, clause 6A.6.6(e)(6).

Real cost escalation

We do not accept SP AusNet's proposed real cost escalators reasonably reflect a realistic expectation of the cost inputs required to achieve the opex and capex objectives over the 2014–17 regulatory control period. We do not accept SP AusNet's proposed real cost escalators for the reasons set out in Attachment 1.[321]

Network growth

We accept SP AusNet's proposed approach to estimating the network growth escalator over the 2008–14 regulatory control period. It used its Group 3 asset roll in (network augmentation) to estimate a network growth escalator of 3.0 per cent which, reflects the net change in ratio between the regulatory asset base (RAB) and non-regulated asset base.[322] We applied this same approach in our 2008 final decision, and we consider the approach remains reasonable. But, in accepting SP AusNet's approach, we updated SP AusNet's opening RAB value at 1 April 2014 (an input) to reflect our draft decision. So, we revised the network growth escalator from 3.06 per cent to 2.91 per cent.

Economies of scales

SP AusNet applied a scale factor of 70 per cent to routine maintenance and maintenance support and 100 per cent to corporate support costs. We do not consider the routine maintenance and maintenance support scale factors are comparable to the scale factors used by other TNSPs. Further, we do not consider it reasonable to expect corporate support costs to increase one–for–one with network growth as they are largely fixed costs and typically significant economies of scale can be achieved. We benchmarked the routine maintenance, maintenance support and corporate support scale factors against those of other TNSPs. We found that a factor of 95 per cent for routine maintenance, 25 per cent for maintenance support and 10 per cent for corporate support reasonably reflect the costs that a prudent operator in the circumstances of the relevant TNSP would require to achieve the opex objectives.[323] We provided our benchmark scale factors to SP AusNet who subsequently agreed they were appropriate factors for these categories.[324]

Therefore, we consider the proposed forecast for network growth is more than a realistic expectation of the cost inputs required to achieve the opex objectives.[325] The combined effect of changing the network growth escalator and economies of scale factors reduced forecast for network growth to $3.4 million, from the $5.2 million SP AusNet proposed.

SP AusNet's non-controllable opex forecast

We did not accept components of SP AusNet's non-controllable opex forecast.

Self-insurance

We do not accept SP AusNet's proposed self-insurance allowance of $6.4 million because it included elements that do not reflect the opex criteria. In particular, it included a risk margin for risk volatility

321 NER, clauses 6A.6.6(e)(6) and (8).

322 During a regulatory control period, AEMO or a distribution business may request SP AusNet to provide augmentations to the transmission network or distribution connection services. While the assets constructed due to these requests provide prescribed transmission services, the forecast capex associated with these assets sit outside of the revenue determination. This is because SP AusNet is not responsible for the planning of these capex. SP AusNet refers to these services as 'excluded prescribed services', and the assets which provide these services are referred to as 'Group 3' assets. Group 3 assets sit outside of the RAB and are governed by commercial contracts until such time as they are rolled into the RAB, usually at the next revenue reset. (SP AusNet , *Revenue proposal*, p.30.).

323 NER, clauses 6A.6.6(c)(2) and (e)(4).

324 SP AusNet, *response to information request AER RP 54, Group 3 Asset opex escalator*, 5 July 2013, p. 2.

325 NER, clause 6A.6.6(c)(3).

and uncertainty which it based on the Australian Prudential Regulation Authority's reserving requirements. We do not accept the inclusion of this margin reasonably reflects the opex criteria, because we consider reserving requirements are not relevant—the reference standards specifically relate to balance sheet provisioning rather than pricing risk. Further, 75 per cent of the proposed self-insurance allowance is for costs below deductibles (excess) of commercial insurance policies. Average loss forecast is based on historical loss data going back 34 years so it is reasonable to assume it accounts for all potential risk exposure and therefore no additional compensation is warranted. In addition, tower failures (which are fully self-insured) account for the majority of uninsured risk and represent less than a fifth of SP AusNet's total self-insurance risks. Tower failures caused by a major natural disaster incurring costs greater than 1 per cent of the maximum allowed revenue (MAR) (around $5 million) may be eligible to be passed through to consumers which limits SP AusNet's risk exposure. Our full analysis is at Appendix C.

Equity raising costs

In its 2002 revenue cap decision, the ACCC provided a perpetuity allowance for equity raising costs in SP AusNet's opex building block. Consistent with the ACCC's decision, SP AusNet proposed $3.4 million of equity raising costs in its proposed total opex for the 2014–17 regulatory control period. We converted the allowance from perpetuity to an amount for capitalisation in the RAB attachment as discussed in attachment 5.[326] As a result, the equity raising costs associated with SP AusNet's 2003 opening RAB and capex incurred over the 2003–08 regulatory control period will be provided through the regulatory depreciation and return on capital building blocks. Therefore, we will not provide these equity raising costs in the opex building block.[327]

Debt raising costs

We accept SP AusNet's method but updated its proposed benchmark unit rate for debt raising costs to reflect the indicative weighted average cost of capital (WACC). We also updated the benchmark unit rate to reflect the number of 'standard' bond issuances required over the 2014–17 regulatory control period to finance the debt portion of SP AusNet's RAB. This update resulted in a benchmark unit rate for debt raising costs of 9.0 basis points per year. Accordingly, we determined a benchmark debt raising cost allowance of $4.5 million ($2013–14) in total for the 2014–17 regulatory control period.

Availability Incentive Scheme rebate

We do not accept SPAusNet's AIS forecast of $9.9 million. SP AusNet received an opex allowance in our 2008–14 determination to fund this payment to AEMO. Depending on its actual performance (and therefore the payment to AEMO), SP AusNet receives a benefit/penalty by either keeping/paying out the difference. SP AusNet provided a 'placeholder' rebate forecast of $9.9 million because this scheme was under review by AEMO at the time it submitted its proposal. On 16 July, AEMO confirmed its intent to maintain the AIS for 2014–17. During our ongoing engagement with SP AusNet, it informed us that if AEMO does not amend or terminate the scheme, then it would provide an updated forecast to the AER for review. We expect to receive the amended forecast as part of the revised revenue proposal and will review it for the final decision. Therefore, our allowance for this scheme has been set at $0.0 million for this draft decision.

326 NER, clause 6A.6.6(e)(7).

327 Unless otherwise specified, in this chapter, all non-controllable and total opex numbers from SP AusNet's proposal were adjusted to exclude equity raising costs.

3.4.2 AER's substitute forecast

Our substitute forecast has been developed using our preferred approaches. That is, a revealed costs approach to forecasting controllable opex and a bottom up build of non-controllable opex. We adopted SP AusNet's proposed base year for controllable opex, applied step changes and trended for network growth and real increases for labour costs. Our reasons for using this method for controllable opex were discussed in our assessment approach (section 3.3). Our adjustments to the non-controllable opex forecast are set out later in this section. Table 3.5 compares our draft decision with SP AusNet's proposal.

Table 3.5 AER's draft decision and SP AusNet's proposal, total opex ($ million, 2013–14)

	SP AusNet	AER	Difference	Per cent
Controllable				
Base year	189.2	187.6	-1.6	-1
Efficiency adjustment	-0.8	0.0	0.8	-100
Asset works	28.4	16.1	-12.3	-43
Insurance	19.1	11.0	-8.0	-42
Subtotal: controllable opex	**235.9**	**214.7**	**-21.2**	**-9**
Step changes	31.2	2.9	-28.3	-91
Network growth	5.2	3.4	-1.8	-35
Labour escalation	8.8	7.5	-1.3	-15
Total controllable opex	**281.0**	**228.5**	**-52.6**	**-19**
Non-controllable				
Self-insurance	6.4	5.0	-1.4	-22
Availability incentive scheme	9.9	0.0	-9.9	-100
Debt raising costs	4.7	4.5	-0.2	-4
Equity raising costs	3.4	n/a	-3.4	-100
Land and easement tax	305.2	305.2	0.0	0
Total non-controllable	**329.6**	**314.7**	**-14.9**	**-5**
Total opex	**610.6**	**543.2**	**-67.5**	**-11**
Total opex (excl equity raising costs)	**607.2**	**543.2**	**-64.1**	**-11**

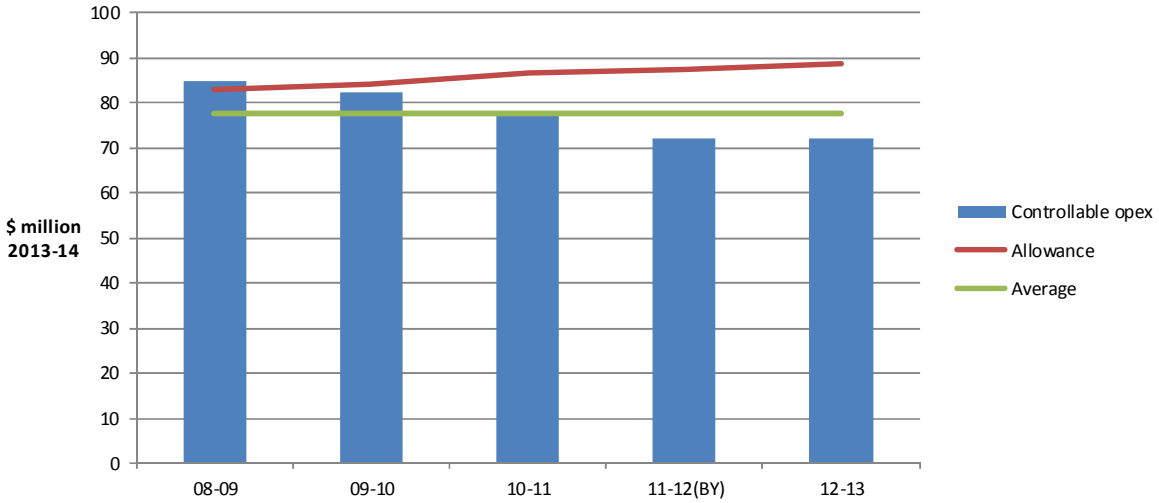
Source: SP AusNet, *Revenue proposal*, p.149; SP AusNet, *Response to request AER RP 09 - revised opex model [confidential]*, 20 May 2013; AER analysis.
Note: *AER base year includes asset works and insurance. Step changes are not escalated. n/a not applicable, ERC was capitalised.

Controllable opex

Selection of base year

We reviewed whether the actual expenditure in the proposed base year (2011–12) reflects efficient and prudent costs for total controllable opex and we are satisfied it does. Controllable opex in 201112 is $72.2 million, which is less than the average for the period. However, it is not the year with greatest variance from the average of 2008-09 to 2012-13 nor the year with the largest underspend from allowance (Figure 3.8).

Figure 3.8 SP AusNet's controllable opex, actual expenditure, average and allowance, 2008–13 ($ million, 2013–14)



Source: SP AusNet, 2012-13 regulatory accounts; SP AusNet, *Response to request AER RP 09 - revised opex model [confidential]*, 20 May 2013; AER analysis.
Note: This analysis is based on actual data it does not include 2013-14 which is a budget estimate. BY = base year.

Base year adjustments

We adjusted the 2011–12 base year financial information to remove movements in provisional accounts because these do not represent actual costs in the base year. We applied a decrement of $0.62 million to SP AusNet's base year opex to reverse the movement in provisions for future employee entitlements.

SP AusNet proposed the replacement of a number of tower steel members in asset works, which EMCa found were replaced under recurrent maintenance in 2008–13. EMCa estimated an adjustment of $0.6 million to the base year is required to remove duplication between SP AusNet's bottom up asset works proposal and its base year forecast (forecast reduction of $1.8 million). However, our revealed costs forecast for total controllable opex does not require an adjustment for reclassification at sub–category level.

Step changes

We accept $2.8 million of step changes to the base-step-trend forecast (Table 3.6). Our full reasoning is at Appendix D (Opex–step changes) and Appendix B (Insurance forecast).

Table 3.6 AER's step changes, unescalated ($ million, 2013-14)

Step change	SPA	AER	Reason
SCADA enhancements–controller simulator training	0.9	0.9	SP AusNet proposed new IT opex totalling $0.9 million for the development of a new training system for network controllers. Currently, it trains staff using the live network under supervised controls but as part of its capex proposal, it proposed to develop a controller simulation training program (which we accept meets the capex objectives).[328] This step change is for additional 1.5 full time equivalent staff to develop and build test scenarios in relation to that capex program. We accept this step change because it represents good industry practice and reflects what many other TNSPs are implementing. We consider the reduction in risk from the program's development directly benefits consumers. EMCa recommended accepting the step change, noting the program is good industry practice and used by other TNSPs internationally. It considered the program should improve system operational management and reduce system operational risk.[329] [330]
Transitional arrangements for the Economic Regulation of NSPs rule change	2.8	1.8	SP AusNet proposed a $2.8 million step change for the transitional arrangements for the AEMC rule change for the economic regulation of network service providers.[331] We do not accept this step change as proposed, because we consider SP AusNet's proposed opex is more than reasonably required to meet the opex objectives. We do, however, accept that a one-off (non-recurrent) step change of $1.9 million is required. We used actual costs in 2012–13 and 2013–14 to estimate the cost of preparing a future transmission regulatory proposal.
Security of critical infrastructure	4.8	CIC	We accept the counter terrorism exercise component is driven by an external legislative requirement—the implementation of the Victorian Government's Emergency Management Reform white paper and the Terrorism (Community Protection) Act 2003 which will result in increased costs.
Total		2.8	

Source: AER analysis. See appendix B and D for full details.
Note: Does not include the net insurance step change (appendix B). Total does not include the 'security of critical infrastructure' step change. Totals may not add due to rounding. CIC = commercial in confidence.

Additional step changes recommended by EMCa

SP AusNet has invested significant capital expenditure on strategic IT during 2003–2013 and EMCa consider the opex benefits for this should be evident in 2014–17. EUAA also addressed this issue in its submission. EUAA commented that:[332]

> SP AusNet has proposed $2.8 million more operating expenditure to support ICT capital expenditure. While in the broader context this is not a significant amount, it needs to be seen as part of SP AusNet's substantial claim for much higher capital and operating expenditure in ICT than it has incurred historically. We are not in a position to assess this expenditure claim but would like to be convinced that such large additional amounts of IT expenditure are essential, rather than nice to have.
>
> In addition, where the additional expenditure results in greater functionality and efficiency, we would have expected to see off-setting reductions in expenditure elsewhere. However SP AusNet has only identified reductions of $0.8 million in expenditure. This seems inadequate.

EMCa's advice on this matter was:[333]

328 NER, clause 6A.6.7(a).
329 EMCa, *SP AusNet technical review*, August 2013, p.84, paragraph 303.
330 NER, clause 6A.6.6(e)(6).
331 NER, clause 11.59.3, version 54.
332 EUAA, *Submission on SPI PowerNet Ltd Electricity Transmission Revenue Proposal for 2014–17*, May 2013, p.14.
333 EMCa, *Technical review on SP AusNet's revenue proposal*, August 2013, p. 97, paragraphs 340–1.

> an estimate of the efficient level of opex, as is required under the NER, should take into account the continuation of efficiency improvements that can reasonably be expected. SP AusNet is forecasting an efficiency gain of 1.44% from improvement due to capital project management capability and governance. [RP P21 & P83].
>
> This would represent approximately a 2.6 per cent reduction in SP AusNet's proposed controllable opex, and we consider this to be a reasonable proxy for continuous improvements generally.

We accept that EMCa's review considers the issue of capturing the benefits of strategic capital investments. The question for us is whether some of these benefits have already been captured in the base year expenditure and going forward will be shared with customers. On balance we will not make an adjustment for the benefits we expect in the future for the past capex investments.

Real cost escalation

We applied individual real cost escalators for each year of the 2004–17 regulatory control period. Our application differs from SP AusNet's proposal which applied an average of the forecast real cost escalators in each year. We consider our approach more reliably reflects the year on year movements in real cost escalation over the forecast. Our approach is consistent with SP AusNet's approach for its proposed capex forecast. This adjustment reduced SP AusNet's total opex requirements by $1.6 million (Table 3.7).

Table 3.7 Impact of AER's real cost escalation on opex ($ million, 2013–14)

	2014–15	2015–16	2016–17	Total
Reduction from applying AER escalators	0.2	0.6	0.8	1.6

Source: AER analysis.

Network growth

We accept SP AusNet's proposed approach for estimating the network growth escalator over the 2008–14 regulatory control period, however we updated SP AusNet's opening RAB value as at 1 April 2014 (an input) to reflect our draft decision. Therefore the network growth factor is revised from 3.06 per cent to 2.91 per cent.

EMCa provided an alternative method to estimate the network growth factor by using the ratio of the Group 3 asset roll in value and the replacement value of the RAB. We accepted SP AusNet's method but note the outcome of the two approaches is broadly similar.[334]

Economies of scale factors

While we accept SP AusNet's method for escalating its network growth, we do not accept the proposed scale factors have led to a realistic forecast. On this matter, EUAA commented:[335]

> SP AusNet has proposed a proportional increase in opex (group three assets as a proportion of RAB) reduced by 30 per cent for economies of scale. We are not convinced by this, considering that these additional assets are new and as such may have a much lower opex requirement than existing assets. Accordingly we call on the AER to conduct a bottom up assessment of likely opex for these additional assets.

SP AusNet applied a scale factor of 70 per cent to routine maintenance and maintenance support and 100 per cent to corporate support costs. We do not consider the proposed scale factors reasonably

334 EMCa, *Technical review on SP AusNet's revenue proposal*, August 2013, p. 94, paragraph 345.
335 EUAA, *Submission on SPI PowerNet Ltd Electricity Transmission Revenue Proposal for 2014–17*, May 2013, p.14; NER, 6A.6.6(e)(2).

reflect the costs that a prudent operator in the circumstances of the relevant TNSP would require to achieve the opex objectives.[336] We benchmarked the approved scale factors for similar categories of recent transmission determinations (Table 3.8).[337] We consider that these scale factors reasonably reflect the costs that a prudent operator in the circumstances of the relevant TNSP would require to achieve the opex objectives.[338] We provided our benchmark scale factors to SP AusNet who subsequently agreed they were appropriate factors for these categories.[339]

The combined effect of changing the network growth escalator and economies of scale factors reduced forecast for network growth to $3.4 million, from the $5.2 million SP AusNet proposed.

Table 3.8 AER's scale factors (per cent)

SP AusNet 'Group 3' opex category	SP AusNet proposed	AER benchmark
Routine maintenance	70	95
Routine maintenance support	70	25
Corporate support	100	10
Insurance		100

Source: SP AusNet, *Response to request AER RP 09 - revised opex model [confidential]*, 20 May 2013; AER analysis.

Non controllable opex

Self-insurance

Our substitute allowance for self-insurance ($5.0 million) is effectively, SP AusNet's average expected loss forecast which its actuary derived (Aon). We adjusted SP AusNet's proposed forecast ($6.4 million) to remove the risk margin, and risk exposure for risks compensated through its opex allowance or not appropriate. Our full reasoning and consideration of the issues raised in our review of self-insurance is set out in Appendix C.

Debt raising costs

We accept SP AusNet's proposed method for determining its benchmark debt raising costs allowance. Debt raising costs are transaction costs incurred each time that the TNSP raises or refinances debt. These costs may include underwriting fees, legal fees, company credit rating fees and other transaction costs. They are a legitimate expense for a prudent service provider acting efficiently and an allowance should be provided to recover these costs.

SP AusNet proposed a total debt raising cost allowance of $4.7 million ($2013–14) over the 2014–17 regulatory control period.[340] It based this allowance on the benchmark unit rate for debt raising costs used in our recent final decisions for the Powerlink, ElectraNet and Murraylink electricity transmission networks.[341]

336 NER, clauses 6A.6.6(c)(2) and (e)(4).
337 AER, Final decision: Powerlink transmission determination 2012–17, April 2012, p.162; AER, Draft decision: TransGrid transmission determination 2009–10 to 2013–14, October 2008, pp.128–129; ElectraNet, Revenue proposal 2013–18, May 2012, p.101; NER, clause 6A.6.6(e)(4).
338 NER, clauses 6A.6.6(c)(2) and (e)(4).
339 SP AusNet, *Response to information request AER RP 54, Group 3 Asset opex escalator*, 5 July 2013, p. 2.
340 SP AusNet, *Revenue proposal*, p.145.
341 Further details on our approach for calculating debt raising costs are outlined in our final decision for Powerlink. AER, *Final decision, Powerlink transmission determination 2012–13 to 2016–17*, April 2012; AER, *Final decision, ElectraNet*

To decide on the total benchmark debt raising cost allowance, we rely on a method that the Allen Consulting Group (ACG) developed:[342]

- First, a benchmark unit rate for debt raising costs is calculated. This unite rate, expressed in basis points per year, is determined based on estimates of:
  - the transaction costs that a prudent service provider, acting efficiently, would incur in raising debt[343]
  - the expected timing and frequency of these transaction costs[344]
  - the number of 'standard' bond issuances required over the regulatory control period to finance the benchmark portion of the TNSP's RAB.[345]
- Second, the debt raising cost allowance is determined in the post-tax revenue model as the product of the benchmark unit rate and the debt portion of the TNSP's RAB.[346]

We periodically updated the inputs into the ACG method with more recent market data. Specifically, we updated the value of expected transaction costs, the assumed standard bond size, and the weighted average cost of capital (WACC) applied in deriving the benchmark unit rate.[347] Further, we will update the benchmark debt raising cost allowance for our final decision based on the debt component of the RAB and WACC determined at the time.

For this draft decision, we updated SP AusNet's proposed benchmark unit rate for debt raising costs to reflect the indicative WACC. We also updated the benchmark unit rate to reflect the number of 'standard' bond issuances required over the 2014–17 regulatory control period to finance the debt portion of SP AusNet's RAB. This update resulted in a benchmark unit rate for debt raising costs of 9.0 basis points per year. Accordingly, we determined a benchmark debt raising cost allowances of $4.5 million ($2013–14) for SP AusNet (Table 3.9).

Table 3.9 AER's draft decision on debt raising costs ($ million, 2013–14)

Unit rate	2014–15	2015–16	2016–17	Total
9.0 basis points per year	1.5	1.5	1.5	4.5

Source: AER analysis.

We consider this method estimates debt raising costs a prudent service provider, acting efficiently would incur. Most notably, our approach:

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transmission determination 2013–14 to 2017–18, April 2013; AER, *Final decision, Murraylink transmission determination 2013–14 to 2017–18*, April 2013.

342 ACG, *Debt and equity raising transaction costs—Final report*, December 2004.

343 These transaction costs include gross underwriting fees; legal and roadshow costs; maintenance of a company credit rating; establishment of an issuance credit rating; and registry fees (both at commencement and ongoing).

344 The ACG method considers transaction costs can be incurred up-front or annually, and per debt issuance or per company. We amortise up-front costs (for example, underwriting fees) using the relevant nominal vanilla weighted average cost of capital (WACC) over a 10 year amortisation period.

345 We assume that the size of a 'standard' bond issue is currently $250 million. The standard bond issue is relevant to transaction costs that are independent of the number of debt issuances (for example, maintaining a company credit rating). In particular, the benchmark unit rate is inversely related to the number of bond issuances required by a TNSP over the regulatory control period. That is, as the number of bond issuances increases, the benchmark unit rate (for debt raising costs) per issuance will decrease.

346 The debt portion of the TNSPs RAB is calculated based on the benchmark gearing ratio determined in the WACC review. That is, for the purpose of this draft decision, the debt component of the RAB is assumed to equal 60 per cent of the total RAB.

347 The revised transaction costs and standard bond size are consistent with those determined in our final decision for Powerlink. These updates reflect analysis undertaken by PwC, which was commissioned by Powerlink. PwC, *Powerlink Queensland 2013–17 revenue proposal: Appendix K—Debt and equity raising costs*, April 2011.

- identifies the types of transaction costs that a prudent service provider acting efficiently would incur in raising debt,
- quantifies the level of those costs (accounting for the circumstances of the TNSP) with reference to market rates for the relevant services.

Availability Incentive Scheme rebates

SP AusNet is currently subject to the Availability Incentive Scheme (AIS). Under this scheme, SP AusNet must pay rebates to AEMO for outages on its network. The rebates paid depend on the particular asset that is out of service and the time when the outage occurs (for example off–peak, shoulder, peak). On the basis that this scheme was under review by AEMO, SP AusNet provided a 'placeholder' rebate forecast in its revenue proposal. It also noted that AEMO's response will inform the forecast that will be submitted as part of the revised revenue proposal. On 16 July, AEMO notified SP AusNet and the AER that it intends to maintain the AIS for the 2014–17 regulatory control period.

During our ongoing engagement with SP AusNet, we were informed that it would submit a revised AIS rebate forecast if AEMO decided to maintain the scheme for the 2014–17 regulatory control period. We will assess that forecast when it is received. On this basis, we have not provided any opex for AIS rebates in SP AusNet opex forecast in this draft decision.

The EUAA commented:[348]

> SP AusNet has forecast $9.9 million for the Availability Incentive Scheme (AIS). To their credit they recognised that AIS payments in addition to the AER's incentive payments is double compensation. We call on the AER to work with AEMO and SP AusNet to ensure that this does not continue.

We note that SP AusNet requested that AEMO abolish the scheme, as it considered that there was significant overlap with our STPIS.[349] AEMO intends maintaining the AIS for the 2014–17 regulatory control period but has indicated its intention to review this scheme in time for the subsequent regulatory control period. During that review, we understand that AEMO will consider the AIS' interaction with the AER's incentives scheme.[350]

Table 3.10 AER's draft decision on SP AusNet's AIS rebate opex ($ million, 2013–14)

	2014–15	2015–16	2016–17	Total
AIS rebates opex	0.0	0.0	0.0	0.0

Source: AER analysis

Easement land tax

Victoria's land tax regime extends to easements held by SP AusNet. SP AusNet is required to forecast its easement land tax liability as part of the forecast opex. Where the forecast we accept in this determination differs (higher or lower) from the actual tax paid, SP AusNet is entitled to apply for a pass through.[351] Under the pass through rules, a materiality threshold (one per cent of SP AusNet's maximum allowed revenue (MAR)) must be met before a pass through is granted.[352]

348 EUAA, *Submission on SPI PowerNet Ltd Electricity Transmission Revenue Proposal for 2014–17*, May 2013. p.16; NER, clause 6A.6.6(e)(2).
349 SP AusNet, *Revenue proposal*, p.164.
350 AEMO, *response Re: AIS*, 16 July 2013.
351 NER, clause 11.6.21 and NER, clause 6A.7.3
352 NER, definition of 'materially' in chapter 10.

SP AusNet proposed an easement and land tax forecast of $305.3 million for the 2014–17 regulatory control period. We are satisfied that this forecast reflects a realistic expectation of the easement land tax likely to be incurred in 2014–17 because:

- the forecast average annual tax liability of $101.7 million is relatively close the actual tax SP AusNet incurred in 2012–13 ($101.6 million)
- SP AusNet's forecast easement land tax assumes it will increase at the same rate as CPI.

Table 3.11 AER's draft decision on SP AusNet's land and easement tax ($ million, 2013–14)

	2014–15	2015–16	2016–17	Total
Land and easement tax	100.9	103.4	100.9	305.2

Source: AER analysis

3.4.3 Consistency in determining the opex allowance and the EBSS gain

Forecasts, by their very nature are not exact. Our approach aims to provide the best forecast, given SP AusNet's circumstances.[353] It incentivises SP AusNet to manage the network efficiently and therefore provides the best indicator of future opex requirements.[354] This approach does not prejudge the sustainability of cost reductions or the future accuracy of our allowance.

The revealed costs mechanism, working with the EBSS, works well in the circumstances of lack of information.

- If a base year is chosen on the basis that the gain was of a lasting nature, the TNSP will receive a carryover benefit for five years plus the benefit in the base year. If the efficiency gain turns out to be sustainable, the TNSP will have properly reveived that ongoing benefit. If the efficiency gain turns out to be one-off, then the EBSS operates to provide the TNSP with an appropriate amount of revenue. Further, if the latter scenario eventuates, then in the subsequent regulatory control period (beginning 2017), the opex allowance will be based on the higher revealed opex during 2014–17. This will provide a higher opex forecast for the subsequent regulatory control period. In this case, SP AusNet is at no disadvantage during 2014–17 because its total building block revenue includes the EBSS building block.
- Conversely, if a base year is chosen that assumes that the efficiency gain was a one-off gain, the TNSP will not receive a generous EBSS benefit but will simply get to retain the one-off benefit by retaining that sum for a period of six years. If we are corrent in our view that the TNSP's gain was one-off, then the opex forecast for the next period should be correct (based on the revealed costs approach). If we were incorrect and the gain turns out to be sustained, then the TNSP will get the benefit by having the higher revenues for that next period, which is appropriate.

Thus, in these scenarios, the revealed costs approach provides a reliable means of determining the opex forecast, and the EBSS operates as something of a backup. We are required to make a best estimate of an opex forecast that meets the opex criteria. While that means that a judgemnt needs to be made as to whether any efficiency in the past period was one-off or lasting, an error in this assessment should not have adverse results for SP AusNet.

353 SP AusNet is subject to an EBSS since 2008. Previously, since 2002 it was subject to efficiency sharing schemes that were in operation under the regulatory framework applicable at that time —AER, *SP AusNet transmission determination 2008–09 to 2013–14,* January 2008, Table S.8, p.19.

354 National Electricity Objective, NEL clause 7.

Expenditure for which the business has discretion in managing the cost, timing, scope and risks (for example, risk of deferring works) is 'controllable'. Asset works is controllable because the business has full discretion over its assets management policies and practices.[355] While any given 'project' in an asset works program may be infrequent in nature (for example, an individual asset such as a transformer may require refurbishment only once or twice in its lifetime), the 'program' of refurbishment is continuous (recurrent) and controllable. The base year expenditure should reflect all controllable costs because businesses are incentivised to exert effort to achieve ongoing cost efficiencies. The program of refurbishment and condition monitoring is recurrent expenditure, because it is a business-as-usual activity: it is part of core asset management practices that SP AusNet has been undertaking on an on-going basis. SP AusNet's 2011–12 to 2015–16 Asset Management Plan noted its decision to defer works results in minimal short term risks, but material longer term risks.[356] But these elevated risk levels for which SP AusNet is now seeking funding directly result from SP AusNet's decision to defer work.

SP AusNet's position appears to be that the revealed opex is unsustainable (it considers asset works non-recurrent) and therefore, it applied a bottom–up forecast. It sets out that the GFC required it to prioritise expenditure, so it managed its business by deploying unsustainable opex reductions. Nevertheless, it also set out a number of other drivers, including efficiency gains and acknowledging its (previous) over forecasting of requirements. While we accept the GFC may have had such an impact, these works were already built into a previous opex allowance once and it would not be appropriate for consumers to now be asked to fund the same works again.

SP AusNet stated that its asset works forecast involves non-recurrent costs, so that a top down approach, which assesses past expenditure to 'reveal' future requirements, was inappropriate. In our view, SP AusNet's position on this point is inconsistent with its approach to calculating its EBSS efficiency carryover. On the one hand, it is proposing a large EBSS carryover on the basis that it achieved sustainable recurrent efficiencies during the current regulatory control period. On the other hand, it considers these to be non-recurrent and proposes that customers fund the same works again in the next regulatory control period. If we were to forecast opex on the basis of an approach that is different to our revealed costs approach, then SP AusNet should not automatically receive its nominated EBSS carryover. The EBSS outcome should be consistent with objectives of the EBSS under the NER and the scheme itself.

If we were to accept SP AusNet's proposal, then consumers will not share in the efficiency benefits as intended by the incentive framework.[357] In fact, SP AusNet's share of the benefit will increase from 30 per cent to over 140 per cent.[358] On this point, the EUAA commented in its submission on SP AusNet's proposal:[359]

> SP AusNet has projected remarkably large EBSS payments ($47.1 million) over the three year regulatory period. Considering the small gap between allowed and actual opex in the current regulatory period this is

355 SP AusNet, *Response to information request EMCa 026*, 17 April 2013, p. 2; SP AusNet, *Response to information request AER RP 20*, p. 1–3. SP AusNet, *Revenue proposal*, p. 59.

356 SP AusNet, *Response to EMCa/037, Asset Management Plan (March 2011)*, 27 June 2013, p. 10.

357 AER, *First proposed electricity transmission network service providers efficiency benefit sharing scheme*, January 2007, p. 2; AER, *Electricity transmission network service providers efficiency benefit sharing scheme*, September 2007, p. 12.

358 If opex allowances are forecast using a bottom up approach SP AusNet will retain 100 per cent of all underspends, since actual expenditure does not influence the forecast in the following period. By adding carryovers on top of this (which have been calculated on the assumption revealed cost forecasts will be used) SP AusNet will retain more than 100% of the efficiency gain. We estimate it will retain 140 per cent. That is, the gain to SP AusNet (the underspend [$38 million] plus the carryover amount [$15 million] is $53 million) as a proportion of the net social gain ($38m) is 140 per cent. The net social gain is the gain to SP AusNet ($53 million) minus the cost to consumers of paying the carryover (–$15 million). If we assume the expenditure is non-recurrent, then the social benefit is the underspend. Note: we adjusted all numbers into net present value terms.

359 EUAA, *Submission on SPI PowerNet Ltd Electricity Transmission Revenue Proposal for 2014–17*, May 2013. p.14; NER, clause 6A.6.6(2).

remarkable and while we are not disputing their calculation, it does point to the importance of the AER setting opex allowances that result in a fair distribution of the benefits of efficiency improvement, with users.

The interaction of the EBSS and the opex allowance is therefore very important. The EBSS has an effect on our assessment of the total opex that reasonably reflects the opex criteria for this regulatory control period. The regulatory scheme must be considered as a whole, and assessments for each building block should be made taking into account the operation of the scheme as a whole, not as separate disconnected decisions. This is important because the EBSS is premised on rewarding ongoing efficiencies, which is best assessed using a revealed costs forecast. These separate building blocks cannot be considered in complete isolation. If a bottom up forecast for part of the controllable opex was accepted, then the appropriate application of the EBSS would also need to be reconsidered. The fact that SP AusNet has proposed both a bottom up forecast for expenditure it considers 'non-recurrent' and an EBSS benefit for that same expenditure, is contradictory. The EBSS benefit would only be appropriate if the efficiency savings implicit in the carryover amounts are also assumed to be recurrent in the opex forecast.

The interaction between the EBSS and the opex forecast is shown in the following example.

Example of interaction between EBSS and opex allowance

When the revealed cost approach is applied and the EBSS are considered in tandem, on average, a TNSP will recover enough revenue to cover its costs, given the time value of money and the EBSS scheme.

The EBSS intends for TNSPs to receive 30 per cent of any efficiency gains, and the remaining 70 per cent is shared with consumers. However, depending on the method used to forecast the opex allowance in the next period and whether the efficiency was a sustainable (recurrent) or non-recurrent underspend, the sharing ratio changes. This is explained in the two scenarios discussed below.

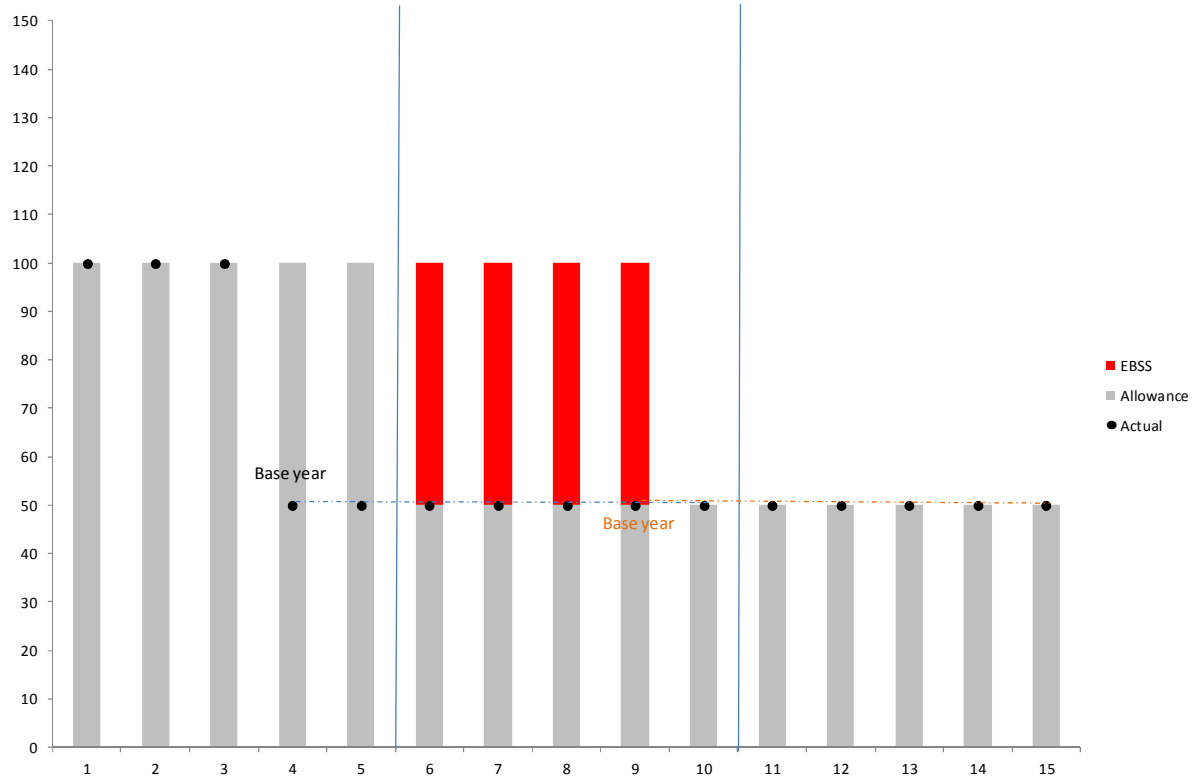
Recurrent efficiency gain

The first example (Figure 3.9) is a scenario where an efficiency gain (underspend) is achieved by the TNSP in the base year (year 4) and the efficiency is sustained. In this example the TNSP received an allowance of $100 per year during the first period (years 1 to 5). However, in year 4 it permanently reduced its expenditure requirement to $50. In the example we assume that year 4 is proposed as the base year for forecasting opex for the next regulatory control period. Therefore:

- the TNSP receives an EBSS ‘reward’ in years 6 to 9
- the TNSP receives the benefit of the unspent opex allowance in years 4 and 5.

In year 10 onwards, consumers benefit because the opex allowance is $50 per year instead of $100. We do time-value-of-money calculations to calculate the dollar value of the sharing of these gains up to year 10. Consequently, the TNSP receives 30 per cent of the benefits of its cost reduction while the consumers receive 70 per cent. Hence, although we originally allowed the TNSP $100, by exerting effort it realised sustainable efficiencies, which it retained for a period and then passed onto consumers through a lower opex allowance thereafter.

Figure 3.9 Example of a recurrent efficiency gain, the EBSS and the opex forecast



Source: AER analysis.

Non-recurrent efficiency gain

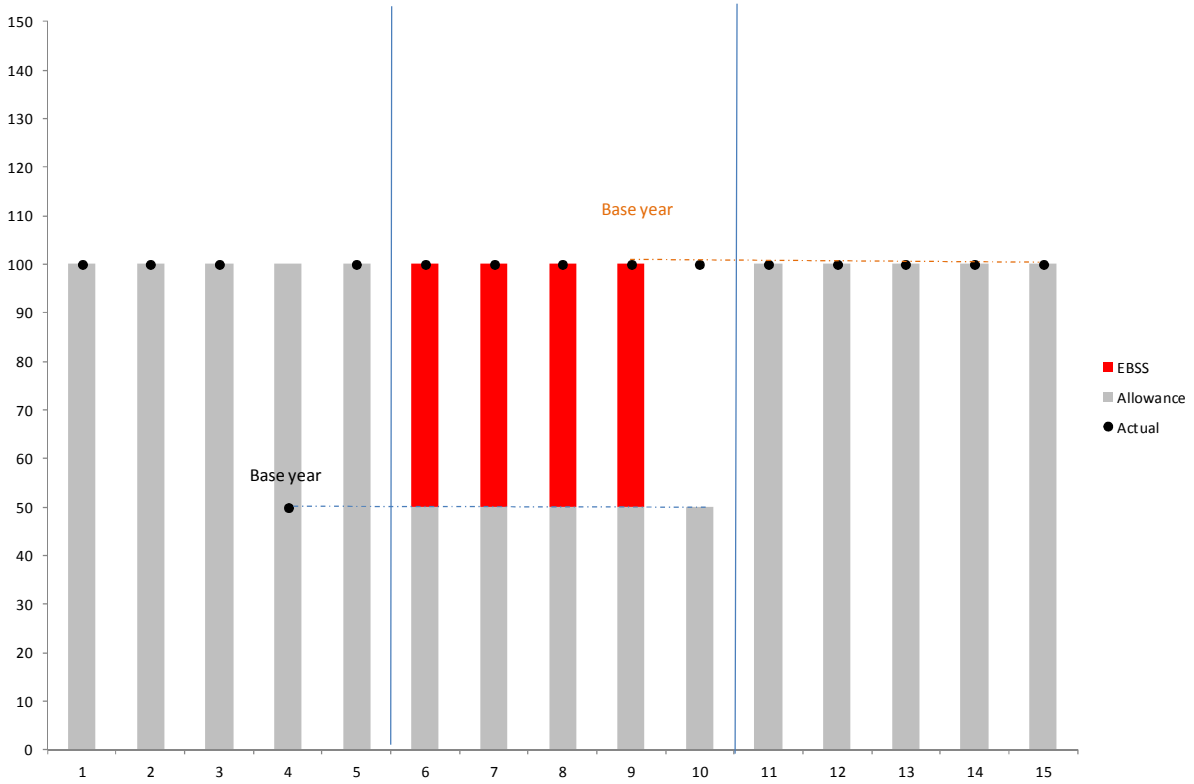
The next example (Figure 3.10) is a scenario where the TNSP has achieved a one-off efficiency gain (underspend) in the base year of $50. We assume, as with the first example, the TNSP received an allowance of $100 each year during the first period. However it only spent $50 in year 4 (base year). The sharing of the EBSS gain with consumers due to the one off underspend depends on how the period two allowance is set.

Using the revealed costs method to set the forecast in year 6 to 10

The revealed cost method uses a base year and sets the next period opex allowance at the base year amount. Using this method results in the opex allowance and the EBSS interacting as follows:

- In year 6 to 10 the TNSP receives an opex allowance of $50 per annum
- It also receives and EBSS benefits in years 6 to 9 of $50 per annum
- The EBSS plus the opex allowance total $100 per annum in years 6 to 9, which meets its expenditure requirement.
- In year 10 the TNSP 'pays back' the extra allowance to consumers that it received in year 4.
- Because of the time-value-of-money, the TNSP has received 30 per cent of the benefits.

Figure 3.10 Example of non-recurrent efficiency gain, the EBSS and the revealed costs opex forecast



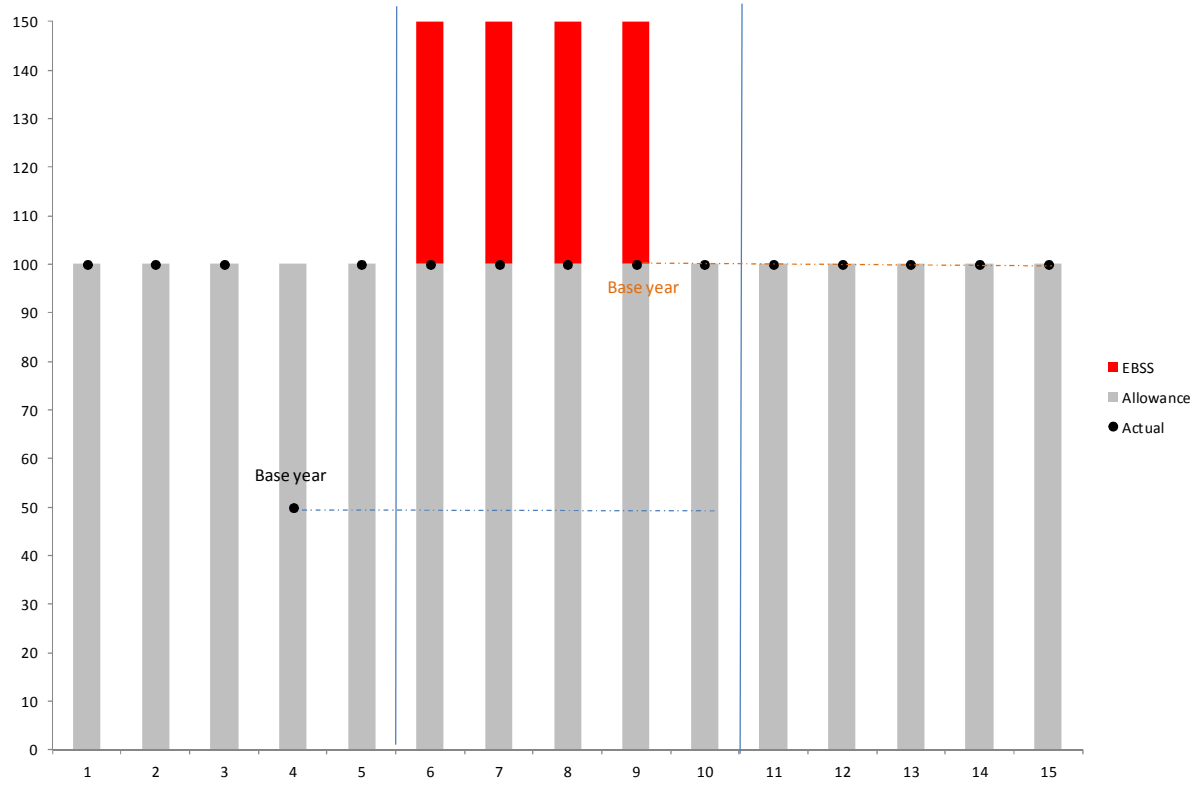
Source: AER analysis.

Using the bottom up method to set the forecast in year 6 to 10

This example (Figure 3.11) shows the problem that occurs when a bottom up forecast is used to set the allowance for years 6 to 10. In this case the opex allowance is set to $100 per annum for years 6 to 10, but the TNSP has:

- Entirely retained its underspend relative to the allowance in year 4 (which is not shared with consumers), and:
  - is rewarded by $50 per annum in year 6 to 9 with an EBSS benefit (which is not shared with consumers)
  - it receives $150 per annum for year 6 to 9 in total, which is more than it requires to perform its $100 of work for those years.

Figure 3.11 Example of non-recurrent efficiency gain, the EBSS and bottom up opex forecast



Source: AER analysis.

3.5 Draft decision

Revision 3.1: Make all necessary amendments to reflect the AER's draft decision on conforming operating expenditure for the 2014–17 regulatory control period in Table 3.1.

4 Cost of capital

As part of making a determination on the annual building block revenue requirement for a transmission network service provider (TNSP), we are required to make a decision on the return on capital building block.[360] The return on capital building block is calculated as the product of the cost of capital (or rate of return) and the value of the regulatory asset base (RAB). Our draft decision on SP AusNet's RAB is set out in attachment 5. This attachment sets out our draft decision regarding the cost of capital applying to SP AusNet over the 2014–17 regulatory control period.

Under the transitional arrangements, an older version of the NER (version 52) will apply to SP AusNet's 2014–17 transmission determination. This version of the NER requires that the cost of capital is measured as the return required by investors in a commercial enterprise with a similar nature and degree of non-diversifiable risk as that faced by the transmission business.[361] It must be calculated as a nominal post-tax weighted average cost of capital (WACC). Further, key parameters used to calculate the cost of capital have been determined by the AER in its 2009 WACC review.

We are currently in the process of developing a new rate of return guideline.[362] However, we note that the transitional arrangements operate so that this new guideline will not apply to SP AusNet's 2014–17 regulatory control period. We accordingly applied our 2009 review of the WACC to setting the key parameters of SP AusNet's rate of return for its 2014–17 regulatory control period.

4.1 Draft decision

We accept SP AusNet's proposed method for determining the WACC, including SP AusNet's proposed averaging period.[363] However, for this draft decision, we determine an indicative WACC of 7.43 per cent, as set out in Table 4.1. Our draft decision reflects market based parameters—the nominal risk free rate and the debt risk premium (DRP)—estimated over an indicative averaging period.[364] We will update these parameters for our final decision, based on the accepted averaging period.

360 NER, clause 6A.5.4(a)(2).
361 NER, clause 6A.6.2(b).
362 AER, *Consultation paper: Rate of return guidelines*, May 2013, pp. 48–53.
363 Consistent with clause 6A.6.2(c)(2)(iii) of the NER, SP AusNet's proposed averaging period will remain confidential until the expiration of the agreed period.
364 Specifically, our draft decision is based on a 20 business day indicative averaging period, from 24 June 2013 to 19 July 2013.

Table 4.1 AER's draft decision on WACC parameters

Parameter	AER's draft decision
Nominal risk free rate	3.54%
Equity beta	0.80
Market risk premium	6.50%
Debt risk premium	3.00%
Gearing level	60%
Inflation forecast	2.50%
Gamma	0.65
Nominal post-tax cost of equity	8.74%
Nominal pre-tax cost of debt	6.55%
Nominal vanilla WACC	7.43%

Source: AER analysis.

4.2 SP AusNet's proposal

SP AusNet proposed a nominal vanilla WACC of 7.19 per cent, based on market data from November to December 2012.[365] This WACC reflects the parameters shown in Table 4.2.

Table 4.2 SP AusNet's proposed WACC parameters

Parameter	SP AusNet's proposal
Nominal risk free rate	3.14%
Equity beta	0.80
Market risk premium	6.50%
Debt risk premium	3.28%
Gearing level	60%
Inflation forecast	2.50%
Gamma	0.65
Nominal post-tax cost of equity	8.34%
Nominal pre-tax cost of debt	6.42%
Nominal vanilla WACC	7.19%

Source: SP AusNet, *Revenue proposal*, p. 176.

In calculating its proposed WACC, SP AusNet applied the equity beta, market risk premium (MRP) and the level of gearing determined by the AER in the 2009 review of the WACC parameters (WACC

[365] Specifically, SP AusNet's proposed WACC reflects an indicative averaging period of 20 business days, from 12 November to 7 December 2012.

review).[366] Similarly, as part of estimating its tax allowance, SP AusNet proposed to apply the gamma value specified in the WACC review.

SP AusNet's method for determining the risk free rate is also consistent with that set out in the WACC review. That is, the nominal risk free rate reflects the annualised yields on 10 year Commonwealth Government securities (CGS) based on an averaging period as close as practically possible to the start of the regulatory control period. Given SP AusNet's nominated averaging period is in the future, the risk free rate in its revenue proposal is based on an indicative averaging period of 20 business days commencing on 12 November 2012.

To determine the DRP, SP AusNet commissioned a report by PriceWaterhouseCoopers (PwC).[367] PwC estimated the DRP by extrapolating Bloomberg's seven year BBB rated fair value curve to an equivalent 10 year term. The extrapolation approach is based on a paired bonds analysis.[368] This approach is consistent with our recent decisions.[369]

To determine the inflation forecast, SP AusNet stated that it applied the method we used in recent determinations. SP AusNet also adopted a forecast period that matches the maturity of the 10 year bond used to establish the risk free rate.[370]

4.3 Assessment approach

This section considers:

- the requirements of the National Electricity Law (NEL) and NER on the rate of return
- the determination of specific parameters.

4.3.1 Requirements of the NEL and NER on the rate of return

Under the transitional arrangements, an older version of the NER (version 52) will apply to SP AusNet's 2014–17 transmission determination. Based on this version of the NER, we are required to apply a rate of return using the nominal vanilla WACC formulation.[371] In calculating the nominal vanilla WACC, we must:

- apply the capital asset pricing model (CAPM) to determine the return on equity[372]
- adopt the parameter values, methods and credit rating determined in the WACC review.[373]

SP AusNet submitted its revenue proposal after the completion of the 2009 WACC review. Therefore, the relevant values, methods and credit rating are those determined in that review, as set out in Table 4.3.

366 AER, *Electricity transmission and distribution network service providers, Statement of the revised WACC parameters (transmission)*, May 2009, p. 6.
367 PwC, *SP AusNet: debt risk premium for the 2013 Victorian transmission revenue review*, March 2013.
368 Specifically, the Bloomberg seven year BBB fair value curve is extrapolated using the average annual increment in the DRP observed across pairs of bonds of differing maturities issued by the same company.
369 AER, *Final decision: ElectraNet transmission determination 2013–14 to 2017–18,* April 2013, p. 133.
370 SP AusNet, *Revenue proposal*, February 2013, p. 174.
371 NER, clause 6A.6.2(b).
372 The CAPM is a well known and widely used model. It specifies a relationship between the expected return of a risky asset (in terms of uncertainty over future outcomes) and the level of systematic (non-diversifiable) risk.
373 NER, clause 6A.6.2(h).

Table 4.3 Values, method and credit rating determined in 2009 WACC review

Parameter	WACC review
Nominal risk free rate	Annualised yield on 10 year CGS based on agreed averaging period as close as practically possible to the start of the regulatory control period
Equity beta	0.80
Market risk premium	6.50%
Credit rating (for estimating debt risk premium)	BBB+
Gearing level	60%
Assumed utilisation of imputation credits (gamma)	0.65

Source: AER, *Statement of the revised WACC parameters (transmission)*, May 2009, p. 6.

4.3.2 Determination of specific parameters

To determine the WACC applicable at the time of any given determination, we update values for the DRP and nominal risk free rate based on prevailing market data. This market data reflects an averaging period as close as practically possible to the start of the regulatory control period. For this draft decision, we used an indicative 20 business day averaging period from 24 June 2013 to 19 July 2013. We also adopt the most up to date forecast inflation rate, as discussed further below.

Debt risk premium

The DRP is the margin above the nominal risk free rate that a debt holder would require to invest in a benchmark efficient service provider. Combined with the nominal risk free rate, the DRP represents the return on debt and is an input for calculating the WACC. Our assessment approach for this draft decision is consistent with that adopted in our recent final decision for ElectraNet.[374] That is, we estimate the DRP using:

- an appropriate benchmark
- a method that conforms to these benchmark parameters.

Benchmark assumption

We adopted a 10 year Australian corporate bond with a BBB+ credit rating as the benchmark for estimating the DRP.[375] The term of this benchmark bond provides internal consistency with the method for calculating the nominal risk free rate determined in the WACC review.

Method used to estimate the DRP

To estimate the 10 year DRP for this draft decision, we used:

- the Bloomberg BBB rated fair value curve, to estimate the (base) seven year DRP, plus

374 AER, *Final decision: ElectraNet transmission determination 2013–14 to 2017–18,* April 2013, p. 133.
375 NER, clause 6A.6.2(e).

- the average annual increment in the DRP observed across pairs of bonds of differing maturities issued by the same company, to extrapolate the seven year DRP estimate to 10 years (paired bonds analysis).

Nominal risk free rate

The risk free rate measures the return that an investor would expect from an asset with zero volatility and zero default risk. The yield on long term CGS is often used as a proxy for the risk free rate because the risk of government default on interest and debt repayments is considered to be low.

In the CAPM framework, all information used for deriving the rate of return should be as current as possible, to achieve an unbiased forward looking rate. Using the on-the-day rate may be theoretically correct because it represents the latest available information. This approach, however, exposes the TNSP and customers to daily volatility. For this reason, an averaging period approach is used to minimise volatility in observed bond yields.

Expected inflation rate

The expected inflation rate is not a parameter relevant to the determination of the WACC.[376] However, it is used in the post tax revenue model (PTRM)—for example, to index the RAB—and is an implicit component of the nominal risk free rate. For this reason, this attachment discusses our determination of the expected inflation rate.

Our approach to estimating inflation is consistent with that used in previous regulatory decisions.[377] This method involves:

- taking a geometric average of forecast inflation for each of the next 10 years commencing from the start of the 2013–17 regulatory control period (consistent with using a 10 year term for the risk free rate and other WACC parameters)
- adopting the Reserve Bank of Australia's (RBA) headline inflation forecasts from the latest RBA *Statement on Monetary Policy*, for as many future years as the RBA publishes inflation forecasts
- adopting the mid-point of the RBA's inflation target (2.5 per cent) for the remaining future years (out to year 10).

4.4 Reasons for draft decision

SP AusNet's proposed method for determining the WACC adopted the values, methods and credit rating determined in the 2009 WACC review—specifically, the equity beta, the MRP, the level of gearing and the value of the assumed utilisation of imputation credits (gamma).[378] Therefore, we accept SP AusNet's proposed values for these parameters (section 4.4.1).

In establishing the WACC, we also accept SP AusNet's proposed method for determining the DRP, the nominal risk free rate and inflation forecasts. Our reasons are discussed in sections 4.4.2, 4.4.3 and 4.4.4.

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376 The WACC formulation is based on nominal parameters and does not incorporate an explicit inflation rate parameter.

377 For example, see: AER, *Final decision: ElectraNet transmission determination 2013–14 to 2017–18*, April 2013, and AER, *Final decision: APA GasNet Australia (Operations) Pty Ltd, access arrangement final decision,* March 2013.

378 The assumed utilisation of imputation credits (gamma) affects the corporate income tax building block allowance. Although gamma is not directly included in the determination of the WACC, it was determined in the WACC review.

4.4.1 Parameters determined in the WACC review

In the WACC review, we specified the following parameter values:

- Equity beta of 0.8—The equity beta provides a measure of the 'riskiness' of an asset's return compared with the return on the entire market. The equity beta reflects the asset's exposure to non-diversifiable (systematic) risk, which is the only form of risk that requires compensation under the CAPM. An equity beta of 1.0 implies the firm's return has the same level of systematic risk as that of the overall market. An equity beta of less than 1.0 implies the firm's return is less sensitive to systematic risk than is the overall market, and vice versa.
- MRP of 6.5 per cent—The MRP is the expected return over the risk free rate that investors require to invest in a well-diversified portfolio of risky assets. It represents the risk premium that investors in such a portfolio can expect to earn for bearing only non-diversifiable (systematic) risk. The MRP is common to all assets in the economy and not specific to an individual asset or business.
- Gearing level of 60 per cent—Gearing is defined as the ratio of the value of debt to total capital (that is, both debt and equity). It is used to weight the costs of debt and equity when formulating the WACC.
- Gamma of 0.65—Under the Australian imputation tax system, domestic investors receive a credit for tax paid at the company level (an imputation credit, or gamma), which offsets part or all of their personal income tax liabilities. For eligible shareholders, imputation credits represent a benefit from the investment in addition to any cash dividend or capital gains received.

As outlined, we accept SP AusNet's proposed values for these parameters, which are consistent with those determined in the WACC review.[379]

4.4.2 Debt risk premium

We accept, in principle, SP AusNet's proposed benchmark assumption and method for determining the DRP. However, in applying the proposed method, we updated SP AusNet's DRP to 3 per cent, reflecting the indicative averaging period used throughout this draft decision. We will again update the DRP for our final decision, based on the accepted averaging period.

Regarding the benchmark assumption, we accept SP AusNet's proposal that the DRP benchmark be based on an Australian corporate fixed rate bond issue with a term to maturity of 10 years and a BBB+ credit rating.[380] The proposed credit rating benchmark is consistent with that established in the WACC review. We also adopted this benchmark assumption in previous electricity decisions.[381] We accept SP AusNet's proposed method for establishing the DRP, in particular, SP AusNet's proposal to estimate the benchmark DRP solely on the Bloomberg BBB fair value curve.

We also accept SP AusNet's proposed method to extrapolate the Bloomberg BBB fair value curve from seven to 10 years, based on PwC's analysis of paired bonds.[382] We accepted PwC's paired bonds approach in the recent ElectraNet's 2013–18 transmission determination.[383] We also consider that the paired bonds PwC selected for determining SP AusNet's DRP are generally appropriate. We

379 AER, *Statement of the revised WACC parameters (transmission)*, May 2009, p. 6.
380 SP AusNet, *Revenue proposal*, p. 174.
381 For example, see: AER, *Final decision: ElectraNet transmission determination 2013–14 to 2017–18,* April 2013, and AER, *Final decision, Powerlink transmission determination 2012–13 to 2016–17*, April 2012.
382 Seven years is the maximum term currently published for the Bloomberg BBB fair value curve.
383 AER, *Final decision: ElectraNet transmission determination 2013–14 to 2017–18,* April 2013, p. 133.

note that the two GPT bonds selected by SP AusNet are issued by different entities. However, these entities appear to be sufficiently associated. Therefore, for this draft decision, we consider these bonds as being issued by the same company. Further, we disagree with the term to maturity used by SP AusNet for the longer dated bond for the GPT paired bonds. The term to maturity for this bond should be 9.7 years, compared to 9.47 years used by SP AusNet. The updated term to maturity results in a slight change to the proposed value.

We acknowledge the Energy Users Coalition of Victoria (EUCV) and Energy Users Association of Australia's (EUAA) concerns with the use of the Bloomberg fair value curve to determine the DRP.[384] Notwithstanding these concerns, we are mindful of the Australian Competition Tribunal's recommendation to undertake a public consultation process before selecting an alternative DRP method.[385] We are currently in the process of developing the rate of return guidelines.[386] This process provides us an opportunity to develop and consult on both our method to estimating the return on debt and how to implement that method. The outcomes of this guideline would inform the next revenue reset for SP AusNet starting 1 April 2017.

4.4.3 Nominal risk free rate

We accept SP AusNet's proposed averaging period to calculate the nominal risk free rate as it satisfies the requirements set out in the NER and WACC review. We also accept SP AusNet's request to keep the averaging period confidential until the expiration of that period.[387]

The WACC review states that we will only accept an averaging period commencing as close as reasonably possible to the start of the TNSP's regulatory control period. This incorporates the most up to date data, which allows for an unbiased forward looking estimate of the nominal risk free rate.[388] In the WACC review, we also consider an averaging period between 10 and 40 business days to be reasonable, as it provides a balance between volatility driven error and old information driven error.[389] In recent determinations we have approved averaging periods that are within these boundaries.[390] We consider SP AusNet's proposed averaging period satisfies these requirements.

For this draft decision, we used an indicative 20 business day averaging period from 24 June 2013 to 19 July 2013, which results in a risk free rate of 3.54 per cent (effective annual compounding rate).[391] We will update the risk free rate, based on the agreed averaging period, at the time of our final decision.[392]

The EUAA raised concerns regarding the confidential nature of the averaging period proposed by SP AusNet used to estimate the risk free rate (and the DRP). In particular, the EUAA submitted that since there is nothing that SP AusNet can do to affect the risk free rate, its proposed averaging period should be publicly available.[393] The NER allows us to accept SP AusNet's request to keep its averaging period confidential but only until the agreed period expires.[394] In agreeing to accept SP

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384 EUCV, *Victorian Electricity Transmission Revenue Reset, SP AusNet application, A response by EUCV*, May 2013. EUAA, *Submission on SPI PowerNet Ltd Electricity Transmission Revenue Proposal for 2014–17*, May 2013.

385 Australian Competition Tribunal, *Application by Envestra Limited (No 2)* [2012] ACompT 3, 11 January 2012, paragraphs 95, 118, 120–1; see also Australian Competition Tribunal, *Application by APT Allgas Energy Ltd* [2012] ACompT 5, 11 January 2012.

386 AER, *Consultation paper: Rate of return guidelines*, May 2013, pp. 48–53.

387 NER, clause 6A.6.2(c)(2)(iii).

388 AER, *Statement of the revised WACC parameters (transmission)*, p. 6.

389 AER, *Final decision: Electricity transmission and distribution network service providers—review of the weighted average cost of capital (WACC) parameters*, May 2009, p. 172.

390 AER, *Final decision: ElectraNet transmission determination 2013–14 to 2017–18*, April 2013. AER, *Final decision: Murraylink transmission determination 2013–14 to 2017–18*, April 2013.

391 CGS yields are sourced from the RBA: www.rba.gov.au/statistics/tables/xls/f16.xls.

392 We will use the same averaging period to calculate the DRP.

393 EUAA, *Submission on SPI PowerNet Ltd Electricity Transmission Revenue Proposal for 2014–17*, May 2013.

394 NER, 6A.6.2(c)(iii).

AusNet's request, we had regard to the requirement that the proposed averaging period be agreed to in advance of the period itself. We consider this minimises the ability for networks to select an averaging period that will result in a systematic bias. We also consider that, should SP AusNet seek to refinance or engage in hedging transactions during the averaging period, disclosing this period to market participants may lead to higher financing costs.[395] This increase in costs is unlikely to be in the long–term interests of consumers.

4.4.4 Expected inflation rate

We accept SP AusNet's proposed method for forecasting inflation. This approach is consistent with what we have previously adopted (outlined in section 4.3.2). However, we updated SP AusNet's proposed inflation estimate to reflect the latest RBA forecasts. These estimates, shown in Table 4.4, result in an inflation forecast of 2.50 per cent per annum.[396] We will again update the inflation estimate for the final decision.

Table 4.4 AER's decision on inflation forecast (per cent)

	2014–15	2015–16	2016–17 to 2023–24	Geometric average
Forecast inflation	2.50[a]	2.50[b]	2.50	2.50

Source: RBA, *Statement on Monetary Policy*, May 2013, p. 62.
Note: (a) The RBA published a range of 2.0–3.0 per cent for its December 2014 inflation forecast. We have selected the mid-point of 2.5 per cent for the purposes of this decision.
(b) We expect the RBA to publish a December 2015 inflation forecast prior to our final decision and we will update this value accordingly. For this draft decision, however, we have adopted the mid-point of the RBA's inflation target.

4.5 Revisions

Revision 4.1: We determine a WACC of 7.43 per cent for SP AusNet, as set out in Table 4.1.

395 For example, transactions entered into during the averaging period may better hedge the interest rate risk faced by SP AusNet for the regulatory control period. Accordingly, market practitioners could charge—and SP AusNet may be willing to pay—a premium for transactions during this period. This premium can be avoided by maintaining confidentiality of the period until it has elapsed.

396 This estimate is identical to that proposed by SP AusNet. This is because the RBA's inflation forecast for December 2014 has not changed between its November 2012 and May 2013 monetary policy statements.

5 Regulatory asset base

The AER is required to determine SP AusNet's regulatory asset base (RAB) for the 2014–17 regulatory control period.[397] We set the RAB as the foundation for determining SP AusNet's revenue requirement, and use the opening RAB for each regulatory year to determine the return of capital (regulatory depreciation) and return on capital building block allowances. This attachment presents our draft decision on SP AusNet's opening RAB as at 1 April 2014 and our forecast of its RAB for the 2014–17 regulatory control period.

5.1 Draft decision

We do not accept SP AusNet's proposed opening RAB of $2866 million as at 1 April 2014 and instead determine an opening RAB of $2873 million:

- We made several amendments to the inputs of SP AusNet proposed roll forward model (RFM). These amendments reduced the proposed opening RAB as at 1 April 2014 by about $46.3 million.
- We included $53.4 million to SP AusNet's opening RAB for the purposes of providing an equity raising costs allowance associated with its opening RAB as at 1 January 2003 and capex incurred over the 2003–08 regulatory control period. The equity raising costs were provided in the 2002 revenue cap decision as an allowance in perpetuity for opex.[398] We have converted the allowance from perpetuity to an amount for capitalisation in the RAB. This will improve transparency and aid administration.

Table 5.1 and Table 5.2 set out our draft decisions on the roll forward of SP AusNet's RAB during the 2008–14 regulatory control period, and the forecast of its RAB for the 2014–17 regulatory control period respectively.

397 NER, clause 6A.6.1.
398 ACCC, *Decision: Victorian transmission network revenue caps 2003-2008*, December 2002, pp. 86–87.

Table 5.1 AER's draft decision on SP AusNet's RAB for the 2008–14 regulatory control period ($ million, nominal)

	2008–09	2009–10	2010–11	2011–12	2012–13[a]	2013–14[b]
Opening RAB	2191.2	2260.2	2309.8	2365.6	2452.1	2550.0
Capital expenditure[c]	95.4	114.8	113.4	136.9	173.5	141.2
CPI indexation on opening RAB	80.8	47.7	61.3	73.4	54.1	63.8
Straight-line depreciation[d]	–107.1	–112.9	–118.9	–123.8	–129.7	–129.2
Closing RAB as at 31 March	2260.2	2309.8	2365.6	2452.1	2550.0	2625.7
Difference between estimated and actual capex (2007–08)						5.1
Return on difference for 2007–08 capex						3.9
Difference between estimated and actual assets under construction (2007–08)						22.2
Return on difference for 2007–08 assets under construction						16.9
Difference between estimated and actual Group 3 assets as at 1 April 2008						0.7
Return on difference for Group 3 assets as at 1 April 2008						0.5
Group 3 assets as at 1 April 2014						144.4
Equity raising costs (2003–08)						53.4
Opening RAB as at 1 April 2014						2872.8

Source: AER analysis.

Notes:
(a) Based on estimated capex. We will update the RAB roll forward for actual capex at the time of the final decision.
(b) Based on estimated capex and forecast inflation. We will update the RAB roll forward for actual consumer price index (CPI) at the time of the final decision. However, we will update for actual capex at the next reset.
(c) As incurred, net of disposals, and adjusted for actual CPI.
(d) Adjusted for actual CPI. Based on as-commissioned capex.

Table 5.2 AER's draft decision on SP AusNet's RAB for the 2014–17 regulatory control period ($ million, nominal)

	2014–15	2015–16	2016–17
Opening RAB at 1 April 2014	2872.8	2925.9	2982.2
Capital expenditure[a]	128.7	136.3	160.5
Inflation indexation on opening RAB	71.8	73.1	74.6
Straight-line depreciation[b]	–147.4	–153.2	–160.1
Closing RAB	2925.9	2982.2	3057.2

Source: AER analysis.
Notes: (a) As incurred, and net of disposals. In accordance with the timing assumptions of the post tax revenue model (PTRM), the capex includes a half-WACC allowance to compensate for the six month period before capex is added to the RAB for revenue modelling.
(b) Based on as-commissioned capex.

5.2 SP AusNet's proposal

SP AusNet proposed an opening RAB of $2191 million at 1 April 2008. To roll forward its asset base and establish its proposed opening RAB of $2866 million ($ nominal) as at 1 April 2014, it undertook the following steps:

- commence with the nominal RAB value determined by us at 1 April 2008.
- add an indexation adjustment to convert the nominal RAB value to 1 April 2014.
- add actual and estimated capex for each year of the 2008–14 regulatory control period.
- deduct actual and estimated depreciation during the 2008–14 regulatory control period.
- add Group 3 assets that were completed during the 2008–14 regulatory control period.[399]
- deduct any difference between our estimated capex and depreciation in establishing the RAB as at 1 April 2008 and the actual amounts.
- add the value of assets under construction (or work in progress).[400]

SP AusNet proposed a closing RAB of $3244 million ($ nominal) at 31 March 2017, which reflects its forecast capex, inflation and depreciation over the 2014–17 regulatory control period.[401]

Table 5.3 and Table 5.4 present SP AusNet's proposed roll forward of the RAB during the 2008–14 regulatory control period and the 2014–17 regulatory control period respectively.

399 During a regulatory control period, AEMO or a distribution business may request SP AusNet to provide augmentations to the transmission network or distribution connection services. While the assets constructed due to these requests provide prescribed transmission services, the forecast capex associated with these assets sit outside of the revenue determination. This is because SP AusNet is not responsible for the planning of these capex. SP AusNet refers to these services as 'excluded prescribed services', and the assets which provide these services are referred to as 'Group 3' assets. Group 3 assets sit outside of the RAB and are governed by commercial contracts until such time as they are rolled into the RAB, usually at the next revenue reset. (SP AusNet, *Revenue proposal*, p. 30.)
400 SP AusNet, *Revenue proposal*, p. 165.
401 SP AusNet, *Revenue proposal*, pp.166–167.

Table 5.3 SP AusNet's proposed RAB for the 2008–14 regulatory control period ($ million, nominal)

	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14
Opening RAB	2191.2	2260.7	2310.8	2366.9	2454.0	2552.4
Capital expenditure[a]	95.7	115.3	113.5	137.3	173.8	141.5
CPI indexation on opening RAB	80.8	47.7	61.3	73.5	54.1	63.8
Straight-line depreciation[b]	–107.0	–112.8	–118.8	–123.7	–129.5	–129.2
Closing RAB	2260.7	2310.8	2366.9	2454.0	2552.4	2628.5
Difference between estimated and actual capex (1 April 2007 to 31 March 2008)						29.8
Return on difference for 2007–08 capex						22.7
Difference between estimated and actual assets under construction as at 31 March 2008						22.2
Return on difference (assets under construction as at 31 March 2008)						16.9
Difference between estimated and actual Group 3 assets as at 1 April 2008						0.7
Return on difference for Group 3 assets as at 1 April 2008						0.5
Group 3 assets as at 1 April 2014						144.4
Opening RAB as at 1 April 2014						2865.7

Source: SP AusNet, *Roll forward model*, February 2013.
(a) As incurred, net of disposals, and adjusted for actual CPI.
(b) Adjusted for actual CPI. Based on as-commissioned capex.

Table 5.4 SP AusNet's proposed RAB for the 2014–17 regulatory control period ($ million, nominal)

	2014–15	2015–16	2016–17
Opening RAB as at 1 April 2014	2865.7	2978.5	3096.4
Capital expenditure[a]	186.6	197.1	233.8
Inflation indexation on opening RAB	71.6	74.5	77.4
Straight-line depreciation[b]	–145.5	–153.8	–163.3
Closing RAB as at 31 March 2017	2978.5	3096.4	3244.2

Source: SP AusNet, *Post-tax revenue model*, February 2013.
(a) As incurred, and net of disposals.
(b) Based on as-commissioned capex.

5.3 Assessment approach

We are required to roll forward a TNSP's RAB during the current regulatory control period to establish an opening RAB for the next regulatory control period.[402] The RAB value can be adjusted for any differences in the forecast and actual capex and disposals. It may be adjusted to also reflect any changes in the use of the assets, because the RAB must include only assets used to provide prescribed transmission services.[403]

To determine the opening RAB for a transmission determination, we developed an asset base RFM in accordance with the requirements of the National Electricity Rules (NER).[404] A TNSP must use our RFM in preparing its revenue proposal. The RFM rolls forward the TNSP's RAB from the beginning of the final year of the previous regulatory control period, through the current regulatory control period, to the beginning of the next regulatory control period. The roll forward occurs for each regulatory year by:

- adding an inflation (indexation) adjustment for the relevant year. This adjustment must be consistent with the inflation factor used in the annual indexation of the maximum allowed revenue (MAR).[405]
- adding capex incurred for the relevant year.[406] Actual as-incurred capex must be used when available. However, an estimated capex is typically required for the final year of the regulatory control period. We then update this estimated capex with actual capex at the next determination. We check actual capex amounts against audited regulatory accounts data.
- subtracting depreciation for the relevant year. Depreciation based on actual capex is used to roll forward the RAB.[407]
- subtracting any disposals for the relevant year, by way of netting from capex to be added to the RAB.[408] We check these amounts against audited regulatory accounts data.

402 NER, clause S6A.2.1(f).
403 NER, clause S6A.2.1(f)(8).
404 NER, clause 6A.6.1(b).
405 NER, clause 6A.6.1(e)(3).
406 NER, clause S6A.2.1(f)(4).
407 NER, clause S6A.2.1(f)(5).

These annual adjustments give the closing RAB for a particular regulatory year, which then becomes the opening RAB for the subsequent regulatory year. Through this process, the RFM rolls forward the RAB to the end of the current regulatory control period. The post-tax revenue model (PTRM) for the next regulatory control period generally adopts the same roll forward approach for establishing the forecast RAB, although the adjustments to the RAB are based on forecasts rather than actual amounts.

5.4 Reasons for draft decision

We do not accept SP AusNet's proposed opening RAB as at 1 April 2014 of $2866 million. We increased it by $7.1 million (or 0.2 per cent), for the following reasons:

- we reduced SP AusNet's proposed adjustment for the difference between the estimated and actual capex for 2007–08 by $43.5 million (or 82.9 per cent).
- we adjusted the actual capex to reverse the movements in provisions for 2007–14. This adjustment decreased the proposed opening RAB at 1 April 2014 by $2.4 million
- we increased the proposed actual straight-line depreciation value by $0.6 million.
- we corrected inputs for the previously approved forecast inflation and weighted average cost of capital (WACC) in the RFM.
- we included $53.4 million to SP AusNet's opening RAB for providing an equity raising costs allowance associated with its opening RAB as at 1 January 2003 and capex incurred over the 2003–08 regulatory control period.

We forecast SP AusNet's closing RAB will be $3057.3 million at 31 March 2017, which represents a 5.8 per cent reduction on the proposed amount. The main reasons for this reduction are our adjustments to:

- the opening RAB as at 1 April 2014 (section 5.4.1)
- forecast capex (attachment 2)
- forecast depreciation (attachment 6).

5.4.1 Opening RAB as at 1 April 2014

We do not accept SP AusNet's proposed opening RAB as at 1 April 2014 of $2866 million, and increased it by $7.1 million (or 0.2 per cent).

We accept SP AusNet's proposed Group 3 assets roll-in of $144.4 million as at 1 April 2014. We selected five projects of the proposed Group 3 assets and reviewed SP AusNet's calculation of the roll-in value for these projects. The contracts for these five projects represent about 60 per cent of the total proposed roll-in value. We consider the method applied by SP AusNet to calculate the roll-in values is consistent with the NER.[409]

However, we made the following amendments to the proposed opening RAB as at 1 April 2014:

- we reduced the proposed adjustment for the difference between the estimated and actual capex for 2007–08 by $43.5 million.

[408] NER, clause S6A.2.1(f)(6).
[409] NER, clause 11.6.21(c).

- we adjusted SP AusNet's actual capex for 2007–08 to 2013–14 for movements in provisions.
- we increased the proposed actual straight-line depreciation value by $0.6 million.
- we corrected two minor input errors in the proposed RFM.
- we included $53.4 million to SP AusNet's opening RAB for providing an equity raising costs allowance associated with its opening RAB as at 1 January 2003 and capex incurred over the 2003–08 regulatory control period. This offsets the reductions we made to the proposed opening RAB.

This section outlines the reasons for our amendments.

Adjustment for the difference between the estimated and actual capex for 2007–08

We accept SP AusNet's proposed adjustments for:

- the difference between the estimated actual assets under construction as at 31 March 2008
- the difference between the estimated Group 3 assets as at 31 March 2008.

However, we do not accept the proposed adjustment of $52.5 million for the difference between the estimated and actual capex for 2007–08. We reduced the proposed adjustment by $43.5 million (or 82.9 per cent) as set out in Table 5.5, for the following reasons:

- we reduced the proposed difference between the estimated and actual capex for 2007–08 by $24.7 million. We made the reduction because we corrected the 2007–08 forecast net capex inputs in the proposed RFM to reflect the approved 2007–08 net capex values that were added to the RAB in the our 2008 decision.[410]
- we also amended the 'Prudent additional capex allowance' input in the RFM to $57.6 million from the proposed $81.4 million. We did so because the 2007–08 prudent additional capex rolled into RAB was already included in the 2007–08 forecast net capex of $109.1 million.
- we reduced the proposed return on the difference for 2007–08 actual and estimated capex by $18.8 million, given the lower difference determined.

We clarified these RFM input adjustments with SP AusNet in our information request dated 5 June 2013. SP AusNet agreed with us that these corrections are appropriate.[411]

410 AER, *Final decision: SP AusNet transmission determination 2008–14*, p. 42.
411 SP AusNet, *Response to information request AER RP 37, 2007–08 forecast net capex input in the RFM*, 14 June 2013.

Table 5.5 SP AusNet's proposed and AER's draft decision on the adjustment for the difference between estimated and actual capex for 2007–08 ($ million, nominal)

	SP AusNet's proposal	AER's draft decision	Difference
Difference between forecast and actual capex (1 July 2006 to 30 June 2007)	29.8	5.1	–24.7
Return on difference for 2007–08 capex	22.7	3.9	–18.8
Total	52.5	9.0	–43.5

Source: SP AusNet, *Post-tax revenue model,* February 2013; AER analysis.

Reversal of movements in provisions

SP AusNet's proposed actual capex for 2007–08 to 2013–14 included capitalised provisions. Provisions are expenditures that SP AusNet anticipates but has not yet paid (incurred). Examples of provisions include environmental provisions, superannuation and other employment entitlements such as annual leave and long service leave. The NER requires SP AusNet's opening RAB at 1 April 2008 to be increased by the amount of all capex incurred during the 2008–14 regulatory control period.[412] We consider the RAB should not include capitalised provisions as capex, because SP AusNet has not yet paid out (incurred) the expenses to which the provisions relate, for the following reasons:

- the *Income Tax Assessment Act 1997* (ITAA97) provides that provisions such as long service leave, annual leave, sick leave and other leave are not subject to a tax deduction until the employer pays out those provisions to the employee to whom the leave relates.[413] Provisions for employee leave are not 'incurred', therefore, until they are paid out to the individual employees.
- the High Court decision in *Nilsen Development Laboratories Pty Ltd and Others v Federal Commissioner of Taxation* (*Nilsen*) confirmed provisions for long service leave and annual leave are not incurred until the employee takes the leave.[414]

We therefore adjusted SP AusNet's actual capex for 2007–08 to 2013–14 in the RFM to reverse the movements in provisions during the 2008–14 regulatory control period. To do so, we subtracted the accrued provisions (an increase in the provisions account) from the actual capex for a particular year, and added back any cash paid out for provisions (a decrease in the provisions accounts) for that year. This adjustment decreased the proposed opening RAB at 1 April 2014 by $2.4 million.

Actual straight-line depreciation

We do not accept the proposed amount of actual straight-line depreciation removed from the RAB for the purposes of the roll forward. We increased the proposed amount by $0.6 million. SP AusNet used a separate model to calculate the actual straight-line depreciation for the RAB roll forward. We consider SP AusNet's depreciation method for the purposes of RAB roll forward is consistent with the NER and that approved for its previous determinations.[415] However, we made two adjustments in SP AusNet's depreciation model to ensure the use of relevant inputs are consistent with those in the RFM:

412 NER, clause S6A.2.1(f)(1).
413 *Income Tax Assessment Act 1997*, section 26-10.
414 *Nilsen Development Laboratories Pty Ltd and Others v Federal Commissioner of Taxation (1981) 33 ALR 161 at 165–6.*
415 NER, clause S6A.2.1(f)(5).

- We changed the 2007–08 forecast capex inputs in SP AusNet's depreciation model to reflect the actual CPI adjusted 2007–08 forecast capex values as shown in the approved RFM for the previous 2009 determination.
- We changed the CPI adjusted WACC values in SP AusNet's depreciation model to be consistent with those used in the RFM for this determination.

Other minor input errors in the roll forward model

We identified and corrected the following input errors in the proposed RFM:

- SP AusNet's 2007–08 forecast inflation input of 2.6 per cent is not correct. The correct forecast inflation input for that year is 2.04 per cent.[416]
- SP AusNet's nominal vanilla WACC input of 9.52 per cent applying to 2007–08 is not correct. The nominal vanilla WACC input for that year approved in the 2002 decision is 8.23 per cent.[417]

Equity raising costs—2002 decision on regulatory asset base

In its 2002 revenue cap decision, the ACCC provided a perpetuity allowance for equity raising costs in SP AusNet's opex building block.[418] Consistent with the ACCC's decision, SP AusNet proposed $3.4 million of equity raising costs in its proposed total opex for the 2014–17 regulatory control period.[419]

While the ACCC provided the equity raising cost allowance in opex, based on the perpetuity method, we consider that there is merit in treating this allowance as a part of SP AusNet's RAB—that is, to capitalise the allowance. This approach would improve transparency, given that the nature of the allowance is associated with the opening RAB. It also ensures that future revenue resets for SP AusNet would be administratively simpler in the provision of such an allowance. We applied the same approach in the 2008 final decision for ElectraNet.[420] We discussed with SP AusNet about capitalising these costs. SP AusNet agreed with our approach.[421]

Treating the equity raising cost allowance in perpetuity or in the RAB is net present value (NPV) neutral. In converting the allowance from a perpetuity approach to a capitalisation approach, we took the following steps:

1. We applied the benchmark equity raising transaction cost of 3.55 per cent approved in the ACCC 2002 revenue cap decision to the equity component of SP AusNet's 2003 opening RAB and capex incurred over the 2003–08 regulatory control period.
2. We adjusted the sum of the amounts calculated in step 1 for the perpetuity allowances received over previous regulatory control periods and the foregone returns as at 1 April 2014 if the equity raising costs were instead capitalised.

We determine that an amount of $53.4 million ($2013–14) should be added to SP AusNet's opening RAB as at 1 April 2014 to ensure there is no difference in NPV terms between the two approaches. This amount will be amortised over the life of SP AusNet's RAB for the purpose of providing the equity

416 ACCC, *Decision: Victorian transmission network revenue caps 2003-2008*, December 2002, p. ix.
417 ACCC, *Decision: Victorian transmission network revenue caps 2003-2008*, December 2002, p. ix.
418 ACCC, *Decision: Victorian transmission network revenue caps 2003-2008*, December 2002, pp. 86–87.
419 SP AusNet, *Revenue proposal*, pp. 145–6.
420 AER, *Final decision, ElectraNet transmission determination 2008–09 to 2012–13*, 11 April 2008, pp. 87–8.
421 SP AusNet, *Response to information request AER RP 58, Capitalisation of equity raising costs*, 16 July 2013.

raising cost allowance associated with SP AusNet's 2003 opening RAB and capex incurred over the 2003–08 regulatory control period.[422]

5.4.2 Forecast closing RAB as at 31 March 2017

We forecast SP AusNet's closing RAB will be $3057.3 million by 31 March 2017, which represents a 5.8 per cent reduction on SP AusNet's proposal.[423] This reduction reflects our draft decision on the inputs for determining the forecast RAB in the PTRM.

Our draft decision on the forecast RAB reflects those aspects of the draft decision that relate the value of RAB. To determine the forecast RAB value for SP AusNet, we amended the following PTRM inputs:

- We increased SP AusNet's proposed opening RAB as at 1 April 2014 by $7.1 million or 0.2 per cent (section 5.4.1).
- We reduced SP AusNet's proposed forecast capex for the 2014–17 regulatory control period by $168.0million or 30 per cent (attachment 2).
- We increased SP AusNet's proposed forecast regulatory depreciation allowance by $2.1 million or 0.9 per cent (attachment 6).

5.5 Revisions

Revision 5.1: We determine that SP AusNet's opening RAB as at 1 April 2014 is $2873 million as set out in Table 5.1.

Revision 5.2: We determine that SP AusNet's forecast opening RAB for each year of the 2014–17 regulatory control is as set out in Table 5.2.

422 As discussed in attachment 6, we determined a standard asset life of 28 years for amortisation purposes.

423 At the next reset, the RAB roll forward for establishing SP AusNet's opening RAB value as at 1 April 2017 will be based on actual capex during the 2014–17 regulatory control period and actual depreciation values calculated for that period.

6 Regulatory depreciation

The AER is required to decide on SP AusNet's indexation of the regulatory asset base (RAB) and depreciation building blocks for the 2014–17 regulatory control period.[424] The regulatory depreciation allowance (or return of capital) is the net total of the straight-line depreciation (negative) and the indexation of the RAB (positive). It comprises about 15 per cent of SP AusNet's proposed total revenue.[425]

This attachment sets out our draft decision on SP AusNet's regulatory depreciation allowance. It also presents our draft decision on the proposed depreciation schedule, including an assessment of the standard and remaining asset lives to be used for depreciation over the 2014–17 regulatory control period.

6.1 Draft decision

We do not accept SP AusNet's proposed regulatory depreciation allowance of $239.1 million ($ nominal) for the 2014–17 regulatory control period. Instead, we determine a regulatory depreciation allowance of $241.2 million ($ nominal). Our draft decision represents an increase of $2.1 million (or 0.9 per cent) to the proposal. The change reflects our determinations on other components of SP AusNet's proposal that affect the regulatory depreciation allowance—for example, the forecast capital expenditure (capex) (attachment 2) and the opening RAB as at 1 April 2014 (attachment 5).[426] Table 6.1 sets out our draft decision on SP AusNet's annual regulatory depreciation allowance for the 2014–17 regulatory control period.

Table 6.1 AER's draft decision on SP AusNet's depreciation allowance, 2014–17 regulatory control period ($ million, nominal)

	2014–15	2015–16	2016–17	Total
Straight-line depreciation	147.4	153.2	160.1	460.7
Less: inflation indexation on opening RAB	71.8	73.1	74.6	219.5
Regulatory depreciation	75.6	80.0	85.5	241.2

Source: AER analysis.

6.2 SP AusNet's proposal

SP AusNet proposed a forecast regulatory depreciation allowance of $239.1 million ($ nominal) over the 2014–17 regulatory control period (Table 6.2). The calculations were based on straight-line depreciation and standard asset lives for each regulatory asset class.[427] To calculate the depreciation allowance, SP AusNet proposed:

- standard asset lives for depreciating new assets associated with forecast capex for the 2014–17 regulatory control period. SP AusNet did not propose any change to its standard

[424] NER, clauses 6A.5.4(a)(1) and (3).
[425] SP AusNet, *Revenue proposal*, p 24.
[426] NER, clause 6A.6.3(a)(1).

asset lives approved in the 2009 transmission determination. It also did not propose any new asset classes for the 2014–17 regulatory control period

- to depreciate the opening RAB value established in 2003 (when first regulated) and the actual capex for 2003–14 using the asset lives approved for the respective regulatory control periods in the 2003 and 2008 transmission determinations. SP AusNet's depreciation approach accounted for the remaining asset lives for each year's capex within each asset class separately. Therefore, under this approach, SP AusNet did not propose any remaining economic lives for each asset class as at 1 April 2014 for depreciating existing assets in the opening RAB.

Table 6.2 SP AusNet's proposed depreciation allowance, 2014–17 regulatory control period ($ million, nominal)

	2014–15	2015–16	2016–17	Total
Straight-line depreciation	145.5	153.8	163.3	462.6
Less: inflation indexation on opening RAB	71.6	74.5	77.4	223.5
Regulatory depreciation	73.9	79.3	85.9	239.1

Source: SP AusNet, *Revenue proposal*, p. 170.

6.3 Assessment approach

We are required to determine the regulatory depreciation allowance as a part of a TNSP's annual building block revenue requirement.[428] Our calculation of SP AusNet's regulatory depreciation building block is made in the post-tax revenue model (PTRM) and depends on several components. The calculation of depreciation in each year is governed by the value of assets included in the RAB at the beginning of the regulatory year and the depreciation schedules.

Our standard approach to calculating depreciation is to employ the straight-line method as set out in the PTRM. We consider that the straight-line method of depreciation satisfies the National Electricity Rules (NER) requirements in clause 6A.6.3(b). It provides an expenditure profile that reflects the nature of the assets over their economic life.[429] Regulatory practice has been to assign a standard asset life to each category of assets that represents the economic or technical life of the asset or asset class. We must consider whether the proposed depreciation schedules conform to the following requirements:

- The schedules depreciate using a profile that reflects the nature of the assets or category of assets over the economic life of that asset or category of assets.[430]
- The sum of the real value of the depreciation attributable to any asset or category of assets must be equivalent to the value at which that asset or category of assets was first included in the RAB for the relevant transmission system.[431]

To the extent that a TNSP's revenue proposal does not comply with the above requirements, we must determine the depreciation schedules for calculating the depreciation for each regulatory year.[432]

428 NER, clause 6A.6.3(a)(1).
428 NER, clause 6A.5.4(a)(3).
429 NER, clause 6A.6.3(b)(1).
430 NER, clause 6A.6.3(b)(1).
431 NER, clause 6A.6.3(b)(2).

The regulatory depreciation allowance is an output of the PTRM. We therefore have assessed SP AusNet's proposed regulatory depreciation allowance by analysing the proposed inputs to the PTRM for calculating the regulatory depreciation allowance. These inputs include:

- the opening RAB as at 1 April 2014
- the forecast net capex in the 2014–17 regulatory control period
- the forecast inflation rate for the 2014–17 regulatory control period
- the standard asset life for each asset class—used for calculating the depreciation of new assets associated with forecast net capex in the 2014–17 regulatory control period
- the remaining asset life for each asset class[433]—used for calculating the depreciation of existing assets associated with the opening RAB as at 1 April 2014.

Our draft decision on SP AusNet's regulatory depreciation allowance reflects our determinations on the forecast capex, forecast inflation and opening RAB as at 1 April 2014 building block components (the first three inputs in the above list). Our determinations on these components of SP AusNet's proposal are discussed in attachment 5, attachment 2 and attachment 4 respectively.

In this attachment, we assessed SP AusNet's proposed standard asset lives against:

- the approved standard asset lives in our transmission determination for SP AusNet for the 2008–14 regulatory control period
- the approved standard asset lives of comparable asset classes in our recent transmission determinations for other TNSPs.

The PTRM's standard approach for depreciating a TNSP's existing assets is to use the remaining asset lives at the start of a regulatory control period as determined in the roll forward model (RFM). Our RFM uses the weighted average method to establish a remaining asset life for each asset class. The weighted average method rolls forward the remaining asset life for an asset class from the beginning of the current regulatory control period. This approach reflects the mix of assets within that asset class, when they were acquired over that period (or if they were existing assets), and the remaining value of those assets (used as a weight) at the end of the period. SP AusNet did not propose remaining asset lives at 1 April 2014 because it used an alternative approach to model the forecast straight-line depreciation of its existing assets and new assets. We therefore assessed SP AusNet's depreciation approach against the requirements of the NER.

6.4 Reasons for draft decision

We accept SP AusNet's proposed straight-line depreciation method for calculating the regulatory depreciation allowance. However, we increased SP AusNet's proposed regulatory depreciation allowance by $2.2 million ($ nominal), or 0.9 per cent, for the following reasons:

- Our determination on other components of SP AusNet's revenue proposal—for example, the forecast capex (attachment 2) and the opening RAB as at 1 April 2014 (attachment 5)—affect the forecast regulatory depreciation allowance.

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[432] NER, clause 6A.6.3(a)(2)(ii).

[433] SP AusNet did not propose any remaining asset lives as at 1 April 2014 for its asset classes. As discussed in section 6.4.2, we accept SP AusNet's approach for determining the depreciation allowance for the 2014–17 regulatory control period.

- We established a standard asset life of 28 years for amortising SP AusNet's equity raising costs allowance associated with the ACCC's revenue cap decision for the 2003–08 regulatory control period as discussed in attachment 5.
- We made minor adjustments to the CPI adjusted WACC values in SP AusNet's depreciation model.

6.4.1 Standard asset lives

We accept SP AusNet's proposed standard asset lives, because they are:

- consistent with our approved standard asset lives for SP AusNet's 2008–14 regulatory control period
- comparable with the standard asset lives approved in our recent transmission determinations for other TNSPs.

Also, we determined a standard asset life of 28 years for amortising SP AusNet's equity raising costs allowance associated with the revenue cap decision for the 2003–08 regulatory control period. As discussed in attachment 5, we decided to convert the allowance from a perpetuity approach to a capitalisation approach by establishing a new asset class for these equity raising costs. In doing so, we calculate a standard asset life of 28 years for amortisation purposes. This life reflects the weighted average of SP AusNet's remaining asset lives for the opening RAB as at 1 January 2003 and the standard asset lives for the 2003–08 forecast capex. Our draft decision on SP AusNet's standard asset lives is set out in Table 6.3.

The EUCV submitted that SP AusNet has the incentive to replace assets as soon as they are fully depreciated.[434] As discussed in section 6.3, we assessed SP AusNet's proposed depreciation schedule against the requirements of the NER. Our approved standard asset lives generally reflect the technical useful lives of SP AusNet's transmission assets. We note that the age of an asset is not the sole factor for decising whether it should be replaced, and SP AusNet adoptes an asset condition based approach for determining its replacement programs. This approach may result in assets being replaced earlier or later than the end of the approved standard asset lives. Attachment 2 sets out our assessment of SP AusNet's proposed replacement capex for the 2014–17 regulatory control period.

[434] EUCV, *Response to 2013 AER review of Victorian electricity transmission*, 2013, p. 27.

Table 6.3 AER's draft decision on SP AusNet's standard asset lives

Asset class	Standard asset life (years)
Secondary	15
Switchgear	45
Transformers	45
Reactive	40
Towers and Conductor	60
Establishment	45
Communications	15
Inventory	n/a
IT	5
Vehicles	7
Other	10
Premises	10
Land	n/a
Easements	n/a
Equity raising costs (2003-08)	28

Source: AER analysis.
n/a: not applicable.

6.4.2 Remaining asset lives as at 1 April 2014

SP AusNet did not propose any remaining asset lives at the asset class level. As discussed in section 6.2, SP AusNet did not use the standard straight-line depreciation calculation in the PTRM and proposed a separate model for calculating its forecast straight-line depreciation. Unlike our standard approach in the PTRM, SP AusNet's model does not require a weighted remaining asset life for each asset class at the start of each regulatory control period. This is because SP AusNet's model adopts a more disaggregated approach in which the remaining asset lives for each year's capex are separately accounted for within each asset class. SP AusNet used the same depreciation method approved for its 2008 transmission determination.

Although we generally prefer a TNSP to use our standard approach in the PTRM for calculating depreciation, we accept SP AusNet's proposed depreciation approach for the 2014–17 regulatory control period. This is because SP AusNet's depreciation approach complies with the requirements of the NER.[435] In accepting the proposed depreciation approach, we have updated the 2014–17 forecast capex inputs in SP AusNet's depreciation model to reflect our adjustments to the forecast capex allowance in this decision, as discussed in attachment 2. We also changed the CPI adjusted WACC input values in SP AusNet's model, to be consistent with those input values used in the RFM for this decision.

[435] NER, clause 6A.6.3(b).

6.5 Revisions

Revision 6.1: We determine SP AusNet's forecast regulatory depreciation allowance to be $241.2 million ($ nominal) over the 2014–17 regulatory control period as set out in Table 6.1.

Revision 6.2: We determine SP AusNet's standard asset lives as at 1 April 2014 for the 2014–17 regulatory control period to be as set out in Table 6.3.

7 Corporate income tax

The AER is required to make a decision on the estimated cost of corporate income tax.[436] Under the post-tax framework, a corporate income tax allowance is calculated as part of the building block assessment using our post-tax revenue model (PTRM).

This attachment sets out our draft decision on SP AusNet's proposed corporate income tax allowance for the 2014–17 regulatory control period. It also presents our assessment of SP AusNet's proposed opening tax asset base (TAB), and the standard and remaining tax asset lives used to estimate tax depreciation for the purpose of calculating the estimated cost of corporate income tax allowance.

7.1 Draft decision

We do not accept SP AusNet's proposed estimated cost of corporate income tax allowance of $24.6 million ($ nominal) for the 2014–17 regulatory control period. We determine the estimated corporate income tax allowance of SP AusNet to be $24.8 million ($ nominal), which represents an increase of $0.3 million (or 1.0 per cent) to the proposal. This increase has been made for the following reasons:

- We accept SP AusNet's proposed method of establishing the opening TAB as at 1 April 2014. However, we increased SP AusNet's proposed TAB as at 1 April 2014 to $2199 million ($ nominal) from $2171 million. This increase is due to some adjustments we made in the asset base roll forward model (RFM). As discussed in attachment 5, we capitalised in the RAB the perpetuity equity raising costs provided for SP AusNet in the ACCC's 2002 revenue cap decision. Therefore, we included $53.4 million to the opening TAB to be consistent with the RAB. Our adjustments to the actual capex values in the RFM also affect the opening TAB value.
- We accept SP AusNet's proposed standard tax asset lives for its asset classes. We determine a standard tax asset life of 5 years for the equity raising costs asset class for tax depreciation purposes.
- We accept SP AusNet's proposed weighted average method to calculate the remaining tax asset lives as at 1 April 2014. In accepting the weighted average method, we have updated the proposed remaining tax asset lives to reflect our adjustments to SP AusNet's actual capex for the 2008–14 regulatory control period in the RFM.
- Our determinations on other building blocks including forecast capex (attachment 2) and forecast opex (attachment 3) also impact the estimated corporate income tax allowance.[437]

Based on the approach to modelling the cash flows in the PTRM, we have derived an effective tax rate of 22.15 per cent for this draft decision. Table 7.1 sets out our draft decision on SP AusNet's estimated corporate income tax allowance over the 2014–17 regulatory control period.

436 NER, clause 6A.5.4(a)(4).
437 NER, clause 6A.6.4.

Table 7.1 AER's draft decision on SP AusNet's corporate income tax allowance ($ million, nominal)

	2014–15	2015–16	2016–17	Total
Tax payable	23.4	23.0	24.5	70.9
Less: value of imputation credits	15.2	14.9	15.9	46.1
Net corporate income tax allowance	8.2	8.0	8.6	24.8

Source: AER analysis.

7.2 SP AusNet's proposal

SP AusNet proposed a corporate income tax allowance of $24.6 million ($ nominal) over the 2014–17 regulatory control period as shown in Table 7.2.[438] It estimated the corporate income tax allowance using the AER's PTRM and the following input values:[439]

- an opening TAB of $2171 million ($ nominal) as at 1 April 2014
- an expected statutory income tax rate of 30 per cent per year
- a value for the assumed utilisation of imputation credits (gamma) of 0.65
- standard tax asset lives and remaining tax asset lives contained in its proposed PTRM.[440]

Table 7.2 SP AusNet's proposed corporate income tax allowance ($ million, nominal)

	2014–15	2015–16	2016–17	Total
Tax payable	23.2	22.6	24.5	70.2
Less: value of imputation credits	15.1	15.9	15.9	45.6
Net corporate income tax allowance	8.1	7.9	8.6	24.6

Source: SP AusNet, *Regulatory proposal*, p. 175.

7.3 Assessment approach

We are required to estimate SP AusNet's cost of corporate income tax for each year of the 2014–17 regulatory control period under clause 6A.6.4(a) of the NER. Our approach for calculating SP AusNet's cost of corporate income tax is set out in our PTRM and involves the following steps:

- First, we estimate the annual taxable income that would be earned by a benchmark efficient TNSP operating SP AusNet's business.[441] A TNSP's taxable income is calculated by adjusting the approved forecast revenues by benchmark estimates of tax expenses. Using the PTRM, we model SP AusNet's benchmark tax expenses, including interest tax expense and tax depreciation, over the 2014–17 regulatory control period. The interest tax expense is estimated using the benchmark 60 per cent gearing. Tax depreciation is calculated using a separate tax asset value, and standard and remaining asset lives for tax purposes. All tax

438 SP AusNet, *Revenue proposal*, 28 February 2013, p. 175.
439 SP AusNet, *PTRM*, February 2013.
440 SP AusNet, *PTRM*, February 2013.
441 NER, clause 6A.6.4(a)(2).

expenses (including other expenses such as opex) are offset against the TNSP's forecast revenue to estimate the taxable income.

- The statutory income tax rate is then applied to the estimated annual taxable income to arrive at a notional amount of tax payable.
- We then apply a discount to that notional amount of tax payable to account for the assumed utilisation of imputation credits (gamma).
- The final estimate of tax payable net of assumed utilised imputation credits is then included as a separate building block in determining the TNSP's annual building block revenue requirement.

The corporate income tax allowance is an output of our PTRM. We therefore have assessed SP AusNet's proposed corporate income tax allowance by analysing the proposed inputs to the PTRM for calculating the tax allowance. These inputs include:

- The opening TAB as at 1 April 2014: We consider that the roll forward of the opening tax asset base to 1 April 2014 should be based on the approved opening TAB as at 1 April 2008 and SP AusNet's actual capex in the 2008–14 regulatory control period.
- The standard tax asset life for each asset class: We assess SP AusNet's proposed standard tax asset lives, where necessary, against those prescribed by the Commissioner for taxation in Tax Ruling 2012/2 and the approved standard tax asset lives in the 2008–14 regulatory control period.
- The remaining tax asset life for each asset class at 1 April 2014: Our preferred method to determine the remaining tax asset lives is the weighted average method.[442] We consider the weighted average method provides a better reflection of the mix of assets within an asset class and the effective life of the asset class.
- The income tax rate: The statutory income tax rate is 30 per cent per year.
- The value of gamma: The value of gamma for SP AusNet is 0.65, which is consistent with the value determined in the WACC review.[443]

7.4 Reasons for draft decision

We do not accept SP AusNet's proposed estimated cost of corporate income tax allowance of $24.6 million ($ nominal) for the 2014–17 regulatory control period. This is because we adjusted several of SP AusNet's proposed inputs to the PTRM for tax purposes, which include:

- the opening TAB as at 1 April 2014 (section 7.4.1)
- the remaining tax asset lives at 1 April 2014 for several asset classes (section 7.4.3)

Our determinations on other building blocks including forecast opex (attachment 3) and forecast capex (attachment 2) also impact the estimated corporate income tax allowance.[444]

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442 The weighted average method involves weighting the remaining life of each capital stream within an asset class (that is, the opening tax capital value and the capital expenditures for each year) by the closing tax capital value of that capital stream as a proportion of the total closing tax capital value of the asset class as a whole. The resulting individual values for each capital stream are then added together to obtain the overall weighted average remaining life of the asset class.

443 The value of gamma is also discussed in attachment 4 regarding the cost of capital.

444 NER, clause 6A.6.4.

We determine the estimated cost of corporate income tax of SP AusNet to be $24.8 million ($ nominal), which represents an increase of $0.3 million (or 1.0 per cent) to the proposal.

7.4.1 Tax asset base as at 1 April 2014

We accept SP AusNet's proposed method to establish the opening TAB as at 1 April 2014. However, we increased SP AusNet's proposed opening TAB to $2199 million ($ nominal) from $2171 million. This increase is due to some adjustments we made in the RFM. In the RAB roll forward, we decided to capitalise the perpetuity equity raising costs provided for SP AusNet in the ACCC's 2002 revenue cap decision. Therefore, we included $53.4 million to the opening TAB to be consistent with the adjustment made to the RAB. Our adjustments to the actual capex values in the RFM also affect the opening TAB value.

Table 7.3 sets out our draft decision on the roll forward of SP AusNet's TAB for the 2008–14 regulatory control period.

Table 7.3 AER's draft decision on SP AusNet's tax asset base roll forward ($ million, nominal)

	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14
Opening TAB	1888.5	1858.2	1869.6	1897.9	1933.5	1983.9
Capital expenditurea	38.9	82.8	105.1	117.9	138.5b	137.2b
Tax depreciation	–69.3	–71.3	–76.9	–82.3	–88.1	–95.9
Opening Group 3 tax asset value as at 1 April 2014						120.2
Equity raising costs (2003–08)						53.4
Closing TAB						2198.9

Source: AER analysis.
(a) As commissioned, net of disposals.
(b) Based on estimated capex.

7.4.2 Standard tax asset lives

We accept SP AusNet's proposed standard tax asset lives because they are:

- broadly consistent with the values prescribed by the Commissioner for taxation in tax ruling 2012/2
- the same as those approved standard tax asset lives for the 2008–14 regulatory control period.

Also, we determined a standard tax asset life of 5 years for SP AusNet's equity raising costs asset class for tax depreciation purposes. As discussed in attachment 5, we decided to convert the equity raising costs allowance associated with SP AusNet's revenue cap decision for the 2003–08 regulatory control period from a perpetuity approach to a capitalisation approach by establishing a new asset class for these costs. The Australian Taxation Office (ATO) requires equity raising costs to be

depreciated over a five-year period on a straight-line basis.[445] In recent transmission determinations, we adopted a standard tax asset life of 5 years for the equity raising cost asset class for tax depreciation purposes.[446] Therefore, we will apply the same standard tax asset life for SP AusNet for tax depreciation purposes over the 2014–17 regulatory control period. We consider this standard tax asset life provides a better estimate of the tax depreciation amount for a benchmark efficient TNSP as required by the NER.[447]

Table 7.4 sets out our draft decision on SP AusNet's standard tax asset lives for the 2014–17 regulatory control period.

7.4.3 Remaining tax asset lives

We accept SP AusNet's proposed weighted average method to calculate the remaining tax asset lives as at 1 April 2014. In accepting the weighted average method, we have updated the proposed remaining tax asset lives to reflect our adjustments to SP AusNet's actual capex in the RFM, as discussed in attachment 7.[448] This is because the actual capex values are inputs for calculating the weighted average remaining tax asset lives in the RFM.

Table 7.4 sets out the our draft decision on SP AusNet's remaining tax asset lives as at 1 April 2014 for the 2014–17 regulatory control period.

445 ATO, *Guide to depreciating assets 2001-02: Business related costs—section 40-880 deductions*, ATO reference; NO NAT7170, p. 25.
446 AER, *Draft decision: Powerlink transmission determination 2012–13 to 2016–17*, November 2011, pp. 265–266.
447 NER, clause 6A.6.4(a)(2).
448 At the time of this draft decision, the roll forward of SP AusNet's TAB includes estimated capex values for 2012–13 and 2013–14. We will update the 2012–13 estimated capex value for our final decision with the actual value. We may update the 2013–14 capex value if SP AusNet's revised proposal includes a more up-to-date estimate. The 2012–13 and 2013–14 capex values are used to calculate the weighted average remaining tax asset lives in the RFM. Therefore, we will recalculate SP AusNet's remaining tax asset lives as at 1 April 2014 using the method approved in this draft decision to reflect the actual 2012–13 capex (and the 2013–14 capex revised estimate where relevant) for the final decision.

Table 7.4 AER's draft decision on SP AusNet's opening tax asset base as at 1 April 2014, standard tax asset lives and remaining tax asset lives as at 1 April 2014

Asset class	Standard tax asset life (years)	Remaining tax asset life at 1 April 2014 (years)
Secondary	12.5	14.9
Switchgear	40.0	28.8
Transformers	40.0	26.4
Reactive	40.0	17.3
Towers and Conductor	47.5	26.0
Establishment	40.0	32.4
Communications	12.5	9.8
Inventory	n/a	n/a
IT	3.5	2.6
Vehicles	8.0	6.6
Other	10.0	7.1
Premises	20.0	13.6
Land	n/a	n/a
Easements	n/a	n/a
Equity raising costs (2003–08)	5.0	5.0

Source: AER analysis.
n/a: not applicable.

7.5 Revisions

Revision 7.1: We determine SP AusNet's estimated cost of corporate income tax allowance to be $24.8 million ($ nominal) over the 2014–17 regulatory control period, as set out in Table 7.1.

Revision 7.2: We determine SP AusNet's total opening TAB as at 1 April 2014 to be $2199 million ($ nominal), as set out in Table 7.3.

Revision 7.3: We determine SP AusNet's remaining tax asset lives at the beginning of the 2014–17 regulatory control period to be those set out in Table 7.4.

8 Maximum allowed revenue

This attachment sets out the AER's draft decision on SP AusNet's maximum allowed revenue (MAR) for the provision of prescribed transmission services during the 2014–17 regulatory control period. Specifically, the attachment addresses:[449]

- the annual building block revenue requirement
- the X factor
- the annual expected MAR
- the estimated total revenue cap, which is the sum of the annual expected MAR.

We determine SP AusNet's annual building block revenue requirement using a building block approach and the X factors by smoothing the annual building block revenue requirement over the regulatory control period. The X factor is used in the CPI–X methodology to determine the annual expected MAR (smoothed) for each regulatory year of the 2014–17 regulatory control period.

8.1 Draft decision

Our determinations on SP AusNet's proposed building block components have a consequential impact on the annual building block revenue requirement. We have calculated the X factor and the annual expected MAR (smoothed) to reflect our draft decision on SP AusNet's annual building block revenue requirement.

For this draft decision, we approve an estimated total revenue cap of $1528 million ($ nominal) for SP AusNet for the 2014–17 regulatory control period.[450] Our approved X factor is 4.26 per cent per annum for 2015–16 and 2016–17.[451]

Table 8.1 sets out our draft decision on SP AusNet's annual building block revenue requirement, the X factor, the annual expected MAR and the estimated total revenue cap for the 2014–17 regulatory control period.

449 NER, clauses 6A.4.2(a)(1)–(3) and 6A.6.8.

450 The estimated total revenue cap is equal to the total of the annual expected MAR over the 2014–17 regulatory control period.

451 Consistent with SP AusNet's proposal, we have determined a constant X factor to apply over the 2014–17 regulatory control period.

Table 8.1 AER's draft decision on SP AusNet's annual building block revenue requirement, annual expected MAR, estimated total revenue cap and X factor ($ million, nominal)

	2014–15	2015–16	2016–17	Total
Return on capital	213.3	217.3	221.4	652.0
Regulatory depreciation[a]	75.6	80.0	85.5	241.2
Operating expenditure	184.7	193.5	195.7	573.9
Efficiency benefit sharing scheme (carryover amounts)	18.4	16.2	4.1	38.7
Net tax allowance	8.2	8.0	8.6	24.8
Annual building block revenue requirement (unsmoothed)	500.2	515.0	515.4	1530.6
Annual expected MAR (smoothed)	519.0	509.3	499.8	1528.1[b]
X factor (%)	n/a[c]	4.26	4.26	n/a

Source: AER analysis.
(a) Regulatory depreciation is straight-line depreciation net of the inflation indexation on the opening RAB.
(b) The estimated total revenue cap is equal to the total annual expected MAR.
(c) SP AusNet is not required to apply an X factor for 2014–15 because the MAR for 2014–15 will be that set in the final decision. The MAR for 2014–15 is around 7.3 per cent lower than the MAR in the final year of the 2008–14 regulatory control period (2013–14) in real terms, or 5.0 per cent lower in nominal terms.

8.2 SP AusNet's proposal

Based on its proposed building block components, SP AusNet's proposal included a total (smoothed) revenue cap of $1598 million ($ nominal) for the 2014–17 regulatory control period.

Table 8.2 sets out SP AusNet's proposed annual building block revenue requirement, the X factor, the annual expected MAR and the estimated total revenue cap for the 2014–17 regulatory control period.

Table 8.2 SP AusNet's proposed annual building block revenue requirement, annual expected MAR, estimated total revenue cap and X factor ($ million, nominal)

	2014–15	2015–16	2016–17	Total
Return on capital	206.0	214.1	222.6	642.7
Regulatory depreciation[a]	73.9	79.3	85.9	239.1
Operating expenditure	205.2	216.2	220.3	641.7
Efficiency benefit sharing scheme (carryover amounts)	9.4	17.6	22.8	49.8
Net tax allowance	8.1	7.9	8.6	24.6
Annual building block revenue requirement (unsmoothed)	502.5	535.1	560.1	1597.8
Annual expected MAR (smoothed)	502.5	532.1	563.4	1598.0[b]
X factor (%)	n/a	–3.31	–3.31	n/a

Source: SP AusNet, *Post-tax revenue model*, February 2013.
(a) Regulatory depreciation is straight-line depreciation net of the inflation indexation on the opening RAB.
(b) The estimated total revenue cap is equal to the total annual expected MAR.

8.3 Assessment approach

We must make a decision on SP AusNet's total revenue cap for the 2014–17 regulatory control period and the MAR for each regulatory year of the 2014–17 regulatory control period.[452] In making our decision, we adopt a building block approach.[453] Under this approach we determine the value of the building block components that make up the annual building block revenue requirement for each regulatory year. These components include:

- the return on capital, which is a function of the cost of capital and the opening RAB (including the addition of capital expenditure)
- the return of capital (regulatory depreciation), which is based on straight-line depreciation net of the inflation indexation on the opening RAB
- operating expenditure
- the estimated cost of corporate income tax
- other amounts associated with any relevant schemes or carried over from a previous regulatory control period.

We developed the post-tax revenue model (PTRM), which brings together the various building block components and calculates the annual building block revenue requirement for each year of the regulatory control period.[454] The PTRM also calculates the X factors required under the CPI–X methodology which is used to escalate the MAR for each year (other than the first year) of the regulatory control period.[455] Using the X factors and annual building block revenue requirement, the annual expected MAR (smoothed) are forecast for each year of the regulatory control period. A

452 NER, clauses 6A.14.1(i)–(ii).
453 NER, clause 6A.5.4.
454 NER, clause 6A.5.
455 NER, clauses 6A.5.3 and 6A.6.8.

TNSP's revenue proposal must be prepared using our PTRM and comply with the requirements of the submission guidelines.[456]

The annual building block revenue requirement can be lumpy over the regulatory control period. To minimise price shocks, revenues are smoothed within a regulatory control period while maintaining the principle of cost recovery under the building block approach. Smoothing requires diverting some of the cost recovery to adjacent years within the regulatory control period so that the net present value of the annual expected MAR (smoothed revenues) is equal to the net present value of the annual building block revenue requirement (unsmoothed revenues). That is, a smoothed profile of the expected MAR is determined for the regulatory control period under the CPI–X methodology.

The expected MAR for the first year is generally set equal to the annual building block revenue requirement for the first year of the regulatory control period or a similar amount to the MAR for the last year of the previous regulatory control period:[457]

$$MAR_1 = AR_1 \text{ or } MAR_L$$

where:

MAR_1 = the maximum allowed revenue for year 1 of the next regulatory control period

AR_1 = the annual building block revenue requirement for year 1 of the next regulatory control period

MAR_L = the maximum allowed revenue for the last year of the previous regulatory control period.

We use the PTRM to estimate the expected MAR for each year of the regulatory control period by escalating the previous year's expected MAR using a CPI–X method, based on the MAR that applies to the TNSP in the first year of the regulatory control period. The PTRM incorporates a forecast inflation rate to calculate the expected MAR in nominal dollar terms, whereas the actual MAR for each year is adjusted for actual inflation. This annual adjustment process is set out below.

8.3.1 Annual adjustment process

The MAR for the subsequent year of the regulatory control period requires an annual adjustment based on the previous year's allowed revenue (AR).[458] That is, the subsequent year's AR is determined by adjusting the previous year's AR for actual inflation and the X factor:

$$AR_t = AR_{t-1} \times (1 + \Delta CPI) \times (1 - X_t)$$

where:

AR = the allowed revenue

t = time period/financial year (for t = 2, 3)

456 NER, clause 6A.5.1(a).

457 The MAR for year 1 of the next regulatory control period may include adjustment for the performance incentive that applied during the previous regulatory control period, and under or over recovery adjustments from previous regulatory years.

458 In the case of making the annual adjustment for year 2, the previous year's AR would be the same as the annual building block revenue requirement for year 1.

ΔCPI = the annual percentage change in the ABS Consumer price index all groups, weighted average of eight capital cities from September in year t – 2 to September in year t – 1[459]

X = the smoothing factor.

The MAR is determined annually in accordance with the NER by adding to (or deducting from) the AR:

- the service target performance incentive scheme revenue increment (or revenue decrement)[460]
- any approved pass through amounts.[461]

Table 8.3 sets out the timing of the annual calculation of the AR and performance incentive:

MAR_t = (allowed revenue) + (performance incentive) + (pass through)

$$= AR_t + \left(\frac{(AR_{t-1} + AR_{t-2})}{2} \times S_{ct} \right) + P_t$$

where:

MAR = the maximum allowed revenue

AR = the allowed revenue

S = the revenue increment or decrement determined in accordance with the service target performance incentive scheme

P = the pass through amount that the AER has determined in accordance with clauses 6A.7.2 and 6A.7.3 of the NER

t = time period/financial year (for t = 2, 3)

ct = time period/calendar year (for ct = 2, 3).

Under the NER, a TNSP must also adjust the MAR for under or over recovery amounts.[462]

459 In the 2008–14 transmission determination, the CPI required for the annual MAR adjustment process reflects the December quarter CPI, which is typically published by the ABS in late January of the following year. For this transmission determination we require SP AusNet to use the September quarter CPI for the annual MAR adjustment for the 2014–17 regulatory control period. The same set of CPI will be used for the RAB roll forward at the next reset for SP AusNet (31 January 2017). This change will ensure the release of the September quarter CPI is available (typically towards the end of October) for use well before the publication date of the AER's final decision at the next reset.

460 NER, clauses 6A.7.4 and 6A.7.3.

461 NER, clauses 6A.7.2 and 6A.7.3.

462 NER, clauses 6A.23.3(c)(2)(iii) and 6A.24.4(c).

Table 8.3 Timing of the calculation of allowed revenues and the performance incentive

t	Allowed revenue (financial year)	*ct*	Performance incentive (calendar year)
2	1 April 2015–31 March 2016	2	1 January 2014–31 December 2014
3	1 April 2016–31 March 2017	3	1 January 2015–31 December 2015

8.3.2 Average transmission charges

The NER does not require an estimate of transmission price charges for a revenue determination of a TNSP. Nonetheless, we typically provide some indicative transmission price impacts flowing from the revenue determination. Although we assess SP AusNet's and AEMO's proposed pricing methodologies, actual transmission charges established at particular connection points are not determined by us. SP AusNet and AEMO establish the transmission charges in accordance with their approved pricing methodologies and the NER.[463]

8.4 Reasons for draft decision

For this draft decision, we determine a total annual building block revenue requirement of $1531 million ($ nominal) for SP AusNet for the 2014–17 regulatory control period. This compares to SP AusNet's proposed total annual building block revenue requirement of $1598 million ($ nominal) for this period.[464]

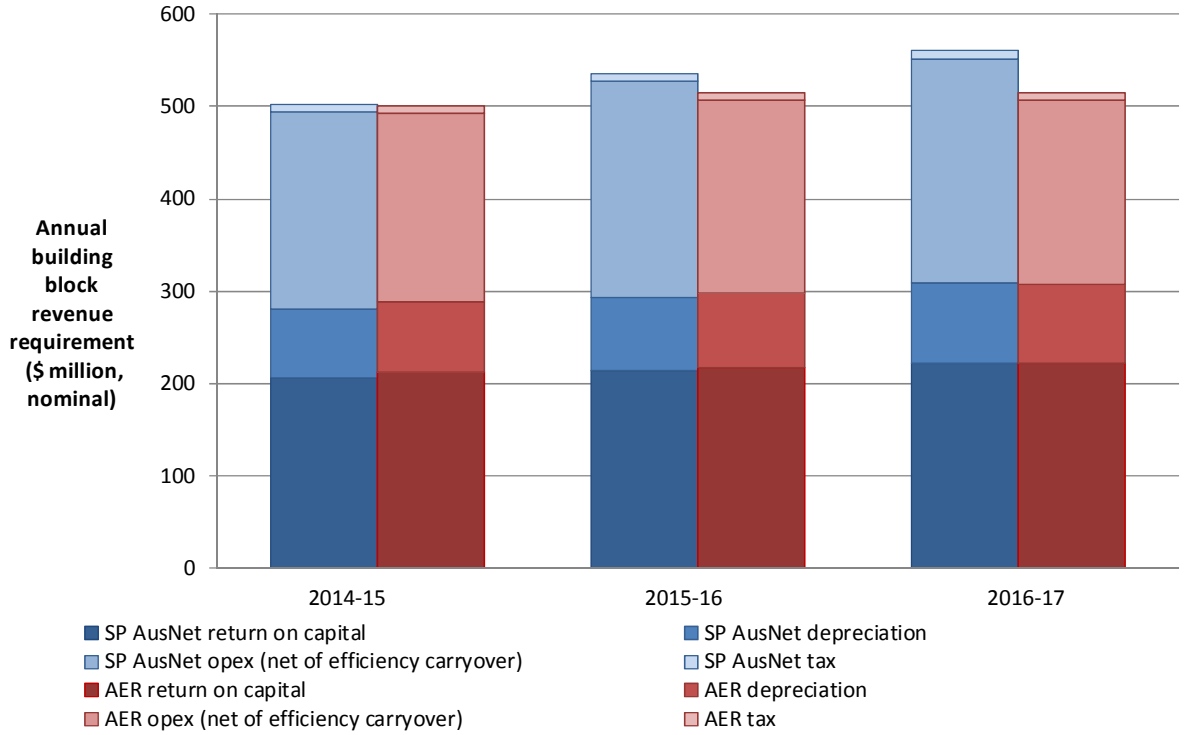
Figure 8.1 shows the building block components from our determination that make up the annual building block revenue requirement for the 2014–17 regulatory control period and the corresponding components from SP AusNet's proposal.

We have calculated the annual building block revenue requirement for SP AusNet based on our draft decision on these building block components. The revenues were affected by our changes to SP AusNet's proposed building blocks. These changes include:

- forecast operating expenditure (attachment 3)
- the cost of capital (attachment 4)
- the opening RABs over the 2014–17 regulatory control period (attachment 5) and forecast capital expenditure (attachment 2)
- forecast regulatory depreciation (attachment 6)
- the estimated cost of corporate income tax (attachment 7).

[463] NER, clause 6A.24.1(d).
[464] SP AusNet, *Revenue proposal*, p. 189.

Figure 8.1 AER's draft decision and SP AusNet's proposed annual building block revenue requirement ($ million, nominal)



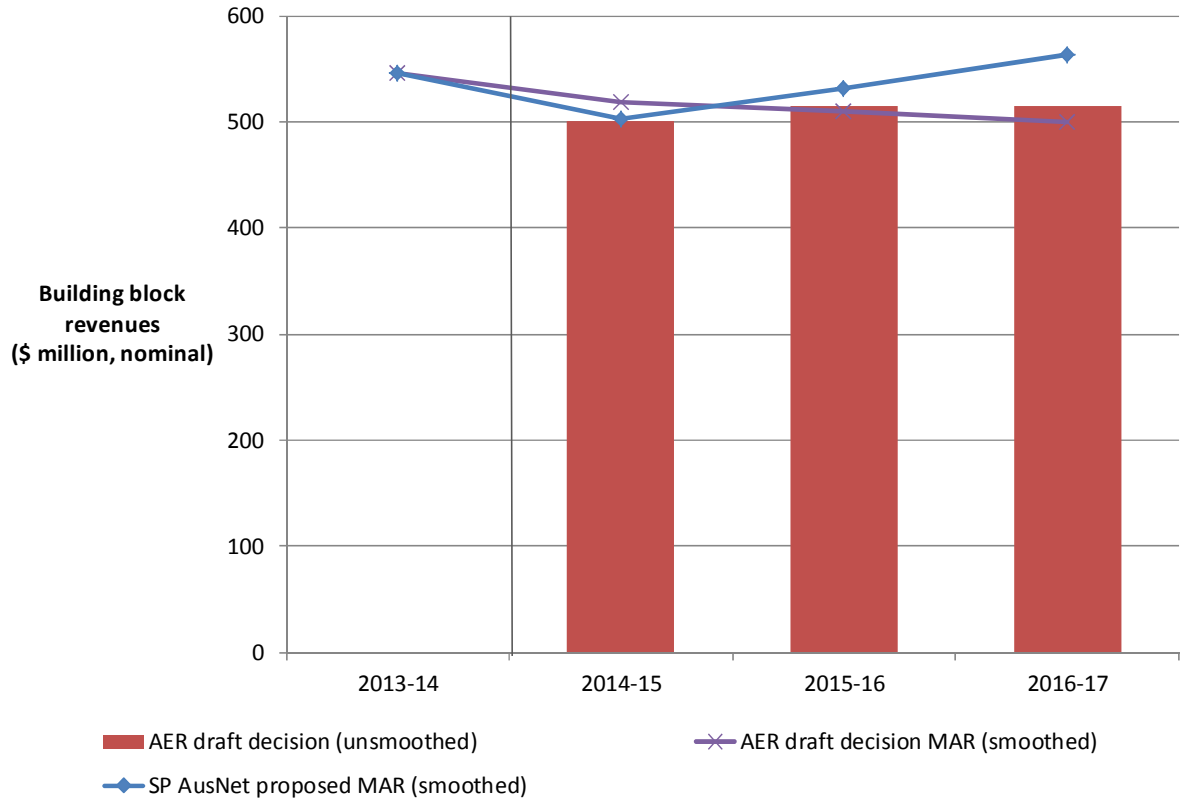
Source: AER analysis.

8.4.1 X factor, annual expected MAR and estimated total revenue cap

For this draft decision, we determine an X factor of 4.26 per cent per annum for 2015–16 and 2016–17. The net present value of the annual building block revenue requirement for the 2014–17 regulatory control period is $1328 million ($ nominal) as at 1 April 2014. Based on this net present value and applying the CPI–X method, we determine that the annual expected MAR (smoothed) for SP AusNet decreases from $519.0 million in 2014–15 to $499.8 million in 2016–17 ($ nominal). The resulting estimated total revenue cap for SP AusNet is $1528 million ($ nominal) for the 2014–17 regulatory control period.

Figure 8.2 shows our draft decision on SP AusNet's annual expected MAR (smoothed revenue) and the annual building block revenue requirement (unsmoothed revenue) for the 2014–17 regulatory control period.

Figure 8.2 AER's draft decision on SP AusNet's annual expected MAR (smoothed) and annual building block revenue requirement (unsmoothed) ($ million, nominal)



Source: AER analysis.

To determine the expected MAR over the 2014–17 regulatory control period, we have set the MAR for the first regulatory year (2014–15) at $519.0 million ($ nominal).[465] This is higher than the annual building block revenue requirement for 2014–15, which is $500.2 million ($ nominal).[466] We then applied an X factor of 4.26 per cent per annum to determine the expected MAR in subsequent years.[467] We consider that this profile of X factors results in an expected MAR in the last year of the 2014–17 regulatory control period that is as close as reasonably possible to the annual building block revenue requirement for that year as required under the NER.[468] We consider a divergence of up to 3 per cent between the expected MAR and annual building block revenue requirement for the last year of the 2014–17 regulatory control period is appropriate, if this can achieve smoother price changes for users over the regulatory control period. In the present circumstances, based on the X factors we have determined, this divergence is 3 per cent.

We have considered stakeholder submissions, which raised concerns with the impact of SP AusNet's revenue determination on the expected electricity price.[469] We have smoothed the estimated total revenue cap as much as possible, consistent with the requirements of the NER and NEL.

The average decrease in our approved expected MAR for SP AusNet is 2.9 per cent per annum ($ nominal) over the 2014–17 regulatory control period. This consists an initial decrease of 5 per cent

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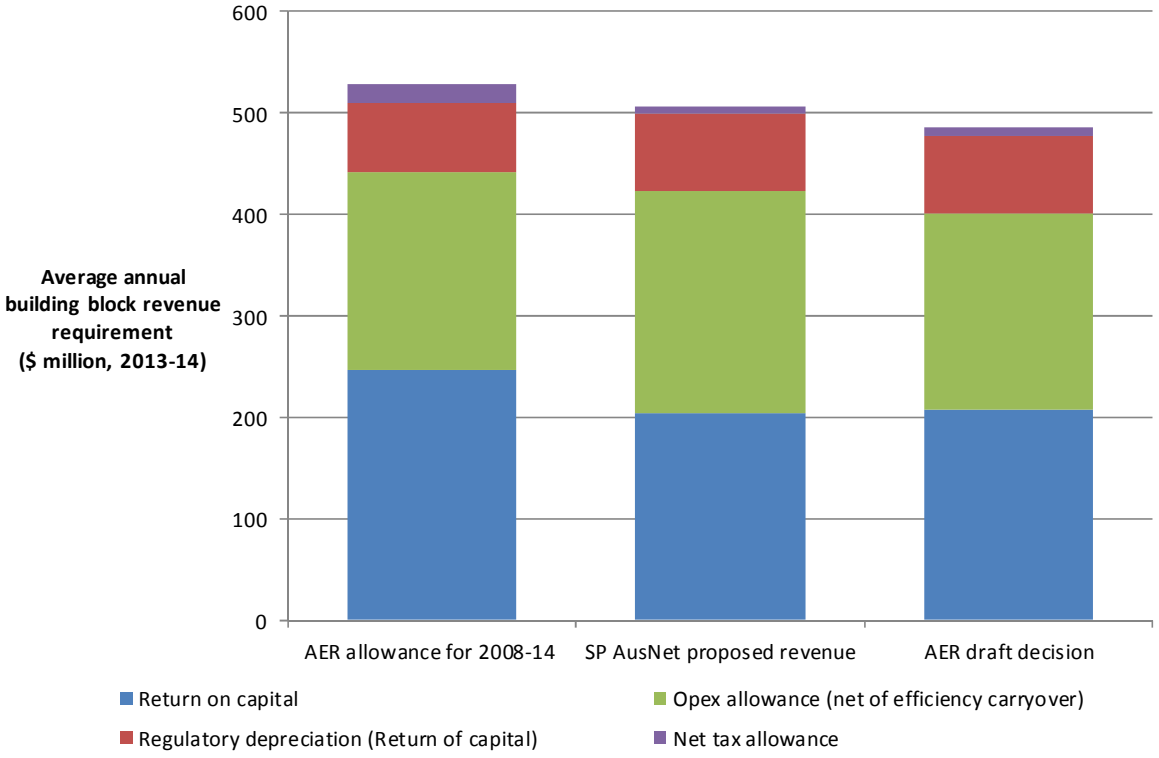
465 NER, clause 6A.5.3(c)(2).
466 The MAR for the last year of the 2008–14 regulatory control period (2013–14) is approximately $546.2 million.
467 NER, clause 6A.5.3(c)(3).
468 NER, clause 6A.6.8(c)(2).
469 EUCV, *AER Victorian electricity transmission revenue reset SP AusNet application*, May 2013, p. 3. EUAA, *Submission to the AER on SPI PowerNet Pty Ltd electricity transmission revenue proposal 2014/15–2016/17*, May 2013, p. 6.

from 2013–14 to 2014–15 and a subsequent average annual decrease of 1.9 per cent during the remainder of the 2014–17 regulatory control period.[470] Our draft decision results in a decrease of 8.1 per cent in real terms ($2013–14) to SP AusNet's average annual revenue relative to that in the 2008–14 regulatory control period.[471] This decrease in revenue is primarily because of a lower WACC applied to this draft decision for the 2014–17 regulatory control period than was approved in the 2008–14 revenue cap decision.[472]

Figure 8.3 compares our draft decision building blocks for SP AusNet's 2014–17 regulatory control period with SP AusNet's proposed revenue requirement for that same period, and the approved revenue for the 2008–14 regulatory control period.

Figure 8.3 Annual average of AER's draft decision building blocks compared to SP AusNet's proposed revenue requirement and approved revenue for 2008–14 ($ million, 2013–14)



Source: AER analysis.

8.4.2 Indicative average transmission price impact

We estimate the effect of the draft decision for SP AusNet's transmission determination on forecast average transmission charges in Victoria by:

470 In real dollar terms, the average decrease in our approved expected MAR for SP AusNet is 5.3 per cent per annum over the 2013–18 regulatory control period. This consists an initial decrease of 7.3 per cent from 2013–14 to 2014–15 and a subsequent average annual decrease of 4.3 per cent during the remainder of the 2014–17 regulatory control period.

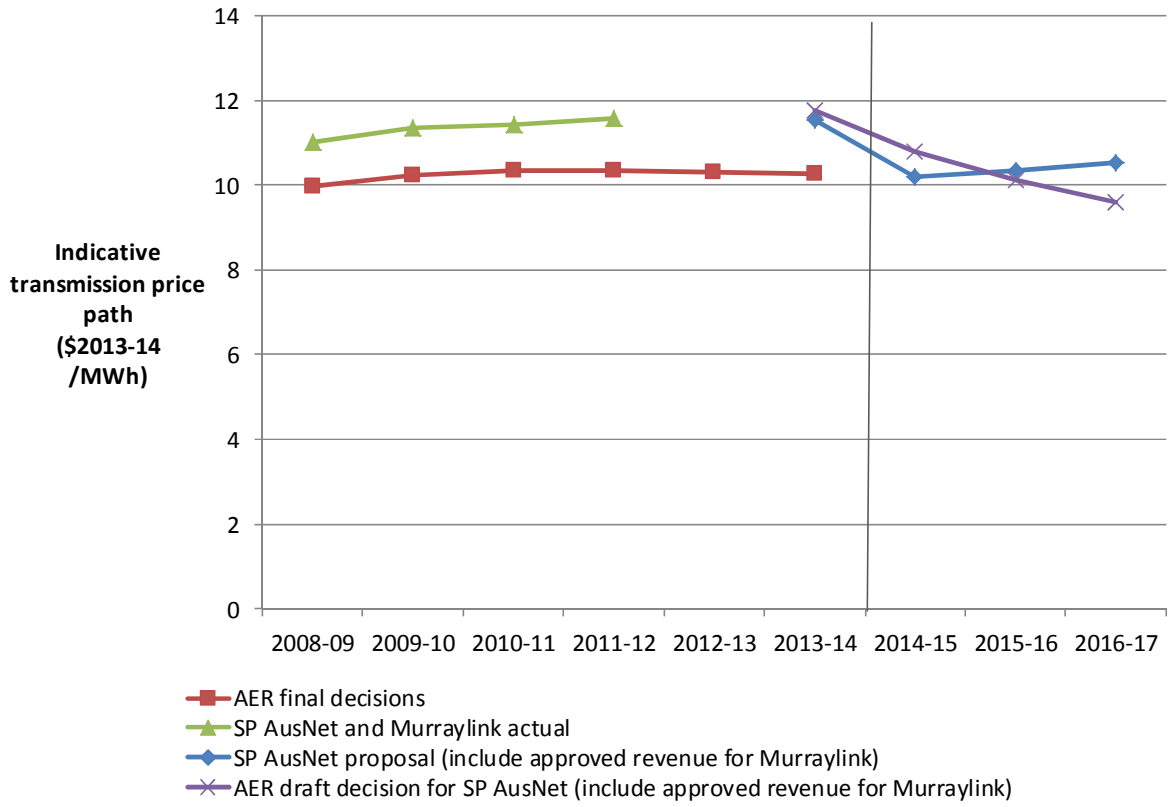
471 Because the regulatory control periods compared are of different lengths, we calculated the annual average revenues for the relevant regulatory control periods for comparison.

472 Our draft decision WACC is 7.43 per cent and the approved WACC for 2008–14 is 9.76 per cent.

- taking the sum of SP AusNet's annual expected MAR determined in this draft decision and the proportion of Murraylink's annual expected MAR for 2014–17 that is allocated to Victorian customers (55 per cent),[473] and
- dividing it by the forecast annual energy delivered in Victoria.[474]

Based on this approach, we estimate that this draft decision will result in a decrease to average transmission charges of 6.6 per cent per annum ($ 2013–14) from 2013–14 to 2016–17.[475] Figure 8.4 shows the indicative average transmission charges resulting from this draft decision for SP AusNet's transmission determination compared with the average transmission charges from 2008 to 2014 in real dollar terms. The average transmission charges are forecast to decrease from around $11.8 per MWh in 2013–14 to $9.6 per MWh in 2016–17.

Figure 8.4 Indicative transmission price path from 2008–09 to 2016–17 ($/MWh, 2013–14)



Source: AER analysis.

In Victoria, transmission charges represent approximately 5 per cent on average of a typical customer's electricity bill.[476] Our draft decision for SP AusNet is not expected to contribute towards

473 Murraylink, *Pricing methodology*, May 2012, p. 3. AER, *Murraylink transmission determination 2013–18*, April 2013, p. 9. Murraylink is an interconnector that provides a path for the flow of electricity to the limit of its 220MW capacity, in both directions, between the South Australian and Victorian transmission networks. About 55 per cent of Murraylink's revenue is from its Victorian customers.

474 AEMO, *National electricity forecasting report*, 2013, table 6-1, Medium.

475 The average decrease in our draft decision MAR ($2013–14) is 5.2 per cent per annum, whereas the average increase in the forecast energy delivered in Victoria is about 1.5 per cent per annum from 2013–14 to 2016–17. The reason for the transmission charge decrease being larger than the revenue decrease is because our draft decision annual MAR ($2013–14) is decreasing on average from 2013–14 to 2016–17 and the annual forecast energy delivered in Victoria is increasing over this period. In nominal terms, this draft decision will result in a decrease in average transmission charges of 4.3 per cent per annum from 2013–14 to 2016–17.

476 This is based on the average proportion of the transmission charges on a typical residential bill from 2001 to 2012. Oakley Greenwood, *Causes of residential electricity bill increases in Victoria, 2001 to 2012*, 2013, p. 11.

any price increase on average for Victorian residential electricity customer bills. We estimate that this draft decision will result in lower transmission charges on average over the 2014–17 regulatory control period compared to SP AusNet's proposal. If these lower transmission charges were passed through to end customers, the average residential electricity bills could be expected to reduce by about $16 in total ($2013–14) or 0.3 per cent per annum during the 2014–17 regulatory control period. In comparison, SP AusNet's proposal would result in an average bill reduction of approximately $7 in total or 0.1 per cent per annum. Table 8.4 shows the estimated impact of our draft decision and SP AusNet's proposal on the average Victorian residential electricity bills by tariff type.

Table 8.4 AER estimated impact of the draft decision for SP AusNet on the average residential electricity bills in Victoria over 2014–17 ($2013–14)

Tariff type[a]	Average annual bill[b]	Total reduction over 2014–17 — SP AusNet' proposal	Total reduction over 2014–17 — AER's draft decision	Impact on annual bill—SP AusNet's proposal (per cent, per annum)	Impact on annual bill—AER's draft decision (per cent, per annum)
Single rate	$1347	–$5	–$12	–0.1	–0.3
Two-rate	$1743	–$7	–$16	–0.1	–0.3
Time-of-use	$2231	–$9	–$20	–0.1	–0.3

Source: Essential services commission Victoria, *Energy retailers comparative performance report—pricing*, p.4; AER analysis.

(a) The single rate tariff is based on 4000 kilowatt hours (kWh) peak consumption per year. This use is typical of a customer who has gas hot water and heating.
The two-rate tariff is based on 4000 kWh peak and 2500 kWh off-peak consumption per year (off-peak is between 11 pm and 7 am). This use is typical of a customer with no gas supply who has off peak electric hot water.
The time-of-use tariff is based on 3000 kWh peak and 6000 kWh off-peak consumption per year. Off-peak includes the whole weekend and between 11 pm and 7 am Monday to Friday. This use is typical of a customer who uses the off-peak time for any purpose over the weekend in addition to hot water and heating overnight.

(b) The average annual bills reflect a weighted average of the market offers and standing offers as shown on the Victorian government's electricity and gas comparator website as at 3 July 2013 (http://yourchoice.vic.gov.au/). They also reflect the average offers across all the distribution zones in Victoria. Retailers who have less than 1000 customers in Victoria are not included in this analysis.

Similarly, for an average electricity bill for businesses in Victoria, our draft decision is not expected to contribute towards any price increase. We estimate that if the lower transmission charges arising from this draft decision were passed through to end customers, the average business electricity customer bills could be expected to reduce by about $65 in total ($2013–14) or 0.3 per cent per annum during the 2014–17 regulatory control period. In comparison, SP AusNet's proposal would result in an average bill reduction of approximately $29 in total or 0.1 per cent per annum. Table 8.5 shows our estimated impact of this draft decision and SP AusNet's proposal on the average Victorian business customer's electricity bills by tariff type.

Table 8.5 AER estimated impact of the draft decision for SP AusNet on the average electricity bills of businesses in Victoria over 2014–17 ($2013–14)

Tariff type[a]	Average annual bill[b]	Total reduction over 2014–17 — SP AusNet	Total reduction over 2014–17 — AER draft decision	Impact on annual bill—SP AusNet's proposal (per cent, per annum)	Impact on annual bill—AER's draft decision (per cent, per annum)
Single rate	$3777	–$15	–$34	–0.1	–0.3
Time-of-use	$10661	–$43	–$96	–0.1	–0.3

Source: Essential services commission Victoria, *Energy retailers comparative performance report—pricing*, p.4; AER analysis.

(a) The single rate business tariff is based on 12000 kWh peak consumption per year. This use is typical of a business that is closed on weekends.
The time-of-use business tariff is based on 25000 kWh peak and 15000 kWh off-peak consumption per year. Off-peak includes the whole weekend. This use is typical of a larger business that is open more than five days a week.

(b) The average annual bills reflect a weighted average of the market offers and standing offers as shown on the Victorian government's electricity and gas comparator website as at 3 July 2013 (http://yourchoice.vic.gov.au/). They also reflect the average offers across all the distribution zones in Victoria. Retailers who have less than 1000 customers in Victoria are not included in this analysis.

8.5 Revisions

Revision 8.1: We determine SP AusNet's annual building block revenue requirement, X factor, annual expected MAR and the estimated total revenue cap over the 2014–17 regulatory control period to be as set out in Table 8.1.

Revision 8.2: We determine SP AusNet's annual adjustment process for the MAR over the 2014–17 regulatory control period to be as set out in section 8.3.1.

9 Service target performance incentive scheme

This attachment sets out the Australian Energy Regulator's (AER) draft decision on SP AusNet's service target performance incentive scheme (STPIS). The STPIS comprises three components: a service component, a network capability component and a market impact component. This attachment deals with each component separately.

Service component

The service component of the STPIS provides a financial incentive for transmission network service providers (TNSPs) to improve and maintain their service performance. This incentive counters the financial incentive under revenue regulation to reduce costs at the expense of service performance. A TNSP's performance is compared against the performance target for each parameter during the regulatory control period. The TNSP may receive a financial bonus for service improvements, or a financial penalty for declines in service performance. The financial bonus (or penalty) is limited to 1 per cent of the TNSP's maximum allowed revenue (MAR) for the relevant calendar year.

We must assess whether SP AusNet's proposed performance targets, caps, collars and weightings comply with the STPIS requirements for:[477]

- average circuit outage rate, with six sub parameters:
  - line outage – fault
  - transformer outage – fault
  - reactive plant – fault
  - line outage – forced outage
  - transformer outage – forced outage
  - reactive plant – forced outage
- loss of supply event frequency, with two loss of supply event subparameters:
  - frequency of events when loss of supply exceeds 0.3 system minutes
  - frequency of events when loss of supply exceeds 0.05 system minutes
- average outage duration
- proper operation of equipment, with three subparameters:
  - failure of protection system
  - material failure of supervisory control and data acquisition (SCADA) system
  - incorrect operational isolation of primary or secondary equipment.

We must accept SP AusNet's proposed parameter values if they comply with the requirements of the STPIS.[478] We may reject them if they are inconsistent with the objectives of the STPIS.[479]

[477] AER, *Final – Electricity transmission network service providers, Service Target Performance Incentive Scheme,* December 2012, clause 3.1.

We will measure actual performance for the 'average circuit outage rate' and 'average outage duration' parameters on a two year rolling average basis. SP AusNet's actual performance in 2014, for example, will be an average of its performance in 2013 and 2014.[480]

Network capability component

The network capability component of the STPIS funds and incentivises TNSPs to identify and implement incremental changes that would improve the capability of the network at times when it is most needed. Examples of such changes include:

- implementing dynamic line ratings to allow for greater network capacity at peak times
- updating system normal constraints to remove redundant inputs to increase flow capacity
- raising the height of towers to address transmission line sag.

As part of its revenue proposal, SP AusNet must submit a network capability incentive parameter action plan (NCIPAP).[481] This plan must identify the reason for limits on each transmission circuit and injection points in the network.[482] It must also list proposed priority projects and project improvement targets that SP AusNet will undertake in the 2014–17 regulatory control period to improve the capability of the transmission circuits and injection points.[483] We must approve a priority project if it is consistent with the requirements of the STPIS.[484]

Each year, SP AusNet will receive an incentive payment equal to 1.5 per cent of its MAR for each year except the final year of the 2014–17 regulatory control period. If the TNSP achieves its priority project improvement target for each priority project, then it will receive an incentive payment of 1.5 per cent of its MAR in the final year. If it does not achieve each priority project target, then we may reduce the incentive payment in the final year. We can reduce the final payment to – 2 per cent of MAR if the TNSP does not achieve any of its proposed priority project improvement targets.[485]

Market impact component

The market impact component provides financial rewards to TNSPs for improvements in their performance measured against a performance target. SP AusNet may earn an additional revenue increment of up to 2 per cent of its MAR for the relevant calendar year. Unlike the service and network capability components, the market impact component has no financial penalty.

The market impact parameter is defined as the number of dispatch intervals when an outage of a TNSP's network results in a network outage constraint with a marginal value greater than $10/MWh.[486]

The market impact component performance target will be an average of three years of performance data. Performance will be measured as a rolling average of the most recent two years of performance data.[487] The target for the 2014 calendar year, for example, will be an average of SP AusNet's 2011, 2012 and 2013 market impact performance, while actual performance in 2014 will be measured as an

478 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 3.*2*(a).
479 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clauses 3.*2*(m).
480 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, Appendix E.
481 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clauses 5.2(b).
482 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clauses 5.2(b)(1).
483 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clauses 5.2(b)(*2*).
484 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 5.2(k).
485 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 5.2(k)
486 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, Appendix C.
487 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 4.2(d) and Appendix F.

average of the TNSP's 2013 and 2014 performance. These targets will be published annually after we have conducted the annual review of SP AusNet's STPIS performance.

9.1 Draft decision

Service component

We do not accept SP AusNet's proposed service component parameter values because they do not comply with the requirements in clauses 3.3 and 3.5 of the STPIS. Specifically, SP AusNet's proposed adjustment to the loss of supply subparameter targets is not justified, and the distributions used to calculate caps and collars are inappropriate.

Table 9.1 sets out our draft decision on SP AusNet's service component parameter values.

Table 9.1 AER's draft decision on SP AusNet's parameter values and weightings for the service component of the STPIS

	Collar	Target	Cap	Weighting (% of MAR)
Average circuit outage rate (%)				0.2
Line outage – fault	42.0%	25.9%	14.8%	0.2
Transformer outage – fault	31.7%	16.1%	7.4%	0.2
Reactive plant – fault	43.8%	32.5%	23.4%	0.1
Line outage – forced outage	17.7%	14.9%	12.3%	0.0
Transformer outage – forced outage	17.6%	12.0%	6.2%	0.0
Reactive plant – forced outage	28.3%	14.8%	3.7%	0.0
Loss of supply event frequency				
>0.05 system minutes	6	2	0	0.15
>0.3 system minutes	2	1	0	0.15
Average outage duration				
Average outage duration	293.5	98.0	5	0.2
Proper operation of equipment				
Failure of protection system	n/a	n/a	n/a	0.0
Material failure of SCADA	2	1	0	0.0
Incorrect operational isolation of primary or secondary equipment	n/a	n/a	n/a	0.0

Sources: SP AusNet, *Revenue proposal*, p. 158; AER analysis.

Network capability component

We accept SP AusNet's proposed priority projects and improvement targets because we consider they meet the requirements of the STPIS. We considered AEMO's review of SP AusNet's priority

projects when making our decision. Table 9.2 sets out our draft decision on SP AusNet's proposed priority projects, improvement targets and project ranking.

Table 9.2 AER's draft decision on SP AusNet's network capability priority projects ($ 000s, 2013–14)

Ranking	Project	Description	Improvement target	Cost
1	Altona terminal station	Protection setting change	ATS 220/66 kV B4 transformer capability to 174 MVA.	14
2	Rowville – Malvern No 1 & 2 220 kV circuits	Installation wind monitoring scheme.	Implement dynamic line ratings for the ROTS–MTS 220 kV circuits. The scheme will be designed to achieve ratings of ROTS–MOTS circuits under favourable conditions as 234 MVA for system normal operation and 267 MVA under contingent conditions provided pre–contingency loading is less than 60% of 234 MVA.	400
3	Dederang circuits	Replacement of interplant connections and protection setting change.	Full use of line thermal capacity of 450MVA, 1043MVA and 977MVA of the (1) Dederang-Glenrowan No.3 220kV circuit, (2) Dederang-Murray No.1 and No.2 330kV circuit and (3) Dederang- Wodonga No.1 330kV circuit respectively during both normal and contingency conditions.	586
4	South Morang – Thomastown No 1 & 2 220 kv circuits	Install wind monitoring scheme.	Implement dynamic ratings for both the SMTS–TTS 220 kV circuits. The scheme will be designed to achieve ratings of SMTS–TTS circuits as 628 MVA.	600
5	Wodonga Terminal Station (WOTS)	Replace 22kV cable connections.	The 22 kv side of WOTS 330/66/22 kV No 1 and No 2 transformers capability is 44 MVA.	778
6	Rowville–East Rowville 220kV circuits and Rowville–Springvale 220kV circuit	Replacement of two 220 kV isolators and protection setting changes.	ROTS–ERTS No 1 and No 2 220 kV circuits capability limited by circuit rating of 800 MVA. Rating of isolators between ROTS No 1 220 kV bus and ROTS–SVTS No 2 line increased to 800 MVA or higher.	999
7	Hazelwood – Loy Yang 500kV circuits	Dynamic line model development and implementation.	Hazelwood–Loy Yang No 1, 2 and 3 500 kV circuits capability implemented in the thermal line model based on ambient temperatures. This is likely to provide short term ratings under favourable ambient temperature and operating conditions,	2
8	Templestowe terminal station	Replace 66 kV interplant connections, review and uprate equipment ratings in RADAR.	TSTS 220/66 kV B1 transformer rating 187 MVA limited by 66 kV busbar rating of 181 MVA. TSTS 220/66 kV transformer rating 192 MVA and limited by 66 kV busbar rating of 181 MVA. TSTS 220/66 kV B2 transformer capability 175 MVA.	377

9	South Morang – Dederang 330kV circuits	Develop the SOCS layout to display combined line and series capacitor bank ratings.	Improved presentation of rating information for the SMTS-DDTS 330kV lines and series capacitor banks in SOCS to assist operators and minimise the risk of operators interpreting the rating information incorrectly.	72
10	Aluminium Customer Substation and Mortlake intertrip control schemes	Establish two intertrip control schemes.	Prevent potential over voltage at APD 500 kV bus during a prior outage of plant connected at APD and MLTS. Minimise potential human error.	400
11	M2 contingency control scheme	Establish contingency control scheme.	During a prior outage of the HYTS–APD No 1 500 kV circuit, reduction in VIC to SA export would be minimised to manage potential over loading on HYTS M1 transformer.	800
12	East Rowville– Cranbourne 220kV circuits	Replace protection relays	East Rowville–Cranbourne No 1 and No 2 220 kV circuits capability 827 MVA.	1033
13	Keilor – Sydenham 500kV circuit and Keilor – South Morang 500kV circuit	Review and uprate equipment ratings in RADAR.	Keilor–Sydenham No 1 500 kV circuit: secondary plant limit 2078 MVA, and Keilor South Morang No 1 500 kV circuit: Secondary plant limit 2078 MVA.	0
14	Thomastown terminal station	Replace 66 kV interplant connections, review and uprate equipment ratings in RADAR.	TTS 220/66 kV B1 transformer rating 201 MVA and limited by 66 kV busbar rating of 181 MVA. TTS 220/66 kV B2 transformer capability 171 MVA, and TTS 220/66 kV B5 transformer capability 172 MVA.	177
15	Ringwood terminal station	Review and uprate equipment ratings in RADAR.	RWTS 220/66 kV B2 transformer rating 185 MVA and limited by 66 kV busbar rating of 181 MVA and RWTS 220/66 kV B3 transformer rating 190 MVA and limited by 66 kV busbar rating of 181 MVA.	0
16	Increase instrumentation range	Increase instrumentation range of 11 transmission circuits.	Increase the instrumentation range of the transmission circuits. See SP AusNet NCIPAP.	400
17	Investigate fault level withstand capability of 220 kV switchyards	Assess the fault level capability of nine terminal stations.	Report on the fault level capability of the equipment, structures and earth grid at the nine specified terminal stations.	5300
18	Fault level withstand capability to 40 kA at 220 kV switchyards	Identify works on equipment and structures at nine terminal stations to increase the 200 kV fault level withstand capability to 40 kA.	Provision of high level scope of works to increase the fault level withstand capability to 40kA at HTS, KTS, MLTS, ROTS, RTS, RWTS, SVTS, TTS and WMTS.	400

19	Geelong – Moorabool 220kV circuits	Isolator replacements	Rating of Geelong–Moorabool No 1 and No2 220 kV circuits of 827 MVA continuous.	871
20	Geelong terminal station	Review and uprate equipment ratings	GTS 220/66 kV B2 transformer rating 169 MVA and GTS 220/66 kV B 4 transformer rating of 177 MVA.	0
21	Moorabool – Mortlake 500kV circuit and Moorabol – Tarrone 500kV circuit	Review and uprate protection settings	Moorabool–Mortlake No 2 500 kV circuit capability is 2858 MVA and Moorabool–Tarrone No 1 500 kV circuit capability is 2858 MVA.	0
22	Horsham terminal station	Protection setting change	HOTS 220/66 kV B2 and B3 transformer capability of 120 MVA.	14
		Total cost		**13 220**

Market impact component

We have not made a decision on SP AusNet's performance target for 2014, as SP AusNet's 2013 performance data is not yet available for this calculation.[488] However, we will audit SP AusNet's 2011 and 2012 performance which will be used in the calculation of its performance target at a time in future.

SP AusNet submitted market impact component data with its revenue proposal. However, it did not incorporate an exclusion in the new STPIS which was released closed to their revenue proposal submission date. SP AusNet recalculated its data in accordance with the new scheme which was provided to us recently. We will audit this data in time for our final decision and make any adjustments necessary.

9.2 SP AusNet's proposal

Service component

SP AusNet proposed:

- performance targets set equal to the average of the last five years of performance[489]
- adjustments to the loss of supply events performance targets to account for the volume of capital works in the 2014–17 regulatory control period
- changes to the distributions used to calculate the caps and collars.

Table 9.3 sets out SP AusNet's proposed performance targets, caps and collars for each parameter under the service component of the STPIS. The STPIS prescribes each subparameter's revenue weighting.[490]

488 The 2013 market impact component data will be submitted on 1 February 2014.
489 The data that was used to calculate the performance targets was 2008 to 2012.
490 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 3.4.

Table 9.3 SP AusNet's proposed parameter values for the service component of the STPIS

	Collar	Target	Cap	Weighting (% of MAR)
Average circuit outage rate				
Line outage – fault	43.9%	25.9%	7.9%	0.2
Transformer outage – fault	33.1%	16.1%	7.6%	0.2
Reactive plant – fault	45.3%	32.5%	19.7%	0.1
Line outage – forced outage	18.3%	14.9%	11.5%	0.0
Transformer outage – forced outage	18.8%	12.0%	5.2%	0.0
Reactive plant – forced outage	30.0%	14.8%	7.2%	0.0
Loss of supply event frequency				
>0.05 system minutes	7	3	1	0.15
>0.3 system minutes	3	1	0	0.15
Average outage duration				
Average outage duration	293.9	98.0	0.0	0.2
Proper operation of equipment				
Failure of protection system	n/a	n/a	n/a	0.0
Material failure of SCADA	3	1	0	0.0
Incorrect operational isolation of primary or secondary equipment	n/a	n/a	n/a	0.0

Source: SP AusNet, *Revenue proposal*, p. 152.
n/a: Not applicable.

Network capability component

SP AusNet proposed 15 priority projects totalling $4.8 million over the 2014–17 regulatory control period (Table 9.4).[491]

[491] SP AusNet, *Revenue proposal*, pp. 162–4.

Table 9.4 SP AusNet's proposed network capability projects ($ 000s, $2013–14)

Project/injection point	Description	Total cost
East Rowville– Cranbourne 220kV circuits	Replace protection relays	1033
Rowville–East Rowville 220kV circuits and Rowville–Springvale 220kV circuit	isolator replacements and protection setting changes	999
Geelong – Moorabool 220kV circuits	Isolator replacements	871
Wodonga terminal station	Cable connections replacement	778
Dederang circuits	Interplant connections replacement and protection setting change	486
Templestowe terminal station	Interplant connections replacement and review and uprate equipment ratings.	377
Thomastown terminal station	Interplant connections replacement and review and uprate equipment ratings.	177
South Morang – Dederang 330kV circuits	Develop the system overload control scheme layout to display combined line and series capacitor bank rating	72
Horsham terminal station	Protection setting change	14
Altona terminal station	Protection setting change	14
Hazelwood – Loy Yang 500kV circuits	Dynamic line model development and implementation	2
Geelong terminal station	Review and uprate equipment ratings	0
Ringwood terminal station	Review and uprate equipment ratings	0
Moorabool – Mortlake 500kV circuit and Moorabol – Terang 500kV circuit	Review and uprate protection settings	0
Keilor – Sydenham 500kV circuit and Keilor – South Morang 500kV circuit	Protection setting change	0

Source: SP AusNet, *Revenue proposal*, p. 163.

Given the short time between the release of the new STPIS (December 2012) and the submission of SP AusNet's revenue proposal (28 February 2013) SP AusNet was unable to consult with AEMO on these projects before submitting its revenue proposal. However, we worked with SP AusNet and AEMO during the draft decision process to develop a ranking of the proposed projects. During this process, AEMO identified an additional seven priority projects. AEMO provided details of these projects to SP AusNet, who estimated the cost of them. AEMO then finalised the project rankings on the net benefit of each project using these costings and their estimate of each project's benefits. The process that SP AusNet and AEMO undertook to identify network constraints is discussed in SP AusNet's network capability component process document. This document is published on our website with this draft decision.[492] The additional projects identified by AEMO are shown in Table 9.5. SP AusNet accepted these projects and included them in its NCIPAP.

[492] SP AusNet, *Response to information request AER RP 28 – description of process followed to identify priority projects for NCIPAP*, 19 July 2013.

Table 9.5 AEMO's identified priority projects ($ 000s, 2013–14)

Project	Description	Total cost
Rowville – Malvern No 1 & 2 220 kV circuits	Installation of wind monitoring station at Malvern Terminal Station. Changes to the control and protection schemes to incorporate wind monitoring stations outputs.	400
South Morang – Thomastown No 1 & 2 220 kv circuits	Install wind monitoring scheme for South Morang – Thomastown No 1 & 2 220 kV circuits.	600
Aluminium Customer Substation and Mortlake intertrip control schemes	APS and MOPS intertrip control schemes	400
M2 contingency control scheme	Control scheme to detect the specified conditions and trip the APD potlines.	0
Investigate fault level withstand capability of 220 kV switchyards	Assess the fault level capability of nine terminal stations.	5300
Identify works to increase fault level withstand capability to 40 kA at 220 kV switchyards	Identify works to be carried out on equipment and structures at nine terminal stations to increase the 200 kV fault level withstand capability to 40 kA.	400
Increase instrumentation range	Increase instrumentation range of 11 transmission circuits.	400

Source: AEMO, *AEMO endorsement of SP AusNet Network Capability incentive Parameter Action Plan (NCIPAP) for 2014–17*, 25 July 2013.

Market impact component

SP AusNet did not propose a performance target for 2014 as not all the data is available for this calculation. SP AusNet originally proposed performance data for 2011 and 2012 is 2806 and 896 dispatch intervals respectively.[493] On 31 July 2013, SP AusNet submitted its revised performance data to reflect the new exclusion clause in version 4 of the scheme. SP AusNet submitted a performance of 3329 dispatch intervals (for 2011) and 2560 dispatch intervals (for 2012).

9.3 Assessment approach

Service component

We assessed SP AusNet's service component proposal against the requirements of the STPIS — that is, whether:

- SP AusNet's data recording systems and processes produce accurate and reliable data and whether the data is recorded consistently based on the parameter definitions under the STPIS[494]
- the proposed performance targets equal the average of the most recent five years of performance data[495]
- any adjustments to the proposed targets are warranted and reasonable[496]
- SP AusNet used a sound methodology, with reference to the performance target, to calculate the proposed caps and collars[497]

493 SP AusNet, *Revenue proposal*, p. 162.
494 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 3.2(d).
495 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 3.2(*g*).
496 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 3.2(k).

- any adjustment to the performance target was applied to the cap and collar of that parameter.[498]

We assessed the distributions used by SP AusNet to calculate caps and collars to determine whether a sound methodology was used. We also assessed the possible materiality between implementing our preferred caps and collars and implementing SP AusNet's proposed caps and collars. The principles we used to determine whether SP AusNet's method was sound are set out in the reasons for our draft decision.

The STPIS prescribes the revenue weightings applied to each parameter. As such, SP AusNet was not required to proposed revenue weightings for each STPIS parameter.[499]

Network capability component

We assessed SP AusNet's network capability component proposal against the requirements of the STPIS — that is, whether SP AusNet:

- identified the reason for the limits for each transmission circuit or injection point[500]
- identified the capex and opex associated with each priority project[501]
- identified the priority project improvement target for each priority project[502]
- provided a ranking of the priority projects based on the likely benefits of the project on consumers and the wholesale electricity market[503]
- proposed priority project capex that meets the definition of minor capex for the purposes of the NCIPAP[504]
- consulted with the Australian Energy Market Operator (AEMO) prior to submitting its NCIPAP.[505]

We also considered information provided by AEMO in determining the benefits of the proposed priority project improvement targets and the net benefit of each project resulted in a material.[506]

Market impact component

We have not completed a review of SP AusNet's performance data. However, our normal approach is to audit performance data by:

- independently calculating (using AEMO data) the number of dispatch intervals related to binding outage constraints and validating that the outages were attributable to the TNSP
- searching AEMO Market Notices to confirm the validity of TNSP's classification of constraints as outage related

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497 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 3.2(e).
498 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 3.2(e).
499 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 3.2.
500 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clauses 5.2(b)(1).
501 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clauses 5.2(b)(2).
502 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clauses 5.2(b)(2).
503 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clauses 5.2(b)(2).
504 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 5.2(d).
505 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 5.2(h).
506 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 5.2(c).

- cross-checking network outage request information provided by AEMO to confirm the classification of constraints as outage related.

9.4 Reasons for draft decision

Service component

We do not accept SP AusNet's service component proposal because:

- the proposed adjustments to the loss of supply subparameters' performance targets are not justified
- the distributions used by SP AusNet to determine caps and collars are inappropriate.

We applied a principled approach to assessing SP AusNet's caps and collars. We consider that SP AusNet's approach does not use a sound methodology. Our principled approach, employing a conceptually sound methodology, resulted in caps and collars that provide a materially stronger incentive to improve and maintain service performance. We considered EMCa's advice in arriving at our draft decision caps and collars.

New version of the STPIS

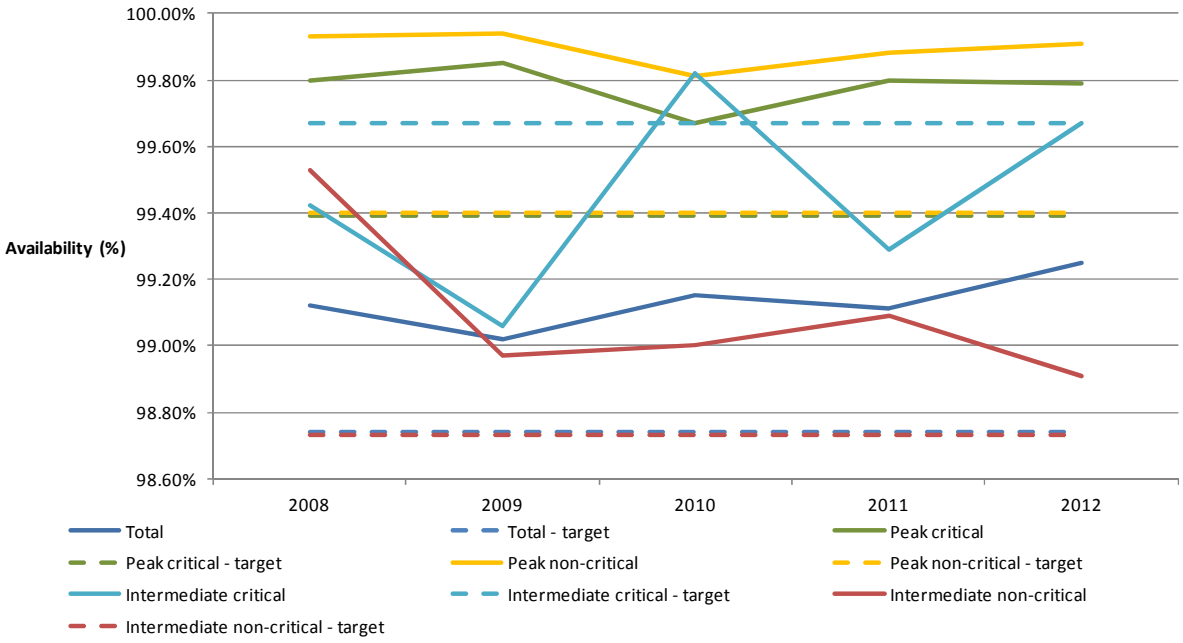
SP AusNet will be subject to a new version of the STPIS in the 2014–17 regulatory control period.[507] The new version includes a new parameter called 'average circuit outage rate'. This parameter replaced the 'transmission circuit availability' parameter under the previous STPIS. The new version also changed the definition of the 'average outage duration' parameter that will apply to SP AusNet. Previously, SP AusNet was subject to an 'average outage duration' parameter comprised of two subparameters — 'average outage duration – transmission lines' and 'average outage duration – transmission transformers'. The new version of the STPIS will apply an 'average outage duration' parameter with no subparameters. This parameter now captures outages on all aspects of the transmission network that provide prescribed transmission services.[508]

Historical performance

The two figures below show SP AusNet's service performance against the transmission circuit availability and average outage duration parameters that applied during the 2008–14 regulatory control period. These parameters will not apply to SP AusNet during the 2014–17 regulatory control period.

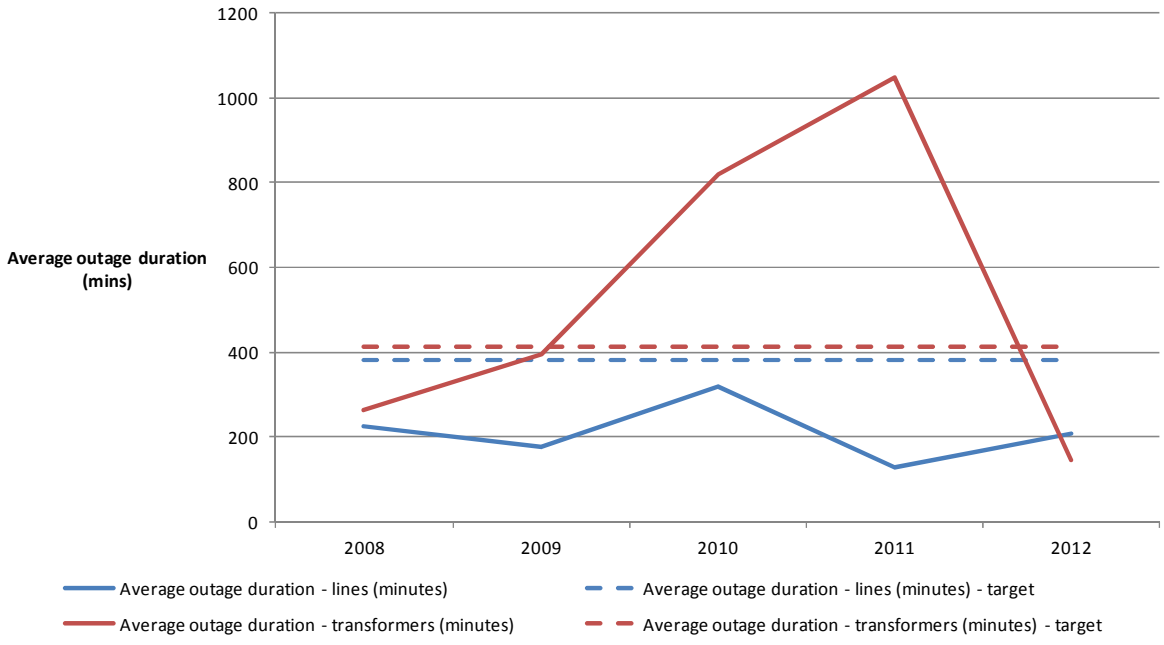
507 AER, *Final – Service Target Performance Incentive Scheme,* December 2012.
508 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, Appendix A, p. 25.

Figure 9.1 SP AusNet's transmission circuit availability performance 2008–12



Source: AER analysis.

Figure 9.2 SP AusNet's average outage duration performance 2008–12



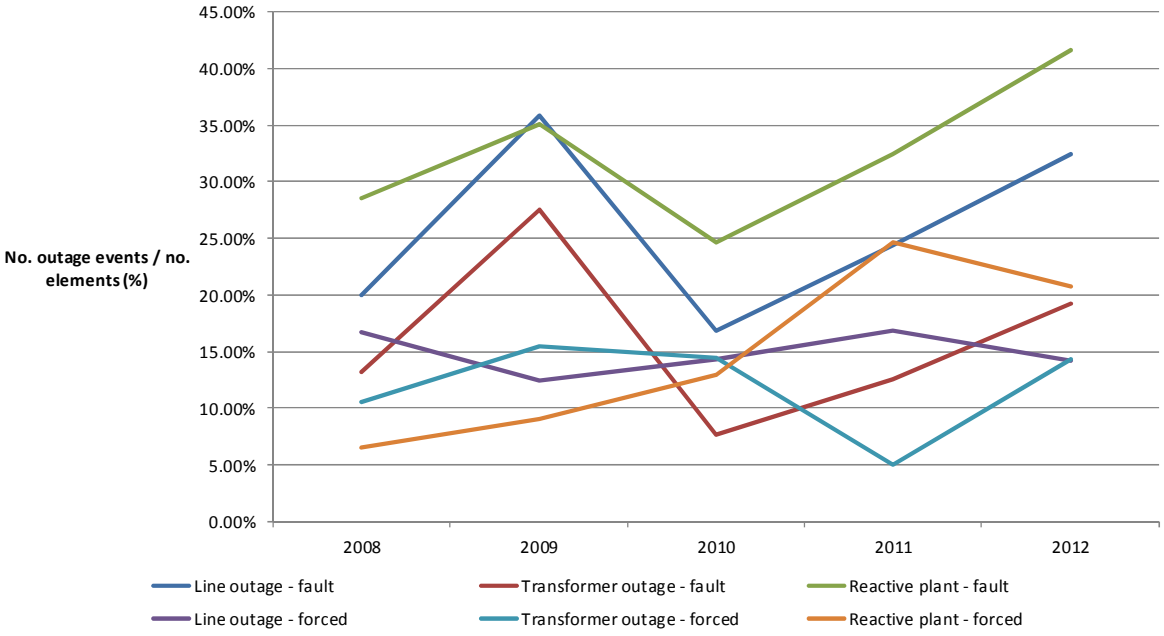
Source: AER analysis.

SP AusNet performed well against most of its circuit availability subparameters. For four of the five subparameters, it exceeded its target in each year between 2008 to 2012. The only subparameter for which it did not exceed its target for each year was 'intermediate critical circuit availability'.

SP AusNet's 'average outage duration – lines' performance was strong, beating the target in each year between 2008 and 2012. However, its 'average outage duration – transformers' performance was mixed, beating the target in three of the five years.

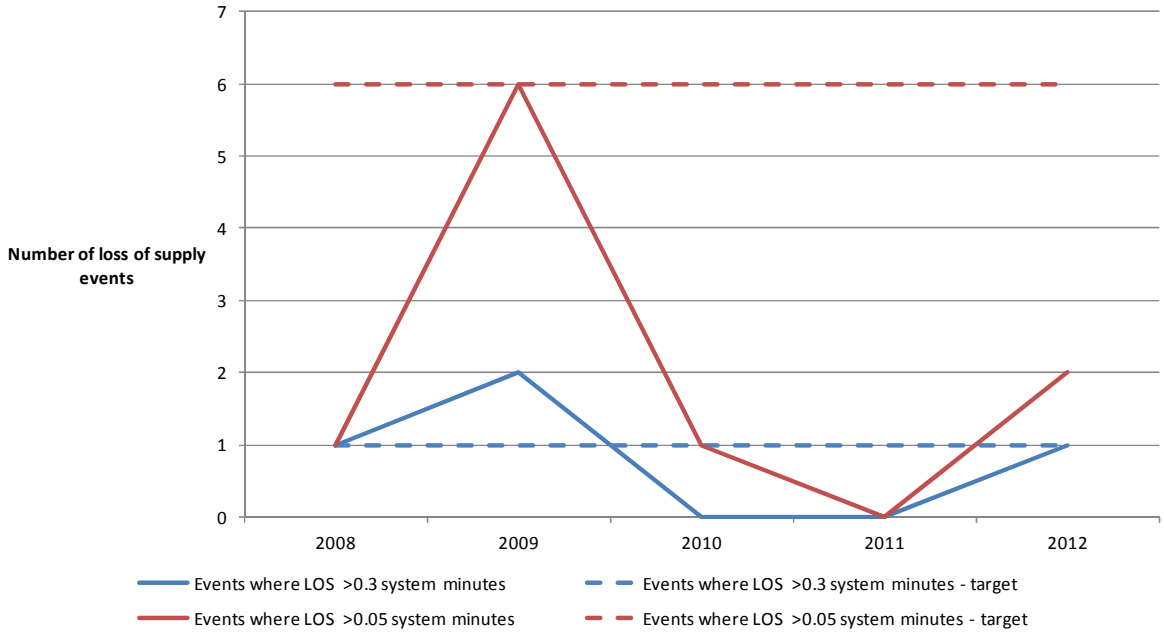
The figures below show SP AusNet's performance between 2008 and 2012 against the STPIS parameters that will apply during the 2014–17 regulatory control period.

Figure 9.3 SP AusNet's average circuit outage rate performance 2008–12



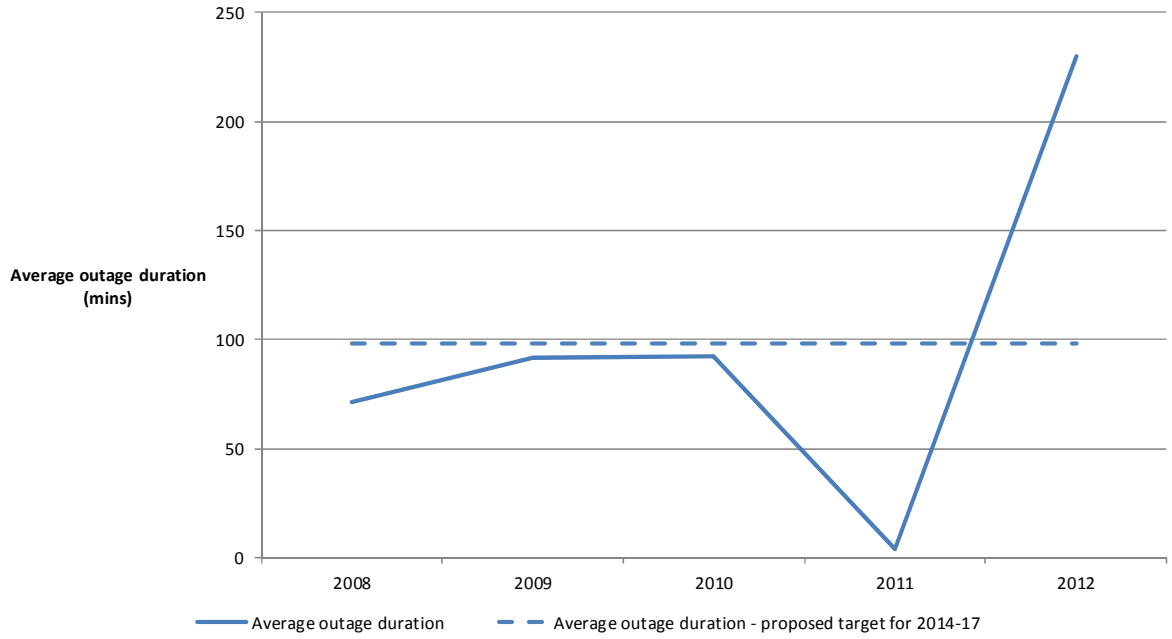
Source: SP AusNet, *Revenue proposal*, p. 152.

Figure 9.4 SP AusNet's loss of supply event performance 2008–12



Source: SP AusNet, *Revenue proposal*, p. 152.

Figure 9.5 SP AusNet's average outage duration performance 2008–12



Source: SP AusNet, *Revenue proposal*, p. 152.

It is difficult to draw conclusions from SP AusNet's 'average circuit outage rate' performance given targets did not apply during the 2008–14 regulatory control period. However, a general deterioration in performance in 2011 and 2012 is apparent.

SP AusNet's 'loss of supply' performance evinces a general trend of good performance. It bettered its target in four of the five years for the 'loss of supply events >0.05 system minutes' subparameter, and bettered or equalled its target in four of the five years for the 'loss of supply events>0.3 system minutes' subparameter.

It is also difficult to draw conclusions from SP AusNet's 'average outage duration' performance because a target did not apply during the 2008–14 regulatory control period. However, Figure 9.5 shows SP AusNet's proposed target for the 2014–17 regulatory control period.

The STPIS should provide ongoing incentives not just to improve performance but also to maintain performance. For this reason, the STPIS applying to SP AusNet in the 2014–17 regulatory control period should provide incentives for the TNSP to:

- improve performance against parameters when improvements can reasonably be made
- maintain performance against parameters when opportunities for improvement are limited and/or performance is at a high level.

This approach promotes the long term interests of consumers by encouraging TNSPs to improve and maintain the quality and reliability of supply of electricity. This is consistent with the National Electricity Objectives (NEO),[509] the STPIS principles in the National Electricity Rules (NER)[510] and the objectives of the STPIS.[511] We thus considered SP AusNet's STPIS proposal in the context of both improving and maintaining performance.

509 NEL, s7.
510 NER, clause 6A.7.4.
511 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 1.4.

Adjustments to reliability targets for proposed capital works

We do not accept SP AusNet's proposed adjustment to the loss of supply event subparameters performance targets for an increase in the volume of capital works. The STPIS permits proposed performance targets to be adjusted for, amongst other things, the expected effects on performance of any increases or decreases in the volume of planned capital works.[512] SP AusNet proposed to adjust its 'loss of supply event' subparameters' targets to allow for the increased volume of capital works proposed for the 2014–17 regulatory control period.[513]

We have accepted adjustments for increased capital works in previous determinations. However, these were bottom–up assessments of the estimated outage hours associated with each capex project.[514] SP AusNet, however, has applied a top down assessment of the possible outage hours.[515]

It calculated the total capex and non–capex driven outage hours in the current period. It then increased its capex driven outages by the overall increase in capex (46 per cent). This resulted in an overall increase in outage hours of 24 per cent. SP AusNet then increased its average 'loss of supply event' performance targets by 24 per cent. This resulted in the target for the 'loss of supply events > 0.05 system minutes' increasing from 2 to 3 events per year, while the 'loss of supply events >0.3 system minutes' subparameter target remained at 1 event per year.[516]

SP AusNet noted we rejected a proposed top down method of determining an adjustment in ElectraNet's transmission determination.[517] However, SP AusNet stated that the CBD rebuild capex projects will result in a step change of outage requirements and that the increase in average capex was the best available proxy to determine forecast outage requirements.[518]

SP AusNet's method makes an inappropriate assumption about the relationship between the dollar value of the total capex program and the outage hours associated with the program. Just because the capex program is proposed to increase by 46 per cent does not mean that capex driven outage hours will also increase by 46 per cent. Further, we consider that the nature of the CBD rebuilds would require detailed planning which would involve the consideration of possible outages. We see no reason why SP AusNet cannot estimate the number of outage hours resulting from the CBD rebuild projects. As such, SP AusNet's top down estimate of outage hours associated with the total capex program is not appropriate. We therefore do not accept SP AusNet's proposed target of 3 events for the 'loss of supply events > 0.05 system minutes' subparameter. We have substituted a value of 2 events, based on the average of the past five years' performance data. We consider that this target will incentivise SP AusNet to improve and maintain its loss of supply performance. Further, we consider that this target is reasonably achievable, given SP AusNet incurred between zero and two events greater than 0.05 system minutes in four of the last five years.

EMCa reviewed SP AusNet's proposed adjustments and came to the same conclusion. Given the nature of the CBD rebuilds, the outages will be carefully planned. As such, a good understanding of any need to operate with single contingency network configurations will be established. SP AusNet expects the CBD rebuilds will not increase the need to operate in single contingency configuration. As

512 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 3.2(k)(2).
513 SP AusNet, *Revenue proposal*, pp. 153–156.
514 AER, *Draft decision, TransGrid transmission determination 2009–10 to 2013–14*, October 2008, p. 170; AER, *Draft decision, Powerlink transmission determination 2012–13 to 2016–17*, November 2011, pp. 288–289.
515 SP AusNet, *Revenue proposal*, pp. 153–4.
516 SP AusNet, *Revenue proposal*, p. 154.
517 SP AusNet, *Revenue proposal*, p. 154.
518 SP AusNet, *Revenue proposal*, p. 154.

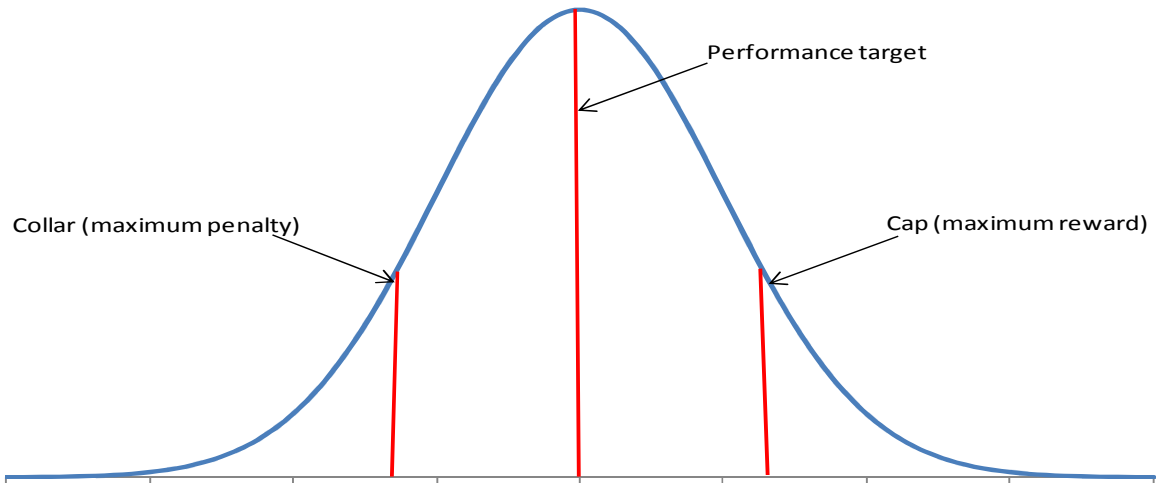
such, EMCa considered that the need for an adjustment to the 'loss of supply event' subparameters was not justified.[519]

Caps and collars

We do not accept SP AusNet's proposed caps and collars as its method of deriving them is not conceptually sound and reasonable. We consider our caps and collars result in a materially stronger incentive for SP AusNet to improve and maintain its service performance.

Proposed caps and collars must be calculated with reference to the proposed performance targets using a sound method.[520] We have generally accepted approaches that use five years of performance data to derive a statistical distribution, with the caps and collars set at two standard deviations either side of the mean (if using a normal distribution), or at the 5th and 95th percentiles (if using an asymmetric distribution). This approach is termed a 'symmetric incentive', because the caps and collars are set at the same number of standard deviations from the mean of the distribution.[521] We have previously accepted caps set one standard deviation above the mean (with a collar set two standard deviations below the mean) for transmission circuit availability subparameters. This approach is termed an 'asymmetric incentive' because the cap is set closer than the collar to the mean of the distribution. This approach was applied to availability subparameters when the application of two standard deviations above the mean resulted in a cap greater than 100 per cent availability. Figure 9.6 sets out the derivation of caps and collars using a normal (symmetric) distribution. Table 9.6 shows the distributions proposed by SP AusNet for setting the caps and collars.

Figure 9.6 Using a distribution to derive cap and collar values



Note: This shows how caps and collars are set using a normal distribution (symmetrical distribution). Asymmetrical distributions can also be used to set cap and collar values.

519 EMCa, *SP AusNet technical review*, August 2013, p. 106, paragraph 388–91.
520 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 3.2(e).
521 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 3.2(f).

Table 9.6 SP AusNet's proposed distributions for calculating caps and collars

Parameter	Distribution	Cap (standard deviations below target)	Collar (standard deviations above target)
Average circuit outage rate			
Line outage – fault	Log–logistic	2	2
Transformer – fault	Pearson 5	1	2
Reactive plant – fault	Log–logistic	2	2
Line outage – forced	Pearson 5	2	2
Transformer outage – forced	Weibull	2	2
Reactive plant – forced	Rayleigh	1	2
Loss of supply events			
> 0.05 system minutes	Negative binomial	1	2
>0.3 system minutes	Integer uniform	1	2
Average outage duration			
Average outage duration	Exponential	1	2
Proper operation of equipment			
Failure of protection system	n/a	Not proposed	Not proposed
Material failure of SCADA	Normal	1	2
Incorrect operational isolation of primary or secondary equipment	n/a	Not proposed	Not proposed

Source: SP AusNet, *Revenue proposal*, pp. 157–8.
n/a: not available. Reporting only parameters.

The distribution selected to calculate the caps and collars for a particular parameter must be conceptually sound. The following principles should be applied when selecting a distribution to calculate caps and collars:

- the chosen distribution should reflect any inherent skewness of the performance data.
- the distribution should not imply that impossible values are reasonably likely. For example, the distribution for an average circuit outage rate subparameter should not imply that values below zero per cent are reasonably likely.
- discrete distributions should be used to represent discrete data. For example, a discrete distribution such as the Poisson distribution should be used when calculating caps and collars for loss of supply subparameters. Continuous distributions should not be used.
- Using standard deviations to set caps and collars is appropriate when a normal distribution is selected. However, when asymmetric distributions are selected, the better measure to use is the percentiles.[522] The 5th and 95th percentiles of an asymmetric distribution are the

[522] EMCa, *SP AusNet technical review*, August 2013, p. 107, paragraph 396–8.

equivalent of being two standard deviations from the mean in a normal distribution. Given the distributions recommended by EMCa are all asymmetric distributions, the caps and collars applied in this draft decision have been based on the 5th and 95th percentiles rather than two standard deviations from the mean.

SP AusNet's proposed distributions are conceptually sound, with the exception of:

- the use of the integer uniform distribution for 'loss of supply events > 0.3 system minutes'
- the use of a normal distribution for the 'material failure of SCADA' subparameter.

The integer uniform distribution admits only those values within the data set, unless a maximum possible value is specified in the application of the distribution. This means that values outside the data set of five years used by SP AusNet to calculate its distribution are not possible under the integer uniform distribution. This is not conceptually sound. Further, the use of a normal distribution for the 'material failure of SCADA' subparameter is inappropriate as it admits values below zero events as reasonably likely. It also is not a discrete distribution, which should be used for discrete event data. We note that SP AusNet did not request its consultant, Parson Brinkerhoff (PB), to determine a distribution of best fit for this subparameter. SP AusNet appears to have selected this distribution. There is not a sound basis for selecting a normal distribution.

We used EMCa's advice to determine alternative distributions and cap and collar values. EMCa considered that the Poisson distribution is appropriate for the 'loss of supply events > 0.3 system minutes' subparameter, as it admits data outside the range used to calculate the distribution of best fit.[523] EMCa considered the Poisson distribution was an appropriate distribution to use for the 'material failure of SCADA' subparameter. EMCa also calculated the caps and collars using the $5^{th}/95^{th}$ percentile approach. We have applied EMCa's cap and collar values as we consider they are conceptually sound and reasonable.

[523] EMCa, *SP AusNet technical review*, August 2013, p. 111 paragraph 415.

Table 9.7 Comparison of SP AusNet's proposed cap and collar values with the AER's draft decision cap and collar values

	SP AusNet proposed values		AER draft decision values	
	Collar	Cap	Collar	Cap
Average circuit outage rate				
Line outage – fault	43.9%	7.9%	42.0%	14.8%
Transformer – fault	33.1%	7.6%	31.7%	7.4%
Reactive plant – fault	45.3%	19.7%	43.8%	23.4%
Line outage – forced	18.3%	11.5%	17.7%	12.3%
Transformer outage – forced	18.8%	5.2%	17.6%	6.2%
Reactive plant – forced	30.0%	7.2%	28.3%	3.7%
Loss of supply events				
> 0.05 system minutes	7	1	6	0
>0.3 system minutes	3	0	2	0
Average outage duration				
Average outage duration	293.9	0.0	293.5	5
Proper operation of equipment				
Failure of protection system	n/a	n/a	n/a	n/a
Material failure of SCADA	3	0	2	0
Incorrect operational isolation of primary or secondary equipment	n/a	n/a	n/a	n/a

Source: SP AusNet, *Revenue proposal*, p. 158; EMCa, *SP AusNet technical review*, August 2013, p. 104.

Setting performance targets

Performance targets must equal the TNSP's average performance history over the past five years.[524] We generally approved performance targets that are the arithmetic mean of the past five years' performance data. SP AusNet followed this approach for its proposed performance targets. We accept this approach.

We note EMCa's comments that the performance target should be set equal to the 50th percentile or median of the distribution used to set the caps and collars. This would mean that the caps and collars are set with direct reference to the performance target. The arithmetic average of five years' data and the median of the distribution may be quite different values. However, we consider that the ordinary meaning of the term 'average' in the STPIS is the arithmetic mean or simple average. We accepted SP AusNet's proposed performance targets where they equal the arithmetic average of the most recent five years' performance data. This is consistent with our interpretation of the term in previous transmission determinations. As such, we approve SP AusNet's proposed performance targets.

[524] AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 3.2(g).

The Energy Users Coalition of Victoria (EUCV) considered that the AER should not accept SP AusNet's proposal to use a five year average to set performance targets.[525] However, the STPIS requires targets to be equal to the TNSP's average performance over the most recent five years.[526] EUCV noted that the average outage duration target was heavily affected by the performance in 2012. It was concerned that SP AusNet may have deliberately moved outages into 2012 or deliberately performed poorly in 2012 to increase the target.[527] SP AusNet's performance in 2012 was affected by a large outage at the Brooklyn Terminal Station.[528] However, there is no evidence that SP AusNet deliberately performed poorly in 2012 to increase its average outage duration target. As such, we consider that it is reasonable to set SP AusNet's average outage duration target in accordance with the scheme – that is, equal to its average performance over the most recent five years. It should also be noted that the outage was picked up in SP AusNet's loss of supply and average outage duration performance for 2012. Consequently, SP AusNet's performance against these parameters (and its overall STPIS reward) was adversely affected in 2012 as a result of this outage.

Network capability component

We accept SP AusNet's proposed priority projects and priority project improvement targets, as submitted on 31 July 2013. Under the STPIS, a TNSP must consult with AEMO before submitting its NCIPAP. However, given the short time between the release of the new STPIS and the submission date of SP AusNet's revenue proposal, SP AusNet was unable to consult with AEMO prior to submitting its revenue proposal and was therefore unable to develop a priority project ranking. We worked with AEMO and SP AusNet to develop a ranking of the proposed network capability projects. AEMO conducted a review of SP AusNet's proposed projects and proposed an additional seven priority projects. SP AusNet reviewed and costed these additional projects. On the basis of these costs and the expected benefits, AEMO then ranked the priority projects.

On 31 July 2013 SP AusNet submitted an updated NCIPAP based on AEMO's ranking of the priority projects and including the additional projects identified by AEMO (table 5). We consider that SP AusNet, in consultation with AEMO, undertook a robust process to identify network constraints. Based on AEMO's review and our review of SP AusNet's revenue proposal, we accept that SP AusNet's proposed priority projects and priority project improvement targets are consistent with the STPIS will lead to a material benefit.[529] The priority project rankings and targets are set out in Table 9.2.

Market impact component

In December 2012, we published a new STPIS. It revised the methodology used to calculate the market impact component performance target and actual performance. It also introduced a new exclusion clause to the market impact component in relation to third party outages.[530] However, SP AusNet had not incorporated this new clause in the calculation of its market impact component data. We therefore requested that SP AusNet recalculate its data to incorporate this new exclusion. We received this revised data on 31 July 2013. However, this did not provide us with enough time to complete an audit of the data. Given this, we will audit the data and make any necessary adjustments to it in the final decision. We have communicated this approach to SP AusNet prior to the publication of this draft decision.

525 EUCV, *Response to 2013 AER review of Victorian electricity transmission*, May 2013, p. 50.
526 AER, *Final – Service target performance incentive scheme,* December 2012, clause 3.2.
527 EUCV, *Response to 2013 AER review of Victorian electricity transmission*, May 2013, p. 50.
528 SP AusNet, *Response to AER 55*, 3 July 2013.
529 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, clause 5.2.
530 AER, *Final – Service Target Performance Incentive Scheme,* December 2012, Appendix C, exclusion clause 3.

There will be no determination made on SP AusNet performance target for 2014 in the final decision, as SP AusNet's 2013 performance data will not be available for this calculation. The final determination will report SP AusNet's performance for 2011 and 2012 which will be used in the calculation of its performance target in the future.

9.5 Revisions

Revision 9.1: We do not accept SP AusNet's proposed service component values. Our draft decision parameter values are set out in Table 9.1.

10 Efficiency benefit sharing scheme

The efficiency benefit sharing scheme (EBSS) is a key component of incentive regulation employed under the rules. Because opex is largely recurrent and predictable, opex in one period is generally a good indicator of opex in the next period. We use a TNSP's actual opex incurred in a chosen base year of the regulatory control period to forecast opex for the next regulatory control period. To encourage TNSPs to become more efficient we need to permit them to keep a portion of any reductions in opex they achieve. This is done through the EBSS which lets TNSPs keep efficiency gains for a set number of years, usually five. They thus have a continuous incentive to achieve efficiency gains.

Under the EBSS, TNSPs are rewarded for underspending and penalised for overspending the opex allowance. Consumers benefit from an underspend through lower prices in the next regulatory control period–that is, forecast opex in the next regulatory control period will reflect the TNSP's lower level of opex in the current regulatory control period, so regulated prices will be lower too.

The EBSS that applied to SP AusNet during the 2008–14 regulatory control period was the 'first proposed EBSS'.[531] The scheme that will apply to SP AusNet for the 2014–17 regulatory control period is version one of the EBSS for electricity TNSPs.[532]

10.1 Draft decision

The National Electricity Rules (NER) require us to decide:[533]

- the carryover amounts that arise from applying the EBSS during the 2008–14 regulatory control period
- how the EBSS will apply to SP AusNet in the 2014–17 regulatory control period.

Carryover amounts from the 2008–14 regulatory control period

We are not satisfied SP AusNet's proposed EBSS carryover of $47.1 million from the 2008–14 regulatory control period complies with the scheme requirements. Rather, having regard to our determination of operating expenditure, we determine that a carryover of $37.2 million would comply with the scheme requirements. The difference in the EBSS carryover proposed by SP AusNet and the amount we accept in this draft decision arises mainly because we are applying a five year carryover period and not a six year carryover period as proposed. It is also impacted because we updated 2012–13 expeditures with the audited actuals.

We note our draft decision on EBSS is linked with our assessment of opex (as discussed in the opex attachment section 3.3.1). The large carryover amount of $37 million represents a reward to SP AusNet for achieving sustained efficiency gains that it must pass on to customers through a reduced opex requirement in the 2014–17 regulatory control period. This is achieved when we use revealed costs to forecast opex. If we were to change our decision on opex in the final decision we would also need to review our decision on the EBSS. The EBSS is closely linked with the current method for forecasting opex. That is, a TNSP's actual opex in one regulatory control period will largely determine its opex allowance in the next regulatory control period (this is discussed in more detail in

531 AER, *First proposed electricity transmission network service providers efficiency benefit sharing scheme*, January 2007. The NER (clauses 11.6.17 and 11.6.18) required us to apply the first proposed EBSS to SP AusNet for the 2008 determination, but not for subsequent determinations.
532 AER, *Electricity transmission network service providers efficiency benefit sharing scheme*, September 2007.
533 NER, clauses 6A.4.2(a)(6) and 6A.14.1(1)(iv).

attachment 3). To the extent that the method for forecasting opex changes, the EBSS may also need to be amended so that it still provides SP AusNet with a continuous incentive to reduce opex.

Table 10.1 shows the carryover amounts that we consider comply with the EBSS, having regard to our decision on opex. It also shows the adjusted opex forecasts for the EBSS for the 2014–17 regulatory control period.

Table 10.1 AER's draft decision on SP AusNet's carryover amounts and adjusted opex forecast for the EBSS ($ million, 2013–14)

	2014-15	2015-16	2016-17	Total
SP AusNet's proposed carryover	9.1	16.8	21.2	47.1
AER's carryover	17.9	15.4	3.9	37.2
Adjusted opex forecast for EBSS	75.1	76.6	76.7	228.4

How the EBSS will apply to SP AusNet in the 2014–17 regulatory control period

When we calculate the carryover amounts for the 2014–17 regulatory control period:

- We will not adjust forecast opex for changes in demand
- We will exclude the cost categories set out in section 5.1
- We will adjust actual opex to reverse movements in provisions

The length of the carryover period will be the same length as the regulatory control period commencing in 2017.

10.2 SP AusNet's proposal

SP AusNet proposed the carryover amount for the EBSS in relation to the 2008–14 regulatory control period, and also the values to be attributed to the EBSS in the 2014–17 regulatory control period.

Carryover amounts from the 2008–14 regulatory control period

SP AusNet proposed a total carryover amount of $47.1 million from the EBSS during the 2008–14 regulatory control period.[534] It calculated this amount using actuals and estimates of controllable opex, excluding:

- easement land tax
- self-insurance
- rebates made under the Availability Incentive Scheme with AEMO
- equity and debt raising costs
- efficiency or 'glide path' payments made in respect of the 2003–08 regulatory control period.

[534] SP AusNet, *Revenue proposal*, p. 177.

SP AusNet calculated the carryover amount using 2011–12 as the base year, largely consistent with its approach to calculating its opex forecasts. It also adopted a six year carryover period, although it acknowledged that there did not appear to be authority for a carryover period of longer than 5 years under the first proposed EBSS.[535]

SP AusNet did not propose any opex changes due to unexpected changes in demand or factors outside its control during the 2008–14 regulatory control period. And it did not change its capitalisation policy.

Application of the EBSS in 2014–17

For applying the EBSS in the 2014–17 regulatory control period, SP AusNet proposed the total carry over amount should be calculated using actuals and estimates of controllable opex, excluding:

- easement land tax
- self-insurance
- rebates made under the Availability Incentive Scheme with AEMO
- equity and debt raising costs
- EBSS payments made in respect of the 2008–14 regulatory control period.

SP AusNet's forecast opex does not have a forecast demand growth component.

SP AusNet proposed a six year carryover period for efficiency gains realised in 2014–17.

10.3 Assessment approach

Our determination must specify how we will apply the EBSS to SP AusNet, with regard to the following factors:[536]

- the need to provide SP AusNet with a continuous incentive to reduce opex
- the desirability of both rewarding SP AusNet for efficiency gains, and penalising it for efficiency losses
- any incentives that SP AusNet may have to inappropriately capitalise opex
- the possible effects of the EBSS on incentives for the TNSPs to implement non-network alternatives.

We must approve the EBSS values proposed by SP AusNet if we are satisfied that those values comply with the requirements set out in the EBSS. And we must approve the efficiency rewards or penalties that SP AusNet accrued from the application of the first proposed EBSS during the 2008–14 regulatory control period. The first proposed EBSS was transitional, and SP AusNet will be subject to the updated scheme in the 2014-17 regulatory control period.[537]

535 SP AusNet, *Revenue proposal*, p. 178.
536 NER, clause 6A.6.5(b).
537 AER, *Electricity transmission network service providers efficiency benefit sharing scheme*, September 2007.

10.4 Reasons for draft decision

This section sets out our draft decision on how the EBSS was applied in the 2008–14 regulatory control period and how it will be applied in the 2014–17 regulatory control period.

10.4.1 Application of the EBSS in 2008–14

To apply the EBSS in the 2008–14 regulatory control period we needed to:

- ensure SP AusNet used the same method for measuring actual opex and forecast opex
- approve the method of adjusting opex if actual demand is different from forecast demand
- verify the base year is consistent with that used for the opex forecasts
- estimate actual opex for 2013–14.

We are not satisfied SP AusNet's proposed EBSS carryover of $47.1 million from the 2008–14 regulatory control period complies with the scheme requirements. Rather, we determine that a carryover of $37.2 million complies with the scheme requirements, on the basis of our determination of opex. The difference is because:

- we applied a five year carryover period consistent with the provisions of the first proposed EBSS and not a six year carryover period as SP AusNet proposed (–$6.9 million)
- when we calculated the carryover adjustments, we removed the movement in provisions from SP AusNet's actual opex as well as back cast and removed the movement in provisions in the allowance set at our last determination (–$0.3 million)
- we updated 2012–13 (estimated) data with audited data ($–2.5 million).

Length of the carryover period for carryovers accrued in 2008–14

SP AusNet's current 2008–14 regulatory control period is six years. However, the first proposed EBSS only contemplates a five year regulatory control period.[538] We applied a five year carryover period because it is consistent with the first proposed EBSS and there is no scope under the first proposed EBSS to alter the carryover period at this time. As a result of reducing the length of the carrover period, SP AusNet keeps each EBSS gain (loss) for five years instead of six and the total carryover amount is reduced by $6.9 million.

While we have no discretion to alter the carryover period under the first proposed EBSS, if we did have such a discretion we would not exercise it:

- If we were to apply a six year carryover period, SP AusNet would keep a higher share of efficiency gains than the EBSS intends. This result is caused by the short (three year) regulatory period that follows. While consumers pay for efficiency gains for five years they may only benefit from reduced opex for three years until the next determination.
- A five year carryover period still provides SP AusNet a continuous incentive to achieve efficiency gains and reduces the incentive to overspend in the base year.

[538] AER, *First proposed electricity transmission network service providers efficiency benefit sharing scheme*, January 2007, p. 2.

Adjustment for differences between forecast and actual demand

For calculating carryovers, the EBSS gives us the discretion to adjust SP AusNet's forecast opex in the 2008–14 regulatory control period if actual demand growth was different from forecast demand growth or if there were opex changes that were due to factors beyond its control.[539] That way, SP AusNet is not rewarded (or penalised) for cost decreases (increases) due to demand growth factors or other factors beyond its control. However, given the forecast opex for 2008–14 was not directly related to demand, we did not adjust opex for actual demand outcomes in this draft decision.[540]

Excluded cost categories

The current version of the EBSS, which will apply to SPAusNet going forward, allows TNSPs to propose uncontrollable cost categories to be excluded from its operation. A TNSP is thus not rewarded (or penalised) for cost decreases (increases) over which it has limited control. However, the EBSS that applied to SP AusNet during the 2008–14 regulatory control period was the first proposed EBSS, which does not expressly require the TNSP or the AER to propose cost categories for exclusion from the EBSS. Despite this, SP AusNet proposed the carryover amount should be calculated using controllable opex, excluding uncontrollable opex categories. We agree that it is implicit in the intention and structure of the first proposed EBSS that SP AusNet's uncontrollable opex categories should be excluded.

Adjustments to 2008–14 opex for movements in provisions

To calculate efficiency gains, the EBSS compares actual opex with forecast opex. To compare like with like, the scheme requires us to measure actual and forecast opex using the same cost categories and the same method.[541] This requirement is relevant to our treatment of movements in provisions.

SP AusNet's reported actual opex includes provisions. A provision is a liability of uncertain timing or amount. Provision accounts are used to set aside amounts for the payments of these liabilities for when they arise for settlement. A movement in provisions occurs when the annual amount set aside differs to the annual amount paid out. We consider the movement in these provisions represents non-recurrent costs and therefore we reverse the movements in provisions in a TNSP's base year to determine forecast opex (discussed in section 3.4.2).

For the EBSS to appropriately reward TNSPs for efficiency gains or penalise them for efficiency losses, we need to apply a consistent approach to opex across regulatory control periods. Because we reverse movements in provisions from SP AusNet's opex forecast for the 2014–17 regulatory control period we need to apply the same approach to movements in provisions when we apply the EBSS to the 2008–14 regulatory control period.

In calculating the carryover adjustments due to the application of the EBSS in the current regulatory control period, we removed the movement in provisions from SP AusNet's actual opex as well as back cast and removed the movement in provisions in the allowance set at our last determination. We note this adjustment had a minimal impact on the calculation of the EBSS carryover amount.

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539 AER, *First proposed electricity transmission network service providers efficiency benefit sharing scheme*, January 2007, p. 3.

540 AER, *Final decision: SP AusNet transmission determination 2008–14*, January 2008, pp. 108-136.

541 AER, *Final electricity transmission network service providers efficiency benefit sharing scheme*, September 2007, p. 7.

Adjustment to the final year (2013–14) actual opex

The carryover amount for the sixth year–and thus the total EBSS carryover–changes depending on how we estimate 'actual' opex for the sixth year. We use an estimate because a TNSP submits its revenue proposal before the final year commences. We accept SP AusNet's proposed approach which correctly assumes it will achieve no net efficiency gains after the base year.[542] As a result, SP AusNet will retain the efficiency gains (losses) made in each year for the intended period.[543]

We acknowledge the concerns of the Energy Users Coalition of Victoria (EUCV) and the Energy Users Association of Australia (EUAA) regarding the large EBSS carryover SP AusNet proposed and the need to ensure the savings achieved by SP AusNet are shared with customers.[544] We consider the carryover amount represents a reward to SP AusNet for achieving sustained efficiency gains that it must pass on to customers through a reduced opex requirement in the 2014–17 regulatory control period. This is achieved when we use revealed costs to forecast opex as discussed in attachment 3.

Summary

Table 10.2 sets out the carryover amounts that SP AusNet accrued from the EBSS being applied in the 2008–14 regulatory control period and Table 10.3 shows how we calculated those amounts. We have added an NPV adjustment to the carryover for 2016–17 to account for the shortened regulatory control period due to transitional arrangements that apply to SPAusNet. That is, the carryover amount that would apply in the years 2017–18 to 2018–19 is captured in 2016–17.

Table 10.2 EBSS carryover amount accrued in the 2008–14 regulatory control period ($ million, real 2013–14)

	2014–15	2015–16	2016–17	2017-18	2018-19	2019-20	Total
SP AusNet proposed	9.1	16.8	15.1	5.0	0	1.8	47.8
NPV adjustment	9.1	16.8	21.2				47.1
AER draft decision	17.9	15.4	5.1	0.0	-1.3		37.0
NPV adjustment	17.9	15.4	3.9				37.2

Source: SP AusNet, *Revenue proposal*, p. 178.

Table 10.3 shows how the incremental efficiency gain (loss) achieved in each year of 2008–14 is carried over for five years. It also shows the net present value adjustment we will make so SP AusNet receives the carryover amounts that would fall in 2017–18 and 2019–20, in 2016–17.

542 Adjusted opex is total opex less the excluded cost categories.

543 The first proposed EBSS noted the AER will estimate the actual opex for the final year. It did not provide a formula to estimate the actual opex in the final year. So we used the formula from the distribution network service providers EBSS to estimate the actual expenditure for 2013–14 (adjusted for a six year regulatory control period):

$$\mathbf{A_6^* = F_6 - (F_3 - A_3)}$$

where:

A_6^* is the estimate of actual opex required to calculate the efficiency gain or loss for the final year

F_3 and A_3 are the forecast and actual opex figures respectively in the base year (year 3).

544 EUCV, *Victorian Electricity Transmission Revenue Reset, SP AusNet application, A response by EUCV*, May 2013, pp. 47-8; EUAA, *Submission on SPI PowerNet Ltd Electricity Transmission Revenue Proposal for 2014–17*, May 2013, p. 15.

Table 10.3 Draft decision, application of EBSS in 2008–14 ($ million, 2013–14)

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2019-20	
Opex allowance	186.8	195.5	193.0	202.0	198.8	208.5						
Adjusted allowance	75.1	76.4	78.4	79.3	80.9	81.7						
Actual opex	181.2	195.0	184.0	183.7	182.1							
Adjusted actual	85.9	84.7	76.4	72.2	72.4	74.5						
Efficiency gain	-10.8	2.5	10.3	5.1	1.3	-1.3						
Carryover	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2019-20	Total
		-10.8	-10.8	-10.8	-10.8	-10.8						
			2.5	2.5	2.5	2.5	2.5					
				10.3	10.3	10.3	10.3	10.3				
					5.1	5.1	5.1	5.1	5.1			
						1.3	1.3	1.3	1.3	1.3		
							-1.3	-1.3	-1.3	-1.3	-1.3	
Total carryover							17.9	15.4	5.1	0.0	-1.3	
NPV adjustment							17.9	15.4	3.9			**37.2**

Source: AER analysis.

10.4.2 Application of the EBSS in 2014–17

We must approve the values attributed to the EBSS for the 2014–17 regulatory control period if satisfied that they comply with version one of the EBSS for electricity TNSPs. In this section we discuss how we will apply the EBSS in 2014–17.

Demand growth adjustment

For calculating carryover amounts, the EBSS requires us to adjust SP AusNet's forecast opex if forecast demand is different from actual demand over the regulatory control period.

SP AusNet did not propose any adjustments and we consider that we do not need to adjust forecast opex if forecast demand is different from actual demand. Our reason is that SP AusNet's forecast opex does not have a direct relationship to demand growth and the TNSP's forecasting model does not use demand growth as a direct input.

Excluded cost categories

We accept SP AusNet's proposal to exclude the following opex categories for calculating EBSS carryovers, with the exception of equity raising costs. We will exclude:

- easement land tax
- self-insurance
- rebates made under the Availability Incentive Scheme with AEMO
- debt raising costs

- the cost of priority projects approved under the network capability component of the STPIS.

We will also adjust actual opex for the 2014–17 regulatory control period to reverse any movements in provisions. This approach is consistent with how we forecast opex for the 2014–17 regulatory control period.

Since equity raising costs are not provided as an opex allowance, equity raising costs are already excluded from the operation of the EBSS because they are not included in SP AusNet's forecast opex (discussed in section 3.4.10).

We accept the excluded cost categories because they are not forecast using historical expenditure in an efficient base year. Additionally, we note the adjustments set out in section 2.4.2 of the EBSS, which excludes the cost of recognised pass through events. Table 10.4 sets out our draft decision on SP AusNet's target opex for the EBSS (total opex less excluded categories), against which we will calculate efficiency gains in 2014–17.

Table 10.4 AER's draft decision on SP AusNet's forecast opex for the EBSS ($ million, 2013–14)

	2014–15	2015–16	2016–17	Total
Total forecast opex	179.2	183.1	180.7	543.1
Easement land tax	–100.9	–103.4	–100.9	–305.2
Self-insurance	–1.7	–1.7	–1.6	–5.0
Rebates under the Availability Incentive Scheme	–0.0	–0.0	–0.0	–0.0
Debt raising costs	–1.5	–1.5	–1.5	–4.5
Forecast opex for the EBSS	**75.1**	**76.6**	**76.7**	**228.4**

Movements in provisions

The EBSS requires us to measure actual opex using the same cost categories and method used to forecast opex for the same regulatory control period. We consider the movement in provisions represents non-recurrent costs and therefore we reversed the movements in provisions in SP AusNet's base year (2011–12) used to forecast opex (discussed in section 3.4.2). To be consistent with forecast opex, we will reverse any movements in provisions in SP AusNet's actual opex when we calculate the EBSS carryovers for the period. This approach is consistent with our recent terminations for Powerlink and ElectraNet.[545]

Carryover period

We do not accept SP AusNet's proposed six year carryover period for efficiency gains (or losses) realised in 2014–17. Instead the length of the carryover period for efficiency gains realised in 2014–17 should be the same as the length of the regulatory control period that commences in 2017.

Generally, the EBSS carryover period is five years. However, this can create distortions if the carryover period and the next regulatory control periods are of different lengths.

[545] AER, *Draft decision, Powerlink transmission determination 2012-17*, November 2011, p. 306; AER, *Final decision, ElectraNet transmission determination 2013–18*, April, 2013, p. 175.

The shorter the carryover period the less incentive there is for SP AusNet to achieve efficiency gains. For example, a three year carryover period results in SP AusNet receiving only 20 per cent of ongoing efficiency gains.[546] Further, the EBSS removes the incentive for a TNSP to overspend in the opex base year to receive a higher opex allowance in the following regulatory control period. However, this result relies on the carryover period being equal to the length of the following regulatory control period. If the length of the carryover period is less than the length of the following regulatory control period the TNSP may still have an incentive to increase expenditure in the base year. We consider it important that the incentive to not overspend in the base year remains strong.

On the other hand, SP AusNet's proposal of a six year carryover period could result in an imbalance between opex and capex incentives. If SP AusNet were able to carryover its opex efficiency gains for a longer period (6 years) it would have an incentive to substitute opex with capital expenditure.

Accordingly, to ensure the EBSS operates effectively, the carryover period should be the same length as the following regulatory control period.

Efficiency gains in 2014–15

For calculating efficiency gains, and to provide SP AusNet with a continuous incentive to reduce opex, we will treat 2014–15 as year 7 of the EBSS, not as year 1 of version one of the EBSS for electricity TNSPs.[547] Because we will finalise this determination before the completion of 2013–14, we need to use an estimate of 'actual' opex to calculate the efficiency gains or losses for that year. If differences arise between this estimate and the actual expenditure of 2013–14, we will account for this difference when we calculate the efficiency gain for 2014–15.[548]

We will calculate the efficiency gain in 2014–15 (year 7) as follows:

$$E_7 = (F_7 - A_7) - (F_6 - A_6) + (F_3 - A_3)$$

where F_7 is the forecast opex we approved for year 7, and A_7 is the actual opex incurred for year 7, and so on.[549] The formula references year 3 because it is the base year used to forecast opex.

[546] AER, *Final decision, Electricity transmission network service providers efficiency benefit sharing scheme*, September 2007, p. 12.

[547] This approach is consistent with the EBSS considerations in the NER, clause 6A.6.5(b).

[548] This is also consistent with our opex forecasting model.

[549] AER, *Final decision, Electricity transmission network service providers efficiency benefit sharing scheme*, September 2007, p. 6. We amended the formula in the guidelines to reflect that the base year used to forecast opex is year 3 not year 4. We did so to be consistent with the NER requirements in clause 6A.6.5(b) whereby we must have regard to certain factors when we implement the EBSS.

10.5 Revisions

Revision 10.1: Table 10.1 sets out the EBSS carryover amounts included as building blocks in the determination of SP AusNet's annual revenue requirement.

Revision 10.2: When we calculate the carryover amounts accrued in the 2014–17 regulatory control period we will not adjust forecast opex for changes in demand and we will exclude the following cost categories:

- easement land tax
- self-insurance
- rebates made under the Availability Incentive Scheme
- debt raising costs
- the cost of priority projects approved under the network capability component of the STPIS.

We will also adjust actual opex for the 2014–17 regulatory control period to reverse any movements in provisions.

Revision 10.3: The length of the carryover period for efficiency gains (or losses) realised in 2014–17 will be on the same as the length of the regulatory control period commencing in 2017.

Revision 10.4: Table 10.4 shows the forecast opex that we will use to calculate efficiency gains and losses in the 2014–17 regulatory control period.

11 Contingent projects

Contingent projects are significant capital expenditure (capex) projects that may arise in the regulatory control period. Expenditure for contingent projects is not included in a transmission network service provider's (TNSP) forecast capex. This is because contingent projects are linked to unique investment drivers known as trigger events.

The occurrence of the trigger event must be probable.[550] However, the event or the costs associated with the event must be uncertain.[551] If a trigger event occurs during the 2014–17 regulatory control period, the Australian Energy Regulator (AER) will assess the contingent project's costs on application by SP AusNet.[552] If we approve the contingent project's costs at that time, we will amend SP AusNet's revenue determination to account for the increased costs associated with the contingent project.

The description of the trigger event must be in such terms that the occurrence of that event or condition is all that is required for the amendment of the revenue determination.[553] For this reason, the definition of the trigger event must be adequate and the proposed contingent capex must reasonably reflect the capex criteria.[554]

11.1 Draft decision

We do not accept the three contingent projects SP AusNet proposed for the 2014–17 regulatory control period. We consider each proposed contingent project:

- is not reasonably required to meet the capex objectives; and
- the trigger event is not appropriate.[555]

Information relating to our assessment of two contingent projects is commercially sensitive. It is therefore not discussed in this attachment. A sensitive information attachment was provided to SP AusNet with our reasons for not accepting these two contingent projects. Our considerations on the other contingent project are discussed below.

11.2 SP AusNet's proposal

SP AusNet proposed three contingent projects for the 2014–17 regulatory control period. Table 11.1 lists the proposed contingent projects, their trigger events and their forecast costs.

550 NER, clause 6A.8.1(c)(5).
551 NER, clause 6A.8.1(c)(5)(i).
552 NER, clause 6A.8.2.
553 NER, clause 6A.8.1(c)(4); 6A.8.2.
554 NER, clause 6A.8.1(b)(2)(ii).
555 NER, clause 6A.8.1(b).

Table 11.1 Contingent projects proposed for 2014–17

Project	Trigger event	Total cost ($ million, 2013–14)
South Morang transformer replacement—stage 2	Failure of any phase or phases of the H1 or H2 transformers at South Morang Terminal Station	28.85
C-I-C	C-I-C	C-I-C
C-I-C	C-I-C	C-I-C

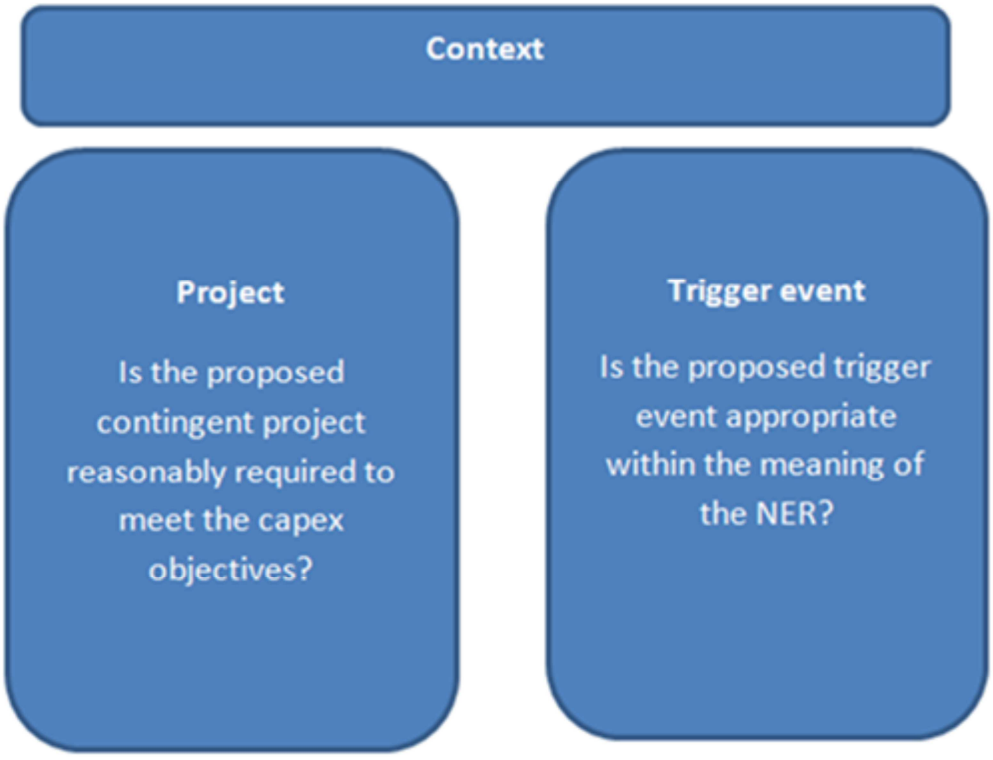
Source: SP AusNet, *Revenue proposal for the 2014–17 regulatory control period*, Appendix G: Proposed contingent projects for the 2014–17 regulatory control period, 28 February 2013, p. 4

SP AusNet's proposed contingent projects relate to the replacement of existing assets. As discussed in section 1.4, under the Victorian transmission arrangement, the Australian Energy Market Operator (AEMO) is responsible for the augmentation of SP AusNet's network. Therefore SP AusNet's capex proposal is primarily concerned with the replacement of existing assets.

11.3 Assessment approach

We assessed SP AusNet's proposed contingent projects against the NER requirements.[556] Figure 11.1 summarises our assessment approach against those requirements. Each text box corresponds with components of our analysis which is contained in sections 11.4.1 and 11.4.2.

Figure 11.1 The AER's assessment approach



Source: AER analysis.

[556] NER, clause 6A.8.1.

Our assessment began with understanding the context in which expenditure for the contingent project is proposed. This consideration is a requirement in the NER.[557] We then assessed whether the proposed contingent project is reasonably required to meet the capex objectives.[558] Following this, we considered the appropriateness of the proposed 'trigger event'.[559]

Our assessment of the trigger event involved determining whether it is:

- reasonably specific
- makes the project reasonably necessary to achieve the capex objectives; and
- is all that is required for the revenue determination to be amended.[560]

We also considered whether the trigger event is probable during the 2014–17 regulatory control period and a condition that generates increased costs that relate to a specific location rather than a condition or event that affects the transmission network as a whole.[561]

We note that the proposed costs of a contingent project must reasonably reflect the capex criteria.[562] This requires the proposed costs to be efficient and of the kind a prudent operator in SP AusNet's circumstances would reasonably require to meet the capex objectives.[563] Thus if we are not satisfied that a project is reasonably required to achieve the capex objectives, then its costs cannot reflect the capex criteria.

Through our assessment we are satisfied that the proposed contingent projects are not otherwise provided for in SP AusNet's forecast capex allowance and meet the required cost threshold.[564]

11.4 Reasons for draft decision

We do not accept SP AusNet's proposed contingent projects. We consider each proposed contingent project:

- is not reasonably required to meet the capex objectives; and
- the trigger event is not appropriate.[565]

Our review of each proposed contingent project follows.

11.4.1 South Morang transformer replacement (stage 2)

We do not accept SP AusNet's proposed contingent project for the South Morang terminal station (SMTS). We consider the SMTS transformer replacements within SP AusNet's forecast capex (stage 1) will satisfy this capex objective.[566] Thus we consider this contingent project is not reasonably required in order to achieve the capex objectives.[567] Nor is the proposed trigger event appropriate.[568]

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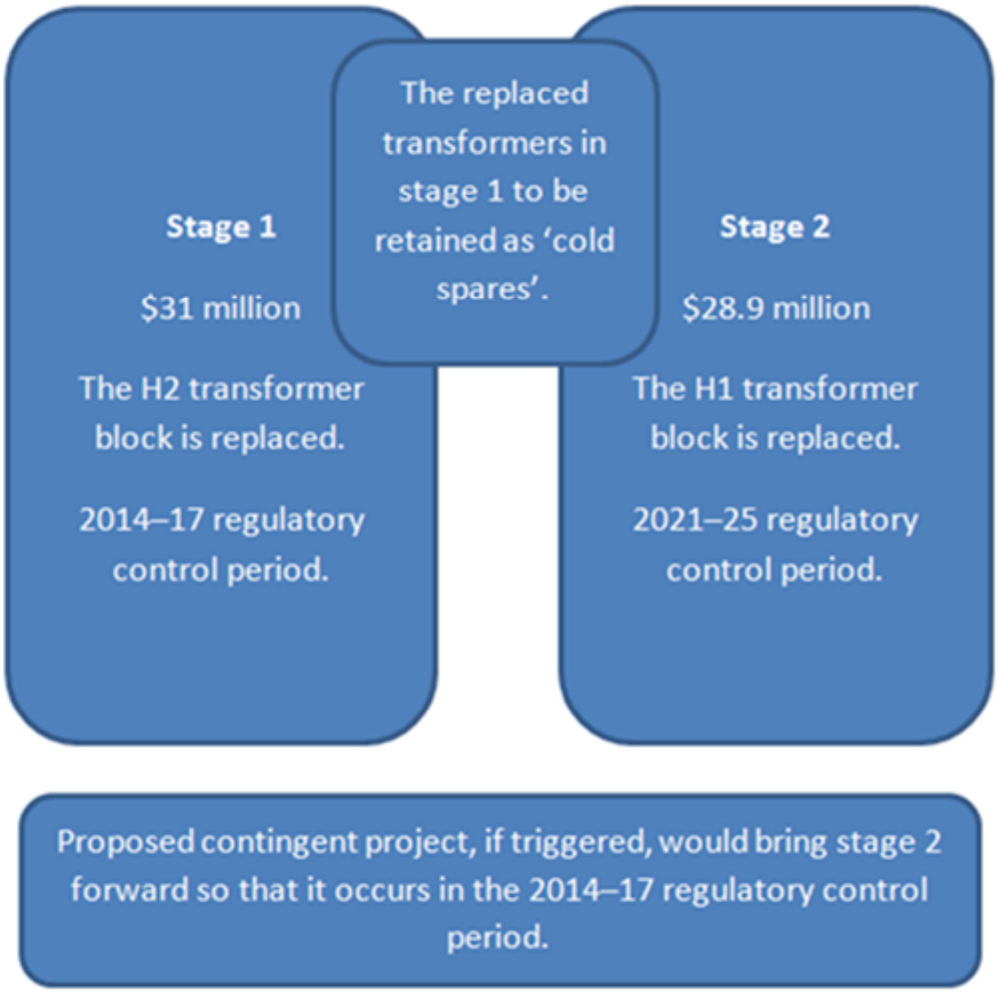
557 NER, clause 6A.8.1(b)(2)(ii)
558 NER, clause 6A.8.1(b)(1).
559 NER, clause 6A.8.1(b)(4).
560 NER, clauses 6A.8.1(c)(1),(2) and (4)
561 NER, clauses 6A.8.1(c)(3) and (5)
562 NER, clause 6A.8.1(b)(2)(ii).
563 NER, clauses 6A.6.7(c)(1) and (2).
564 NER, clause 6A.8.1(b)(2)(i).
565 NER, clause 6A.8.1(b).
566 NER, clause 6A.8.1(b)(1).
567 NER, clause 6A.8.1(b)(1).
568 NER, clause 6A.8.1(b)(5).

Context

The terminal station at South Morang has two aging transformer banks, H1 and H2. SP AusNet proposed a staged replacement approach of these two transformer banks. Stage 1 would occur in the 2014–17 regulatory control period and involves replacing the H2 bank. Stage 2 is scheduled for the period between 2021–25 and involves replacing the H1 bank. SP AusNet's proposed forecast capex for the 2014–17 regulatory control period includes the cost of stage 1 only.

SP AusNet's proposed contingent project is to bring forward stage 2 into the 2014–17 regulatory control period should either of the H1 or H2 transformer banks fail. SP AusNet proposed the trigger event as the 'Failure of any phase or phases of either the H1 or H2 transformers at South Morang Terminal Station before 31 March 2017'.[569] Figure 11.2 outlines the project, and notes the use of the replaced H2 transformers in stage 1 as 'cold spares'.

Figure 11.2 South Morang transformer replacement project



Source: AER analysis.

Project

SP AusNet proposed the SMTS contingent project in terms of satisfying one of the capex objectives—the project 'is required to maintain the reliability, safety and security of supply of the transmission

[569] SP AusNet, *Revenue proposal for the 2014–17 regulatory control period*, Appendix G: Proposed contingent projects for the 2014–17 regulatory control period, 28 February 2013, p. 5.

system'.[570] However, we consider the stage 1 replacements in SP AusNet's forecast capex will satisfy this capex objective and that the contingent project proposed overstates SP AusNet's requirements for the 2014–17 regulatory control period.

The SMTS replacement project is driven by supply risk rather than transformer condition.[571] SP AusNet's assessment of supply risk and market impact of failure of one of the SMTS transformers shows that it is efficient to proceed with only stage 1 in the 2014–17 regulatory control period.[572]

Energy Market Consulting associates (EMCa) provided us with a technical report. It found that the transformers at the H1 bank are currently in good operating condition.[573] Moreover, EMCa noted that in stage 1 a new H2 bank will be installed. Those transformers will have a high level of reliability.[574] And if any of them fail, then the manufacturer's warranty would cover their replacement or repair.[575] Stage 1 will also introduce the availability of using the old H2 transformers as spares. If a failure did occur, then the ability to draw on these spares further increases the reliability and security of supply of the transmission system.

Therefore, we do not consider the proposed contingent project to replace the H1 transformer bank is reasonably required to satisfy the capex objectives in the 2014–17 regulatory control period.[576] Stage 1 will achieve that objective without the further assurance of a contingent project.

It follows that the proposed contingent project capex does not reflect the capex criteria.[577] All that is required for SP AusNet to maintain the reliability, safety and security of supply are the costs associated with stage 1. We conclude that the proposed contingent project capex is not prudent and efficient because it overstates SP AusNet's requirements for the 2014–17 regulatory control period.[578]

Trigger event

The SP AusNet proposed trigger event for the SMTS contingent project was: 'Failure of any phase or phases of either the H1 or H2 transformers at South Morang Terminal Station before 31 March 2017'.[579] We do not consider the proposed trigger event is appropriate because:

- its occurrence is not probable in the 2014–17 regulatory control period[580]
- it is not a condition or event which generates increased costs affecting a specific location.[581]

We consider the occurrence of the proposed trigger event is not probable in the 2014–17 regulatory control period. The installation of the new transformers at the H2 bank, the good working condition of the H1 bank transformers and the ability to draw on the cold spares leads to this conclusion. This finding is consistent with advice from our technical consultants EMCa.[582]

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570 SP AusNet, *Revenue proposal for the 2014–17 regulatory control period*, Appendix G: Proposed contingent projects for the 2014–17 regulatory control period, 28 February 2013, p. 7.
571 EMCa, *SP AusNet technical review*, August 2013, p. 101, paragraph 357.
572 SP AusNet, *Revenue proposal for the 2014–17 regulatory control period*, Appendix G: Proposed contingent projects for the 2014–17 regulatory control period, 28 February 2013, p. 5.
573 EMCa, *SP AusNet technical review*, August 2013, p. 100, paragraph 355.
574 EMCa, *SP AusNet technical review*, August 2013, p. 101, paragraph 357.
575 EMCa, *SP AusNet technical review*, August 2013, p. 101, paragraph 357.
576 SP AusNet, *Revenue proposal for the 2014–17 regulatory control period*, Appendix G: Proposed contingent projects for the 2014–17 regulatory control period, 28 February 2013, p. 7.
577 NER, clause 6A.6.7(c).
578 NER, clause 6A.6.7(c)(i)–(ii).
579 SP AusNet, *Revenue proposal for the 2014–17 regulatory control period*, Appendix G: Proposed contingent projects for the 2014–17 regulatory control period, 28 February 2013, p. 5.
580 NER, clause 6A.8.1(c)(5).
581 NER, clause 6A.8.1(c)(3).
582 EMCa, *SP AusNet technical review*, August 2013, p 101, paragraph 357.

Another requirement is that the trigger event generates increased costs that affect a specific location of SP AusNet's transmission network.[583] We do not consider the proposed trigger event meets this requirement. As shown in **Error! Reference source not found.**, SP AusNet plans to use the replaced H2 transformers in stage 1 as cold spares. Thus no additional costs to SP AusNet's capex should be generated if the proposed trigger event occurs. That is, existing assets—the replaced H2 transformers—should be available for the specific circumstances of the trigger event.

11.4.2 C-I-C

Our assessment of two of the contingent projects SP AusNet proposed for the 2014–17 regulatory control period contains sensitive information. Our reasons for not accepting them as contingent projects are set out in a sensitive information attachment provided to SP AusNet.

11.5 Revisions

Revisions 11.1: We do not accept the three contingent projects SP AusNet proposed for the 2014–17 regulatory control period.

583 NER, clause 6A.8.1(c)(3).

12 Pricing methodology

As part of it transmission determination the Australian Energy Regulator (AER) must specify a pricing methodology for SP AusNet.[584] This methodology establishes a tariff structure for the transmission network service provider (TNSP), and describes how it allocates its revenue to its prescribed transmission services and connection points.[585] SP AusNet's proposed pricing methodology addresses only the pricing matters for which it has responsibility[586]—that is, prescribed entry and exit services. In Victoria, the pricing of all other prescribed transmission services is the responsibility of the Australian Energy Market Operator (AEMO).[587] AEMO is also the co-ordinating network service provider in Victoria. It is therefore responsible for allocating the aggregate annual revenue requirement (AARR) for all TNSPs in the region including SP AusNet.[588]

12.1 Draft decision

We approve the pricing methodology proposed by SP AusNet for the 2014–17 regulatory control period. As required, the proposed methodology gives effect to the pricing principles in the National Electricity Rules (NER) and complies with the information requirements of the pricing methodology guidelines.[589]

12.2 SP AusNet's proposal

On 28 February 2013, SP AusNet submitted its proposed pricing methodology. SP AusNet stated we should consider the unique transmission network arrangements in Victoria. Under these arrangements, SP AusNet owns and operates the majority of the declared shared transmission network. But, unlike other similar network operators in the NEM, it does not have pricing responsibility for all transmission services in the region. Given this, SP AusNet proposed its pricing methodology should address only the pricing matters for which it has responsibility.[590] These are prescribed entry services and prescribed exit services.

12.3 Assessment approach

We must approve a proposed pricing methodology if satisfied that it:

- gives effect to, and complies with, the pricing principles for prescribed transmission services[591]
- complies with the information requirements of the pricing method guidelines.[592]

In making our assessment, we agree the transmission arrangements in Victoria need to be considered. In Victoria, ownership and planning of the electricity transmission network is split. Ownership rests with the declared transmission system operators (DTSOs). Of these, SP AusNet is the largest. Planning is the responsibility of the Australian Energy Market Operator (AEMO). It is a not-for-profit organisation jointly owned by industry and Australian governments.[593] AEMO's objective

584 NER, clause 6A.2.2(4).
585 NER, clause 6A.24.1(b)(1) and (2).
586 SP AusNet, *Revenue proposal*, Appendix 13A: Pricing methodology, p. 4.
587 SP AusNet, *Revenue proposal,* Appendix 13A: Pricing methodology, p. 4.
588 NER, clause 6A.29.1.
589 NER, clause 6A.24.1(c).
590 SP AusNet, *Revenue proposal*, Appendix 13A: *Pricing methodology*, p. 4.
591 NER, clause 6A.14.3(g)(1).
592 NER, clause 6A.14.3(g)(2).
593 AEMO operates on a cost recovery basis as a corporate entity limited by guarantee under the Corporations Act. AEMO fully recovers its operating costs through fees paid by market participants. AEMO's ownership structure is split between government and industry representatives across the eastern states of Australia with membership comprising 60%

as a planner is to ensure that the transmission network operates within the security and performance obligations set out in schedules 5.1a and 5.1 of the NER. AEMO bases its investment decisions on cost benefit analysis and considers the long term interests of electricity consumers.[594]

In addition to its role as planner, AEMO is responsible for managing certain services in Victoria. Prescribed transmission services consist of four types. Figure 12.1 shows each of these and delineation between the services SP AusNet and AEMO manage. SP AusNet manages connection services. These are prescribed entry services and prescribed exit services. AEMO is responsible for shared transmission services, namely transmission use of system (TUOS) services and common transmission services. Prescribed TUOS services provide different benefits to transmission customers depending on their location within the transmission system.[595] Prescribed common transmission services provide equivalent benefits to all transmission customers without any differentiation based on their location.[596]

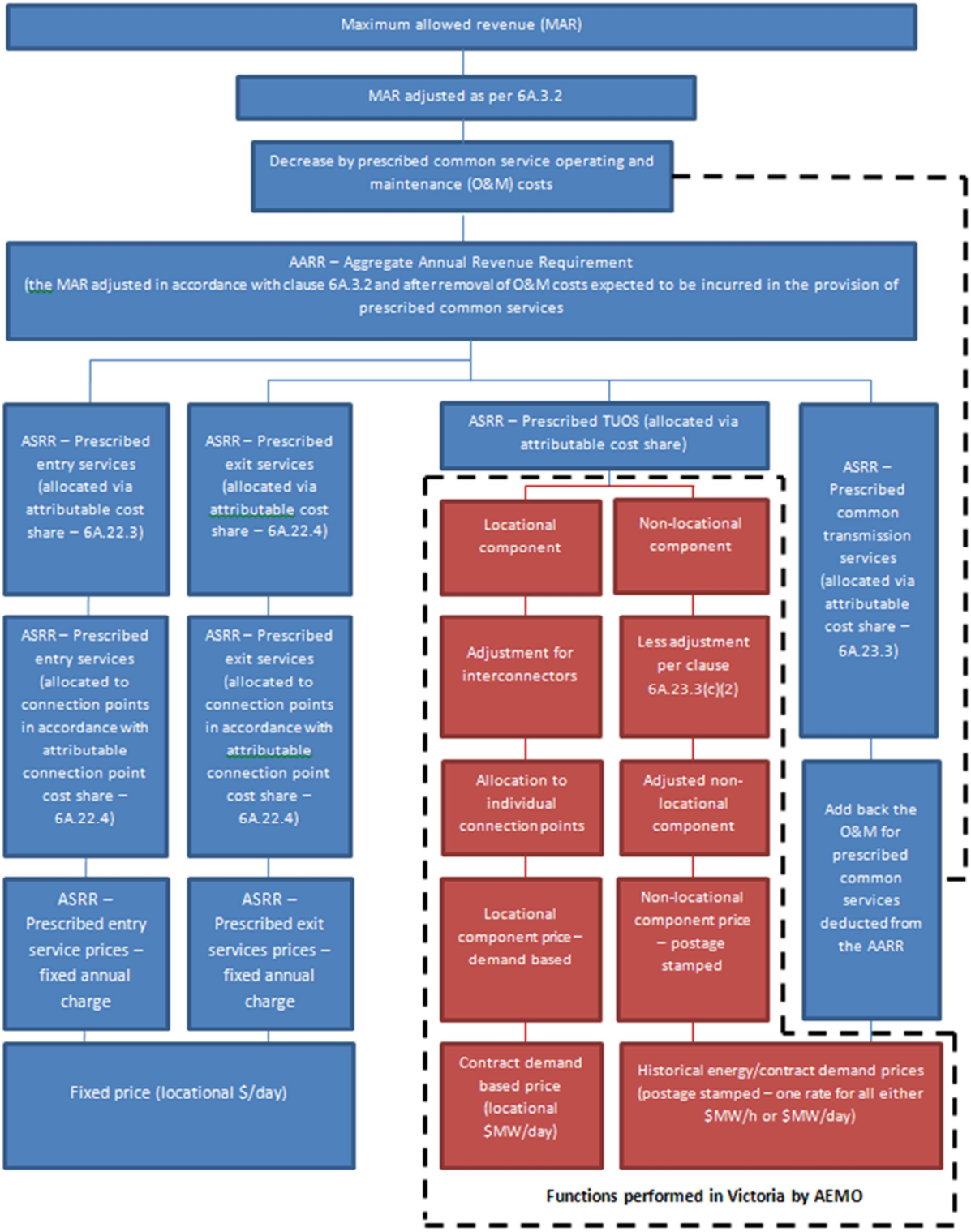
Commonwealth and state government and 40% industry including generators, transmission companies, distribution businesses, resource companies and investment companies.

[594] National Electricity Law, section 50F.

[595] NER, Chapter 10.

[596] NER, Chapter 10.

Figure 12.1 Delineation of transmission services in Victoria



Source: AER analysis; SP AusNet, *Revenue Proposal*, Appendix 13A, p.17.

AEMO does not own the infrastructure constituting the shared transmission network. Instead, it procures services from DTSOs. In most cases this is SP AusNet. However there are other DTSOs in Victoria. This is because when AEMO identifies a network constraint which is 'separable' from the existing network it calls for tenders for the construction, ownership and maintenance of the augmentation to the network. The successful bidder then becomes the DTSO for the addition to the

network which it constructs. In total, 15 projects have gone to tender; 13 of which were won by SP AusNet.[597] Where the augmentation is not separable, the work is undertaken by the incumbent DTSO. This is usually SP AusNet.

The transmission arrangements in Victoria affect SP AusNet's pricing responsibilities. SP AusNet has pricing responsibility for prescribed entry services and prescribed exit services only. Taking this into account we determined that SP AusNet's proposed pricing methodology could be approved if it only addressed those connection services. The services for which SP AusNet does not have pricing responsibility—TUOS services and common transmission services—should be addressed by AEMO. We expect to make a draft decision on AEMO's proposed pricing methodology in December 2013, and a final decision by 30 April 2014.

12.4 Reasons for draft decision

We approve SP AusNet's proposed pricing methodology, following our consideration of the unique transmission arrangements in Victoria. We determine the proposal meets each of the pricing principles and pricing methodology guideline requirements that are relevant to SP AusNet's responsibility for connection services. The pricing of other prescribed transmission services provided in Victoria—TUOS and common transmission services—will be addressed in AEMO's proposed pricing methodology for the 2014–17 regulatory control period, which we expect to receive in August 2013.[598]

12.4.1 Assessment against the pricing principles

In considering SP AusNet's proposed pricing methodology against the requirements of the pricing principles, we addressed only those principles that are relevant to SP AusNet's transmission pricing responsibilities. We consider this approach is appropriate, because the pricing principles are intended to provide scope for TNSPs to develop pricing arrangements that address their operating circumstances.[599]

Calculation and allocation of annual revenue

We assessed how SP AusNet's proposed pricing methodology calculates and allocates its aggregate annual revenue requirement (AARR). The AARR is derived from an adjustment that a TNSP makes to the maximum allowed revenue (MAR) that we approve in SP AusNet's transmission determination. That adjustment must accord with the method prescribed under clause 6A.3.2 of the NER. Table 12.1 summarises our assessment which found that SP AusNet's proposal satisfactorily addresses the pricing principles.

597 Productivity Commission, Electricity network regulatory frameworks, October 2012 p 502 available at: http://www.pc.gov.au/projects/inquiry/electricity/draft.
598 AER, Letter to AEMO, 7 June 2013.
599 AEMC, *Rule Determination: National Electricity Amendment (Pricing of Prescribed Transmission Services) Rule 2006 No. 22*, 21 December 2006, pp. 27–8.

Table 12.1 AER's assessment of SP AusNet's proposed calculation and allocation of the AARR

NER requirements	AER assessment
Requirement for the AARR to be calculated as defined in the NER—clause 6A.22.1	Clause 3 of SP AusNet's proposed pricing methodology satisfies this requirement.
Requirement for the AARR to be allocated to each category of prescribed transmission services in accordance with the attributable cost share for each such category of service—clause 6A.23.2(a)	Clause 4.1 and appendix B of SP AusNet's proposed pricing methodology satisfies this requirement.
Requirement for every portion of the AARR to be allocated and for the same portion of AARR to be allocated more than once—clause 6A.23.2(c)	Clause 4.1 and appendix B of SP AusNet's proposed pricing methodology satisfies this requirement.
Subject to clause 11.6.11 of the NER, requirement for adjusting the attributable cost share and priority ordering approach to asset costs that would otherwise be attributed to the provision of more than one other category of prescribed transmission service—clause 6A.23.2(d)	Clause 4.2 and appendix B of SP AusNet's proposed pricing methodology satisfies this requirement.

Allocation of annual service revenue to network connection points

We assessed how SP AusNet's proposed pricing methodology allocates the annual service revenue requirement (ASRR). The ASRR is derived from allocating a TNSP's AARR to each category of prescribed transmission services in accordance with each category's attributable cost share.[600] Table 12.2 summarises our assessment which found that SP AusNet's proposal satisfactorily addresses the pricing principles.

[600] NER, clause 6A.22.3.

Table 12.2 AER's assessment of SP AusNet's proposed allocation of the ASRR

NER requirements	AER assessment
Requirement for the whole ASRR for prescribed entry services to be allocated to transmission network connection points in accordance with the attributable connection point cost share for prescribed entry services that are provided by the TNSP at that connection point—clause 6A.23.3(a)	Clause 5.1 of SP AusNet's proposed pricing methodology satisfies this requirement.
Requirement for the whole ASRR prescribed exit services to be allocated to transmission network connection points in accordance with the attributable connection point cost share for prescribed exit services that are provided by the TNSP at that connection point—clause 6A.23.3(b)	Clause 5.1 of SP AusNet's proposed pricing methodology satisfies this requirement.
Requirement for the ASRR to be allocated for prescribed TUOS services locational components and pre-adjusted non locational components—clause 6A.23.3(c)	Not addressed, since AEMO (not SP AusNet) is responsible for the pricing of prescribed TUOS services.
Requirement for adjusting attributable cost share and priority ordering approach to asset costs that would otherwise be attributed to the provision of more than on category of prescribed transmission services—clause 6A.23.2(d)	Clause 5.2 of SP AusNet's proposed pricing methodology satisfies this requirement.
Requirement for the recovery of the ASRR for prescribed common transmission services and the operating and maintenance costs incurred in the provision of those services to be recovered through prices charged to transmission customers and network service provider transmission connection points set in accordance with price structure principles set out in clause 6A.23.4—clause 6A.23.3(f)	Not addressed, since AEMO (not SP AusNet) is responsible for the pricing of prescribed common transmission services.

Development of price structure

SP AusNet's proposed pricing methodology must develop different prices for recovering the ASRR. We are satisfied that this requirement is met. Table 12.3 summarises our assessment against the pricing principles.

Table 12.3 AER's assessment of SP AusNet's proposed pricing structure

NER requirements	AER assessment
Requirement for separate prices for each category of prescribed transmission services—clause 6A.23.4(b)	Clause 6 of SP AusNet's proposed pricing methodology satisfies this requirement for prescribed entry and prescribed exit services.
Requirement for fixed annual amount prices for prescribed entry and exit services—clause 6A.23.4(c)	Clause 6 of SP AusNet's proposed pricing methodology satisfies this requirement.
Requirement for postage stamped prices for prescribed common transmission services—clause 6A.23.4(d)	Not addressed, since AEMO (not SP AusNet) is responsible for the pricing of prescribed common transmission services.
Requirement for prices for locational component of prescribed TUOS services to be based on demand at times of greatest use of the transmission network and for which network investment is most likely to be contemplated—clause 6A.23.4(e)	Not addressed, since AEMO (not SP AusNet) is responsible for the pricing of prescribed TUOS services.
Requirement for prices for the locational component of the ASRR for prescribed TUOS services not to change by more than 2 per cent per year compared with the load weighted average price for this component for the relevant region—clauses 6A.23.4– 6A.23.4(f)	Not addressed, since AEMO (not SP AusNet) is responsible for the pricing of prescribed TUOS services.
Requirement for prices for the adjusted nonlocational component of prescribed TUOS services to be on a postage stamped basis—clause 6A.23.4(j)	Not addressed, since AEMO (not SP AusNet) is responsible for the pricing of prescribed TUOS services.

12.4.2 Assessment against the pricing methodology guidelines

We are satisfied SP AusNet's proposed pricing method complies with the information requirements of the pricing method guidelines. Features of the proposal that reflect the guideline requirements include:

- acknowledging AEMO is the coordinating network service in Victoria[601]
- using the priority ordering approach under clause 6A.23.3(d) of the NER to implement priority ordering[602]
- describing how asset costs that may be attributable to both prescribed entry services and prescribed exit services will be allocated at a connection point[603]
- describing billing arrangements as in clause 6A.27 of the NER[604]
- describing prudential requirements as in clause 6A.28 of the NER[605]

601 SP AusNet, *Revenue proposal*, Appendix 13A: Pricing methodology, clause 1.
602 SP AusNet, *Revenue proposal*, Appendix 13A: Pricing methodology, clause 4.1.
603 SP AusNet, *Revenue proposal*, Appendix 13A: Pricing methodology, clause 5.
604 SP AusNet, *Revenue proposal*, Appendix 13A: Pricing methodology, clause 7.

- including hypothetical examples[606]
- describing how SP AusNet intends to monitor and develop records of its compliance with its approved pricing methodology.[607]

605 SP AusNet, *Revenue proposal*, Appendix 13A: Pricing methodology, clause 8.
606 SP AusNet, *Revenue proposal*, Appendix 13A: Pricing methodology, Appendix B.
607 SP AusNet, *Revenue proposal*, Appendix 13A: Pricing methodology, clause 7.1.

13 Negotiated services

The Australian Energy Regulator's (AER) transmission determination imposes control over revenues that a transmission network service provider (TNSP) can recover from its provision of prescribed transmission services. But we do not determine the terms and conditions of negotiated transmission services. Under the National Electricity Rules (NER), negotiated services are provided under an agreement or as a result of a determination of a commercial arbitrator. These processes are facilitated by:

- a negotiating framework
- negotiated transmission service criteria (NTSC).

A TNSP must prepare a negotiating framework that sets out procedures for negotiating the terms and conditions of access to a negotiated transmission service. The NTSC set out criteria that a TNSP must apply in negotiating those terms and conditions, including the prices and access charges for negotiated transmission services. They also contain the criteria that a commercial arbitrator must apply to resolve disputes about such terms and conditions and/or access charges. This attachment sets out our considerations and conclusions on SP AusNet's proposed negotiating framework and the NTSC.

13.1 Draft decision

We approve SP AusNet's proposed negotiating framework because it meets the requirements in the NER.[608] Further, our draft decision is that the NTSC we published in April 2013 will apply to SP AusNet in the 2014–17 regulatory control period, because those criteria give effect to the negotiated transmission service principles.[609]

13.2 SP AusNet's proposal

SP AusNet stated its proposed negotiating framework should be approved because it meets the minimum requirements of NER clause 6A.9.5(c). Those minimum requirements address the procedures for negotiating the terms and conditions of access to a negotiated transmission service.

In Victoria, SP AusNet provides transmission services in conjunction with the Australian Energy Market Operator (AEMO). SP AusNet provides and offers connection services whereas AEMO provides shared transmission services. Because of this SP AusNet stated that it worked with AEMO to devise a common negotiating framework for them both.[610] AEMO is a not-for-profit organisation owned jointly by industry and Australian governments.[611]

Given AEMO's transmission responsibilities, SP AusNet outlined how their common negotiating framework would operate. Negotiated transmission services include connection services that are provided to service a specific user, or group of users, at a single transmission connection point.[612] They also include negotiated transmission services which exceed the network performance

608 NER, clause 6A.9.5(c).
609 NER, clause 6A.9.1.
610 SP AusNet, *Proposed negotiating framework for 1 April 2014 to 31 March 2017*, May 2012, p. 4.
611 AEMO operates on a cost recovery basis as a corporate entity limited by guarantee under the *Corporations Act 2001* (Cth). It fully recovers its operating costs through fees paid by market participants. AEMO's ownership is split between government and industry representatives across the eastern states of Australia, with membership comprising 60 per cent Australian and state government and 40 per cent industry (including generators, transmission companies, distribution businesses, resource companies and investment companies).
612 NER, Chapter 10.

requirements under jurisdictional electricity legislation.[613] Of these types of negotiated services SP AusNet stated that it is responsible for connection services whereas AEMO is responsible for shared transmission services. This is such that SP AusNet proposed that its common negotiating framework applies to:

- SP AusNet and each Service Applicant who applies in writing to SP AusNet for the provision of connection services which are negotiated services; and
- AEMO and each Service Applicant who applies in writing to AEMO for the provision of shared transmission services which are negotiated services.

Further, AEMO has primary responsibility for assessing the impact of a proposed connection on the Victorian Transmission Network.[614]

13.3 Assessment approach

To be approved, a proposed negotiating framework must specify each requirement in clause 6A.9.5(c) of the NER. We examined whether SP AusNet's proposed negotiating framework met these requirements.

We consider NTSC that adopt the negotiated transmission service principles would satisfy the NER requirements. We thus assessed whether our proposed NTSC reflect the negotiating transmission service principles in clause 6A.9.1 of the NER.

13.4 Reasons for draft decision

We approve SP AusNet's proposed negotiating framework because it specifies the minimum requirements in the NER.[615] Those requirements include, among other things, a statement that SP AusNet will negotiate in good faith and a description of procedures for dealing with disputes.

SP AusNet worked with AEMO to develop its proposed negotiating framework. We accept that benefits arise from SP AusNet and AEMO having a common negotiating framework. When SP AusNet receives an application to connect to the Victorian Transmission Network, that service applicant must also negotiate with AEMO for shared transmission services. For these reasons, a common negotiating framework that both SP AusNet and AEMO apply during their negotiations with service applicants would be useful. But, while we approve the negotiating framework that SP AusNet proposed, this draft decision does not apply the framework to AEMO too. For that to happen, we must approve the same negotiating framework for AEMO. We expect to receive AEMO's proposed negotiating framework in August 2013.[616]

Table 13.1 summarises our findings on SP AusNet's proposed negotiating framework. It shows that each of the requirements under the NER for a negotiating framework is satisfactorily addressed.

613 NER, Chapter 10.
614 SP AusNet, *Revenue Proposal, Appendix 14A: Victorian negotiating framework*, 1 April 2014–31 March 2017, p.4
615 NER, clause 6A.9.5(c).
616 AER, Letter to AEMO, 7 June 2013.

Table 13.1 AER's assessment of SP AusNet's proposed negotiating framework

NER requirements	AER assessment
Requirement for SP AusNet and the applicant of a negotiated transmission service to negotiate in good faith—clause 6A.9.5(c)(1)	Section 4 of SP AusNet's proposed negotiating framework satisfies this requirement.
Requirement for SP AusNet to provide all such commercial information reasonably required to enable the applicant of a negotiated transmission service to engage in effective negotiations—clause 6A.9.5(c)(2)	Section 8 of SP AusNet's proposed negotiating framework satisfies this requirement.
Requirement for SP AusNet to identify and inform the negotiated transmission service applicant of the reasonable costs of providing the negotiated service; and demonstrate that charges reflect costs—clause 6A.9.5(c)(3)	Section 8 of SP AusNet's proposed negotiating framework satisfies this requirement.
Requirement for a negotiated transmission service applicant to provide all such commercial information reasonably required to enable SP AusNet to engage in effective negotiation—clause 6A.9.5(c)(4)	Section 8 of SP AusNet's proposed negotiating framework satisfies this requirement.
Requirement to specify a reasonable period of time for commencing, progressing and finalising negotiations; and a requirement for each party to use their reasonable endeavours to adhere to those time periods during the negotiation—clause 6A.9.5(c)(5)	Section 5 of SP AusNet's proposed negotiating framework satisfies this requirement.
Requirement to specify a process for disputes to be dealt with in accordance with the relevant provisions for dispute resolution[617]—clause 6A.9.5(c)(6)	Section 10 of SP AusNet's proposed negotiating framework satisfies this requirement.
Requirement to specify arrangements for the payment of SP AusNet's reasonable direct expenses incurred in processing the application to provide the negotiated transmission service—clause 6A.9.5(c)(7)	Section 6 of SP AusNet's proposed negotiating framework satisfies this requirement.
Requirement for SP AusNet to determine the potential impact of the provision of a negotiated transmission service on other network users—clause 6A.9.5(c)(8)	Section 11 of SP AusNet's proposed negotiating framework satisfies this requirement.
Requirement for SP AusNet to notify and consult with any affected network user and ensure the negotiated transmission service does not result in noncompliance with obligations in relation to other network users under the NER—clause 6A.9.5(c)(9)	Section 11 of SP AusNet's proposed negotiating framework satisfies this requirement.

13.5 Negotiated transmission service criteria

In April 2013, we published an invitation for submissions on the NTSC. Our draft decision is that the NTSC which we published with that invitation (reproduced in section 13.5.1) should apply to SP AusNet's 2014–17 regulatory control period. This is because it adopts the negotiated transmission service principles as its criteria. We did not receive stakeholder submissions on the NTSC.

[617] The relevant provisions for dispute resolution are set out in part K of chapter 6A of the NER.

13.5.1 The NTSC

National Electricity Objective

1. The terms and conditions of access for a negotiated transmission service, including the price that is to be charged for the provision of that service and any access charges, should promote the achievement of the National Electricity Objective.

Criteria for terms and conditions of access

Terms and conditions of access

2. The terms and conditions of access for a negotiated transmission service must be fair, reasonable and consistent with the safe and reliable operation of the power system in accordance with the NER.

3. The terms and conditions of access for negotiated transmission services, particularly any exclusions and limitations of liability and indemnities, must not be unreasonably onerous. Relevant considerations include the allocation of risk between the TNSP and the other party, the price for the negotiated transmission service and the cost to the TNSP of providing the negotiated service.

4. The terms and conditions of access for a negotiated transmission service must take into account the need for the service to be provided in a manner that does not adversely affect the safe and reliable operation of the power system in accordance with the NER.

Price of services

5. The price of a negotiated transmission service must reflect the cost that the TNSP has incurred or incurs in providing that service, and must be determined in accordance with the principles and policies set out in the Cost Allocation Methodology.

6. Subject to criteria 7 and 8, the price for a negotiated transmission service must be at least equal to the avoided cost of providing that service but no more than the cost of providing it on a stand alone basis.

7. If the negotiated transmission service is a shared transmission service that:

    a. exceeds any network performance requirements which it is required to meet under any relevant electricity legislation; or

    b. exceeds the network performance requirements set out in schedule 5.1a and 5.1 of the NER

8. then the difference between the price for that service and the price for the shared transmission service which meets network performance requirements must reflect the TNSP's incremental cost of providing that service (as appropriate).

9. For shared transmission services, the difference in price between a negotiated transmission service that does not meet or exceed network performance requirements and a service that meets those requirements should reflect the TNSP's avoided costs. Schedule 5.1a and 5.1 of the NER or any relevant electricity legislation must be considered in determining whether any network service performance requirements have not been met or exceeded.

10. The price for a negotiated transmission service must be the same for all Transmission Network Users. The exception is if there is a material difference in the costs of providing the negotiated

transmission service to different Transmission Network Users or classes of Transmission Network Users.

11. The price for a negotiated transmission service must be subject to adjustment over time to the extent that the assets used to provide that service are subsequently used to provide services to another person. In such cases the adjustment must reflect the extent to which the costs of that asset are being recovered through charges to that other person.

12. The price for a negotiated transmission service must be such as to enable the TNSP to recover the efficient costs of complying with all regulatory obligations associated with the provision of the negotiated transmission service.

Criteria for access charges

Access charges

13. Any access charges must be based on the costs reasonably incurred by the TNSP in providing Transmission Network User access. This includes the compensation for forgone revenue referred to in clause 5.4A(h) to (j) of the NER and the costs that are likely to be incurred by a person referred to in clause 5.4A(h) to (j) of the NER (as appropriate).

14 Cost pass throughs

The pass through mechanism of the National Energy Rules (NER) recognises a transmission network service provider (TNSP) can be exposed to risks beyond its control, which may have a material impact on its costs. A cost pass through enables a business to recover (or pass through) the costs of defined unpredictable, high cost events that are not built into the transmission determination.

The NER specifies the following pass through events that apply to all TNSPs:[618]

- a regulatory change event
- a service standard event
- a tax change event
- an insurance event
- in addition to those defined events, an event specified in a transmission determination for a regulatory control period.

This section sets out our draft decision on the additional pass through events that SP AusNet nominated for the 2014–17 regulatory control period.

14.1 Draft decision

We do not accept a natural disaster event, a terrorism event or a liability above insurance cap event as nominated pass through events in the forms proposed by SP AusNet. Before we can accept these events as nominated pass through events, we require SP AusNet to amend its definitions in accordance with section 14.5.

14.2 SP AusNet's proposal

SP AusNet proposed three nominated cost pass through events:[619]

- a natural disaster event
- a terrorism event
- a liability above insurance cap event.

SP AusNet proposed the following cost pass through event definitions:

Natural disaster event

A natural disaster event is:

Any major fire, flood, earthquake or other natural disaster beyond the reasonable control of SP AusNet that occurs during the 2014–17 regulatory control period and *materially* increases the costs to SP AusNet of providing *prescribed transmission services*.

For the avoidance of doubt, in assessing a natural disaster event application, the AER will have regard to:

i. the insurance premium proposal submitted by SP AusNet in its *revenue proposal*

618 NER, clause 6A.7.3.
619 SP AusNet, *Revenue proposal*, p. 180.

ii. the forecast operating expenditure allowance approved in the AER's final decision

iii. the reasons for that decision.

Terrorism event

SP AusNet proposed the following terrorism event definition:

> A terrorism event is:
>
> An act (including, but not limited to, the use of force or violence or the threat of force or violence) of any person or group of persons (whether acting alone or on behalf of or in connection with any organisation or government), which from its nature or context is done for, or in connection with, political, religious, ideological, ethnic or similar purposes or reasons (including the intention to influence or intimidate any government and/or put the public, or any section of the public, in fear) and which *materially* increases the costs to SP AusNet of providing *prescribed transmission services or the costs to a Distribution Network Service Provider of providing direct control services*.

In response to our query why the definition included a reference to Distribution Network Service Providers, SP AusNet resubmitted the terrorism event definition.[620] The revised definition did not include the phrase 'or the costs to a Distribution Network Service Provider of providing direct control services'.

Liability above insurance cap event

> A liability above insurance cap event means an event whereby:
>
> 1. SP AusNet makes a claim or claims and receives a payment or payments under a relevant insurance policy,
>
> 2. SP AusNet incurs costs beyond the relevant policy limit, and
>
> 3. the costs beyond the relevant policy limit *materially* increase the costs to SP AusNet of providing *prescribed transmission services*.
>
> For the purposes of this insurance cap event:
>
> 4. the relevant policy limit is the greater of:
>
> a. SP AusNet's actual policy limit at the time of the event that gives rise to the claim, and
>
> b. its policy limit at the time the AER made its final decision on SP AusNet's transmission determination proposal for the period 2014–17.
>
> 5. For the avoidance of doubt, in assessing an insurance cap event cost pass through application under rule 6A.7.3, the AER will have regard to:
>
> i. the insurance premium proposal submitted by SP AusNet in its *revenue proposal*
>
> ii. the forecast operating expenditure allowance approved in the AER's final decision; and
>
> iii. the reasons for that decision.
>
> 6. A relevant insurance policy is an insurance policy held during the 2014–17 regulatory control period or a previous *regulatory control period* in which SP AusNet was regulated.

14.3 Assessment approach

We assessed SP AusNet's nominated cost pass through events taking into account the nominated pass through event considerations.[621] Where we were not satisfied that the nominated pass through event should be accepted we considered whether amendments could be made to the proposal that would make a pass through event acceptable within the terms of the NER.

620 SP AusNet, *Response to information request AER RP 32, Nominated terrorism pass through event*, 4 June 2013.
621 NER, definition of *nominated event pass through considerations*, chapter 10.

Nominated pass through event considerations

To promote the efficient allocation of risk between service providers and their customers, the Australian Energy Market Commission (AEMC) amended the NER to include the following factors that we must consider when assessing nominated pass through events:[622]

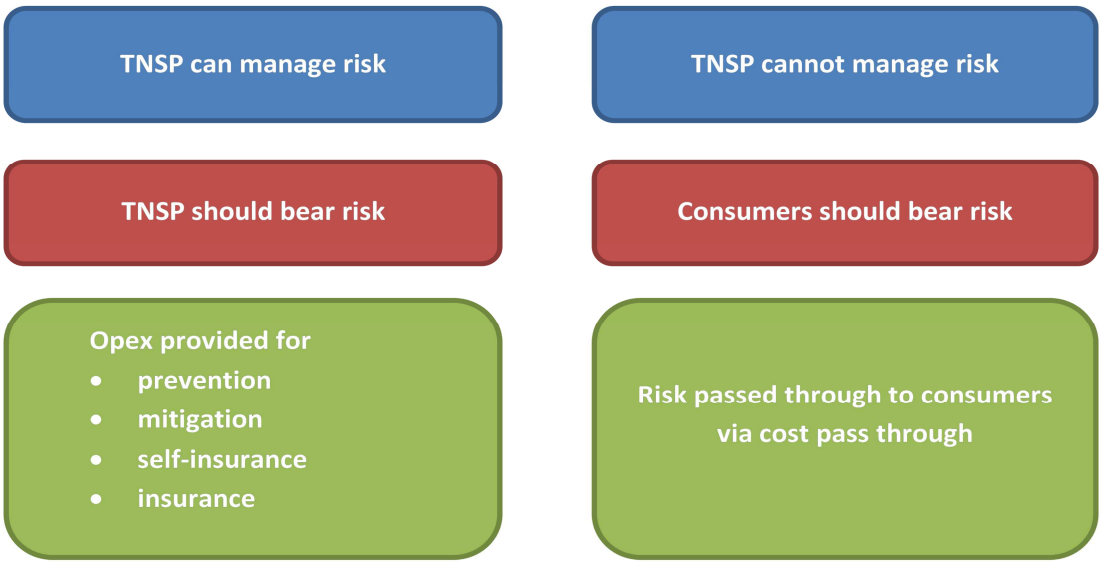
1. whether the event is covered by another category of pass through event
2. whether the nature or type of event can be clearly identified
3. whether a prudent service provider could reasonably prevent an event of that nature from occurring or substantially mitigate the cost impact of such an event
4. whether the relevant service provider could insure against the event, having regard to:
    a. the availability (including the extent of availability in terms of liability limits) of insurance against the event on reasonable commercial terms, or
    b. whether the event can be self insured on the basis that:
        i. it is possible to calculate the self insurance premium, and
        ii. the potential cost to the relevant service provider would not have a significant impact on the service provider's ability to provide network services.
5. any other matter the AER considers relevant and which the AER has notified Network Service Providers is a nominated pass through event consideration.

We are also mindful of the overall context of incentive regulation. We need to preserve the incentives a TNSP faces to efficiently manage its risk. This is generally achieved when the party who is in the best position to manage the risk bears the risk. In addition to the efficient costs associated with managing, mitigating or avoiding risks, there is also the underlying question of the appropriate risk demarcation point and the person who is best placed to bear that risk. We intend to review our approach to nominated pass through events, and risk allocation more generally, in the near future. As part of this broader review, we will consider in detail how risks should be allocated between service providers and their customers. We will consult widely on these matters as part of that review.

Figure 14.1 summarises the underlying concept of risk allocation that will be explored more fully in our review.

622 NER, definition of *nominated pass through event considerations,* chapter 10.

Figure 14.1 Efficient risk allocation



There is an incentive for a TNSP to want to shift as much risk as possible onto consumers through nominating multiple cost pass through events, in addition to the events defined in the NER. It is our responsibility to allow only the events that we are satisfied are acceptable taking into account the nominated pass through event considerations.[623]

All businesses face risks. Strategies to manage risk typically involve transferring the risk to another party (insurance), avoiding the risk (prevention), reducing the negative effect or probability of the risk (mitigation) or even accepting some or all of the consequences of a particular risk (self-insurance). An efficient business will manage its risk by employing the most cost effective combination of these strategies.

Factors which affect the market generally, and not just SP AusNet, are systematic risks. SP AusNet is compensated for these risks through the Weighted Average Cost of Capital. SP AusNet is expected to manage its residual risks through a combination of prevention, mitigation, insurance and self-insurance and these activities are generally compensated for through its opex and capex allowances.

However, there are some risks, such as natural disasters, which have a very low probability of occurring but a very high cost, so high that they may impact on the financial viability of the network service provider. SP AusNet is expected to manage these types of risk. In doing so, there may be a level of cover beyond which it is not efficient/reasonable for SP AusNet to insure (either through commercial insurance or through self-insurance). In these circumstances, and only after all other risk management strategies have been exhausted, it may be in consumers' interest to pay for the event if and when it happens through the cost pass through mechanism rather than annually through insurance premiums.

In this decision, we focus on assessing whether SP AusNet has given sufficient consideration to the availability of insurance and that its proposed event definitions do not inappropriately transfer risk to

623 NER, clause 6A.6.9(b).

consumers. We also consider it good regulatory practice to achieve as much consistency as possible across our transmission determinations. [624]

14.4 Reasons for draft decision

The following sets out our reasons for amending and approving the cost pass through events proposed by SP AusNet.

Natural disaster event

We do not accept the natural disaster event as nominated by SP AusNet in its revenue proposal. We included an explanation of 'major' in the definition.

The event must be a 'major' natural disaster event, in the sense that it is a serious or significant natural disaster event. Defining the term 'major' in the natural disaster event definition:

- is consistent with the nominated pass through event considerations (discussed below)
- ensures manageable and affordable risk lies with SP AusNet, not its customers
- requires SP AusNet to manage the risk of non-major events through insurance, self-insurance and mitigation.

Nominated pass through event considerations

After considering all of the nominated pass through event considerations, we consider the following have not been sufficiently accounted for by SP AusNet:[625]

1. whether SP AusNet can insure against the proposed event on reasonable commercial terms
2. whether the proposed event can be self-insured
3. other relevant factors.[626]

We consider insurance is likely to be available on reasonable commercial terms for natural disasters that are less than serious or significant:

- Businesses may obtain insurance cover for transmission line loss up to US$20 million. A report commissioned by Grid Australia indicated commercial insurance for damage to transmission and distribution lines may be available for cover up to, but not above, US$20 million.[627]
- In 2010, Powerlink[628], obtained insurance for risks to its towers and lines consistent with the insurance ceiling noted in the Grid Australia report.[629]

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624 Since the AEMC revised the NER to include nominated pass through events for TNPS in August 2012, we have made determinations approving nominated pass through events for Powerlink and ElectraNet.[624] When the AER is not satisfied that SP AusNet's proposal meets the requirements of the NER but that an amendment is possible that would make the proposal acceptable, the AER has given weight to achieving definitions that are consistent across transmission determinations.

625 NER, clause 6A.6.9.

626 NER, definition of *nominated pass through event considerations,* chapter 10, subclauses (d)(1), (d)(2) and (e).

627 Marsh, *Quantification of the cost of specific low probability, high impact events and associated availability of commercial insurance*, 16 September 2011, p. 2; referenced in: Grid Australia, *Rule change proposal: Cost pass through*, October 2011 p. 7, submitted to the Australian Energy Market Commission (AEMC).

628 Powerlink is the transmission network service provider in Queensland.

629 AER, *Draft decision, Powerlink transmission determination 2012–17*, November 2011, p. 196.

Specifying that the natural disaster event must be a serious and significant event helps ensure the event captures only potential financial damage that is not insurable.

We are also required to consider whether the event can be self-insured, such that it is possible to calculate the self-insurance premium and the potential cost would not have a significant impact on the service provider's ability to provide network services. We consider a natural disaster event that is less than serious and significant can be self-insured. Further, an event would need to be major to have a significant impact on SP AusNet's ability to provide network services.

An indication of whether a significant and serious fire, earthquake or flood event has occurred may be if that event has been declared by a relevant government to constitute a 'natural disaster event'.

Other relevant factors

Manageable and affordable risk should remain with SP AusNet because it is better placed than its customers to identify and manage the risks of natural events that are less than major. However, if we do not clarify that only the costs of major natural events may be passed through, in our opinion, too much manageable risk would be transferred from SP AusNet to its customers.

A key consideration of any pass through event is that it does not create disincentives for the business to insure or self-insure. If SP AusNet is allowed to pass through the costs to users of natural disaster events that are not major, it may create a disincentive for it to obtain an efficient level of insurance coverage or self-insurance. SP AusNet's opex allowance includes funding for insurance and self-insurance yet it may have an incentive to keep that allowance (and not insure the risk) while managing this risk through the pass through mechanism. We consider that this disincentive to insure non-major natural disasters can be reduced by clarifying that the natural disaster event must be a 'major' natural disaster, in the sense that it is serious and significant.

Terrorism event

We do not accept the terrorism event definition nominated by SP AusNet because it included a reference to any event that 'materially increases the costs to a Distribution Network Service Provider (DNSPs) of providing direct control services'. A reference to a DNSP is not allowed in a determination for a TNSP.[630] We discussed the matter with SP AusNet who agreed and subsequently proposed to amend its definition.[631]. We accept the revised definition having regard to all of the nominated pass through event considerations:

- SP AusNet has a range of measures in place to prevent acts of terrorism, and mitigate the impacts of an event should one occur.
- It has commercial insurance for property damage to assets within a terminal station which includes damage caused by terrorism.
- SP AusNet has elected to self-insure its assets outside of a terminal station (towers and lines). Its self-insurance risk quantification for tower failures includes losses caused by natural perils but not by terrorism. It considers the relative infrequency and potentially very high costs of terrorism events create significant challenges for self-insurance.

630 NER clause 6A.7.3(a).
631 SP AusNet, *Response to information request AER RP 32, Nominated terrorism pass through event*, 4 June 2013.

- SP AusNet is effectively self-insuring for terrorism losses below the cost pass through materiality threshold (one per cent of its maximum allowed revenue (MAR) or around $5 million) because these costs are not eligible to be passed through.

A liability above insurance cap event (insurance cap event)

We do not accept the liability above insurance cap event definition nominated by SP AusNet.[632] After considering the nominated pass through event considerations, under the consideration 'any other factor',[633] we consider that SP AusNet's insurance cap event should be amended to correctly define it in the context of SP AusNet's total opex allowance.

SP AusNet's proposed definition is largely based on the definition of the insurance cap event that we approved in the final decision for ElectraNet's 2013–18 transmission determination.[634] However, it referred to 'the forecast operating expenditure allowance approved in the AER's final decision'. We do not explicitly include allowances for insurance premiums in our final decision. Rather, we approve a total operating expenditure forecast. To ensure the nature of the event is clearly identified in accordance with the nominated pass through event considerations we substituted the following words:

> ... the policy limit that is explicitly or implicitly commensurate with the allowance for insurance premiums that is included in the forecast operating expenditure allowance approved in the AER's final decision for the regulatory control period in which the relevant insurance policy is issued.

For consistency across jurisdictions, we renamed the event as an 'insurance cap event'.

14.5 Revisions

Revision 14.1: The following nominated pass through events will apply to SP AusNet in the 2014–17 regulatory control period:

Natural disaster event

Any major fire, flood, earthquake or other natural disaster beyond the reasonable control of SP AusNet that occurs during the 2014–17 regulatory control period and *materially* increases the costs to SP AusNet of providing *prescribed transmission services*.

The term 'major' in the above paragraph means an event that is serious and significant. It does not mean *material* as that term is defined in the Rules (that is, 1 per cent of the TNSP's maximum allowed revenue in that year).

Note: In assessing a natural disaster event pass through application, the AER will have regard to the:

i. insurance premium proposal submitted by SP AusNet in its *revenue proposal*

ii. forecast expenditure allowances approved in the AER's final decision; and

iii. reasons for that decision.

632 SP AusNet, *Revenue proposal*, p. 184.
633 NER, chapter 10, definition of '*nominated pass through event considerations*', subclause (e).
634 AER, *ElectraNet transmission determination 2013–18, final decision,* 30 April 2013, p. 188.

Terrorism event

An act (including, but not limited to, the use of force or violence or the threat of force or violence) of any person or group of persons (whether acting alone or on behalf of or in connection with any organisation or government), which from its nature or context is done for, or in connection with, political, religious, ideological, ethnic or similar purposes or reasons (including the intention to influence or intimidate any government and/or put the public, or any section of the public, in fear) and which *materially* increases the costs to SP AusNet of providing *prescribed transmission services*.

Insurance cap event

Whereby:

1. SP AusNet makes a claim or claims and receives a payment or payments under a relevant insurance policy,

2. SP AusNet incurs costs beyond the relevant policy limit, and

3. the costs beyond the relevant policy limit *materially* increase the costs to SP AusNet of providing *prescribed transmission services*.

For this insurance cap event:

4. the relevant policy limit is the greater of:

a. SP AusNet's actual policy limit at the time of the event that gives rise to the claim, and

b. the policy limit that is explicitly or implicitly commensurate with the allowance for insurance premiums that is included in the forecast operating expenditure allowance approved in the AER's final decision for the *regulatory control period* in which the insurance policy is issued.

5. A relevant insurance policy is an insurance policy held during the 2014–17 regulatory control period or a previous *regulatory control period* in which SP AusNet was regulated.

Note: For the avoidance of doubt, in assessing an insurance cap event cost pass through application under rule 6A.7.3, the AER will have regard to:

i. the insurance premium proposal submitted by SP AusNet in its *revenue proposal*

ii. the forecast operating expenditure allowance approved in the AER's final decision, and

iii. the reasons for that decision.

Part 3 – Appendixes

A Capital expenditure (sensitive information)

This appendix is not public because it contains commercial–in–confidence (sensitive) information.

B Insurance (sensitive information)

This appendix is not public because it contains commercial–in–confidence (sensitive) information.

C Self-insurance (sensitive information)

This appendix is not public because it contains commercial–in–confidence (sensitive) information.

D Operating expenditure step changes

Attachment 3 sets out the AER's draft decision on SP AusNet's operating expenditure (opex) proposal for the 2014–17 regulatory control period. This appendix sets out our assessment of SP AusNet's proposed opex step changes for that period. SP AusNet proposed 12 step changes, with a total value of $32.5. million ($2013–14).[635]

This appendix contains:

1. our draft decision on SP AusNet's proposed step changes
2. SP AusNet's step change proposal
3. the proposed step changes we accept
4. the proposed step changes we do not accept

Step changes allow for additional funding when a new requirement or change in circumstance requires the service provider to undertake new activities that the base year opex does not incorporate. Examples of step changes include new safety regulations or new legislative requirements.

When assessing SP AusNet's proposed step changes, we considered whether they are consistent with the efficient expenditure a prudent service provider would incur, in accordance with the opex criteria.[636] In doing so, we considered whether each proposed step change is driven by an external obligation (such as new legislation or regulations) or an internal management decision (such as a decision to increase maintenance opex). If the step change is driven by a management decision, then we looked for evidence of the benefits that customers can expect from SP AusNet's decision to increase its opex. If we considered a step change met these requirements, then we included an incremental increase to the base year opex to account for the step change.

Our technical consultant, EMCa, reviewed each proposed step change. We considered EMCa's advice in forming our opinion on SP AusNet's proposal.

D.1 Draft decision

We accept one ($0.9 million, $2013–14) of SP AusNet's 12 proposed step changes as proposed. (Table D.1).

635 SP AusNet, *Revenue proposal*, pp. 126–136. SP AusNet applied escalators to its step changes in its opex model. The escalated value of all step changes was $32.5 million. SP AusNet's unescalated step change value was $31.2 million.

636 NER, clause 6A.6.6(c).

Table D.1 AER's draft decision on SP AusNet's step changes ($ million, 2013–14)

	2014–15	2015–16	2016–17	Total
Ageing asset profile				
Overhead line condition assessment	0.0	0.0	0.0	0.0
Corrosion risk mitigation	0.0	0.0	0.0	0.0
Changes in compliance obligations				
AEMO outage planning requirements	0.0	0.0	0.0	0.0
Security of critical infrastructure (terminal stations)	CIC	CIC	CIC	CIC
Regulatory changes and government policy initiatives				
Impact of the 'Clean Energy Future' legislation on SF6 top ups	0.0	0.0	0.0	0.0
Transitional arrangements for the Economic Regulation of NSPs rule change	0.0	1.1	0.8	1.9
Potential transfer of planning responsibilities	n/a	n/a	n/a	n/a
Opex to support ICT capital works				
SCADA enhancements – controller simulator training	0.3	0.3	0.3	0.9
SCADA security – Software QA/QC environment	0.0	0.0	0.0	0.0
IT network security	0.0	0.0	0.0	0.0
Service standard reporting tools – enable market reporting	0.0	0.0	0.0	0.0
Innovation program				
Technology innovation program	0.0	0.0	0.0	0.0
Recurrent opex not in the base year				
Communications infrastructure	0.0	0.0	0.0	0.0
Total step change opex	0.3	1.4	1.1	2.8

Source: AER analysis. Figures do not include the security of critical infrastructure step change.

D.2 SP AusNet's proposal

SP AusNet proposed 12 step changes with a total value of $32.5 million (Table D.2).[637]

Table D.2 SP AusNet's proposed opex step changes ($ million, 2013–14)

	2014–15	2015–16	2016–17	Total
Ageing asset profile				
Overhead line condition assessment	1.3	1.3	1.3	3.9
Corrosion risk mitigation	3.2	3.2	3.2	9.5
Changes in compliance obligations				
AEMO outage planning requirements	0.2	0.2	0.2	0.6
Security of critical infrastructure (terminal stations)	1.6	1.6	1.6	4.8
Regulatory changes and government policy initiatives				
Impact of the 'Clean Energy Future' legislation on SF6 top ups	0.8	0.8	0.8	2.5
Transitional arrangements for the Economic Regulation of NSPs rule change	0.0	1.4	1.4	2.8
Potential transfer of planning responsibilities	n/a	n/a	n/a	n/a
Opex to support ICT capital works				
SCADA enhancements – controller simulator training	0.3	0.3	0.3	0.9
SCADA security – Software QA/QC environment	0.2	0.2	0.2	0.6
IT network security	0.2	0.2	0.2	0.8
Service standard reporting tools – enable market reporting	0.2	0.2	0.2	0.5
Innovation program				
Technology innovation program	0.4	0.6	0.6	1.7
Recurrent opex not in the base year				
Communications infrastructure	0.9	0.9	0.9	2.6
Total step change opex (unescalated)	9.3	11.0	11.0	31.2
Total step change opex (escalated)	9.6	11.4	11.6	32.5

Source: SP AusNet, *Revised opex mode [confidential]l*, 22 May 2013; AER analysis

D.3 Step change that the AER accepts

We accept one step change as proposed by SP AusNet, the 'SCADA enhancements – controller simulator training' ($0.9 million) step change.

[637] This value is unescalated. SP AusNet applied escalators to its step changes in its opex model. The escalated value of all step changes is $32.5 million.

SCADA enhancements – controller simulator training — $0.9 million

SP AusNet proposed new IT opex totalling $0.9 million. This SCADA enhancement step change is for the development of a new training system for network controllers. Currently, SP AusNet trains staff using the live network under supervised controls. However, as part of its capex proposal, SP AusNet proposed to develop a controller simulation training program (which we accept meets the capex objectives).[638] This step change relates to the addition of 1.5 full time equivalent staff to develop and build test scenarios in relation to that capex program.

We accept this step change because it represents good industry practice and reflects what many other TNSPs are implementing. We consider the reduction in risk from the program's development directly benefits consumers. EMCa recommended accepting the step change, noting the program is good industry practice and used by other TNSPs internationally. It considered the program should improve system operational management and reduce system operational risk.[639]

Table D.3 SP AusNet's proposed step change for SCADA enhancements – controller simulator training ($ million, 2013–14)

	2014–15	2015–16	2016–17	Total
SCADA enhancements – controller simulator training	0.3	0.3	0.3	0.9
AER's draft decision	0.3	0.3	0.3	0.9

Source: SP AusNet, *Revenue proposal*, Appendix 5E [Public], Table 1.1 pp.5-6; SP AusNet, revised opex model [confidential], 22 May 2013; AER analysis

D.4 Step changes the AER does not accept

We do not accept 11 of SP AusNet's 12 proposed step changes. However, for two of these step changes we accept that additional costs will be incurred, but we do not accept the cost proposed by SP AusNet. These two step changes are the 'transitional arrangements' and 'security of critical infrastructure' step changes.

Ageing asset profile — $13.4 million

SP AusNet proposed two step changes related to its ageing asset profile, totalling $13.4 million (Table D.4). We do not accept these relate to new business requirements and so we do not consider them to be step changes. Both proposed step changes were included in asset works expenditure during the 2008–14 regulatory control period.[640] Given the significant overlap with asset works opex, we assessed these step changes in conjunction with SP AusNet's asset works forecast (appendix E).

638 NER, clause 6A.6.7(a).
639 EMCa, *SP AusNet technical review*, August 2013, p. 86, paragraph 304.
640 SP AusNet called the 'corrosion risk mitigation' step change (2014–17 proposal) 'tower corrosion – tower painting' asset works during 2008–14 and it included the 'overhead lines condition assessment' step change (2014–17 proposal) within 'condition monitoring' asset works during 2008–17. SP AusNet included the 'communications infrastructure' step change (2014–17 proposal) within 'miscellaneous asset works' during 2008–14. SP AusNet, *Response to EMCa021, attachment EMCa021A*, 18 April 2013.

Table D.4 SP AusNet's proposed ageing asset profile step changes ($m, 2013–14)

	2014–15	2015–16	2016–17	Total
Overhead line condition assessment	1.3	1.3	1.3	3.9
Corrosion risk mitigation	3.2	3.2	3.2	9.5
AER's draft decision	0.0	0.0	0.0	0.0

Source: SP AusNet, *Response to request AER RP 09 - revised opex model [confidential]*, 20 May 2013; Appendix 5E [Public], Table 1.1 pp.5-6; AER analysis.

AEMO outage planning requirements – $0.6 million

SP AusNet proposed a step change of $0.6 million for reporting outages to the Australian Energy Market Operator (AEMO) using the Network Outage Schedule (NOS). We do not accept this step change because this reporting requirement is not a new requirement and will not impose additional costs on SP AusNet (Table D.5).

Table D.5 SP AusNet's proposed step change for AEMO outage planning requirements ($m, 2013–14)

	2014–15	2015–16	2016–17	Total
AEMO outage planning requirements	0.2	0.2	0.2	0.6
AER's draft decision	0.0	0.0	0.0	0.0

Source: SP AusNet, *Response to request AER RP 09 - revised opex model [confidential]*, 20 May 2013; AER analysis. Appendix 5E [Public], Table 1.1 pp.5-6.

SP AusNet submitted that under the NER, it must provide AEMO with a list of network outages planned for the next 13 months that will, or are likely to, affect transfer capabilities. It currently provides outage information to AEMO via NOS three to four weeks before a project commences, while notifying AEMO of longer term outages via ad hoc spread-sheets. However, AEMO now requires TNSPs to use NOS as their primary form of reporting.[641] As such, SP AusNet proposed an additional full time employee (FTE), at a total cost of $0.6 million over the 2014–17 regulatory control period, to undertake planning and coordination to meet AEMO's requirements to use NOS to report outages 13 months in advance.[642]

EMCa reviewed the expenditure and recommended we accept the proposed step change on the basis that it is an additional, externally driven cost. EMCa considered the cost of the step change to be reasonable. It recognised the driver as a change required by a B2B (business to business) process.[643]

However, while we acknowledge the process change, we do not consider the new reporting obligation is materially different from the current obligation on SP AusNet to report outages. The obligation to report outages to AEMO is established in the NER, and has been imposed on SP AusNet for some time.[644] As such, the obligation to report outages 13 months in advance is not new. Further, SP AusNet appears to already plan for outages 13 months out.[645] The only new obligation, therefore, is that AEMO requires outages to be reported via NOS. In other words, SP AusNet will be entering the

641 SP AusNet, *Revenue proposal, Appendix 5E, Proposed opex step changes 2014–17*, p. 14 and Attachment 1.
642 SP AusNet, *Revenue proposal, Appendix 5E, Proposed opex step changes 2014–17*, p. 15.
643 EMCa, *SP AusNet technical review*, August 2013, p. 85, paragraph 294.
644 NER, clause 11.30.2.
645 AEMO, *NEM – Market information on planned electricity network outages*, Communication No. 1274, 12 December 2012.

same data that it currently provides in spread-sheets, but via NOS instead. Further, changing to B2B processes tends to drive efficiency savings. For these reasons, we do not consider there would be an increase in costs, and we do not accept this step change.

Security of critical infrastructure (terminal stations) — $4.8 million

SP AusNet proposed a step change of $4.8 million over the 2014–17 regulatory control period for additional security measures.[646] These measures included:[647]

- security patrols of terminal stations and high priority communications sites
- weekly perimeter inspections of all terminal stations to ensure fences have not been breached
- monitoring of security systems
- annual security assessments
- annual counter terrorism exercise.

We do not accept SP AusNet's proposed security of critical infrastructure step change. This is because most of this step change is not driven by new business or legislative requirements. While SP AusNet provided a list of 17 pieces of legislation and standards with which it must comply, it is not clear exactly how these have driven new requirements with which it must comply. Further, much of this step change is comprised of practices that we expect a prudent TNSP would already undertake. There should also be demonstrated opex savings as a result of undertaking the proposed activities. As a result of our assessment we have reduced the proposed security of critical infrastructure step change by $ CIC.

SP AusNet stated that the *Terrorism (Community Protection) Act 2003* is a driver of this step change. However, this act is not new, and SP AusNet had to comply with it during the 2008–14 regulatory control period. Security patrols, perimeter inspections and monitoring security systems are therefore not new business requirements. A prudent TNSP would already be conducting security patrols of its critical infrastructure and perimeter inspections of fences around its assets. Further, we would expect that SP AusNet would realise cost savings as a result of increased security patrols and perimeter inspections because, if effective, these measures should lead to a reduction in theft and vandalism. However, SP AusNet did not provide any evidence of expected opex savings due to these activities.[648] On this basis, we do not accept the security patrol and perimeter inspection components of this step change.

We also do not accept that monitoring of security systems will require additional opex. While the outsourcing of this activity may be driven by an external legislative obligation,[649] it is already conducted by SP AusNet staff. Opex for security monitoring is therefore incorporated in its base year.[650] Given this role is currently carried out by SP AusNet staff, we do not see a requirement for additional opex.[651] If anything, we would expect cost efficiencies to be realised by outsourcing this activity, as SP AusNet staff will now be available for other tasks. For these reasons we do not accept the security monitoring component of this step change.

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646 SP AusNet, *Revenue proposal*, p. 129.
647 SP AusNet, *Revenue proposal*, *Appendix 5E, Proposed opex step changes 2014–17*, pp. 15–16.
648 SP AusNet, *Response to EMCa031*, 22 May 2013.
649 SP AusNet stated that this activity was driven by obligations under the *Private Security Act 2004* (Vic). SP AusNet, *Response to AER56*, 19 July 2013, p. 3.
650 SP AusNet, *Revenue proposal, Appendix 5E, Proposed opex step changes 2014–17*, p. 15.
651 SP AusNet, *Revenue proposal, Appendix 5E, Proposed opex step changes 2014–17*, p. 15.

We also do not accept the annual security assessment component. While the program is good practice, it does not appear to be driven by a new legislative requirement. Further, we would expect opex efficiencies to be realised as a result of the security assessment, as it would provide a more targeted approach to security spending. As a result of this more targeted spending, we would also expect a reduction in costs resulting from theft and vandalism. However, SP AusNet did not provide any evidence that it has taken these cost savings into account.[652] For these reasons, we do not accept the security assessment component of this step change.

We do accept the counter terrorism exercise component as it is driven by an external legislative requirement — the implementation of the Victorian Government's Emergency Management Reform white paper and the *Terrorism (Community Protection) Act 2003*.[653]

EMCa assessed the proposed step change and considered the measures will enhance security and reflect similar policies of other TNSPs. EMCa considered that it is not reasonable to implement a step change without some offset for security related opex that is already included in the base year. Without evidence from SP AusNet that such offsets had been considered, EMCa recommended halving SP AusNet's proposed opex for this step change to $2.5 million.[654] However, for the reasons listed above, we only accept the portion of the proposed step change related to the counter terrorism exercise.

Table D.6 SP AusNet's proposed step change for security of critical infrastructure — terminal stations ($ million, 2013–14)

	2014–15	2015–16	2016–17	Total
Security of critical infrastructure — terminal stations	1.6	1.6	1.6	4.8
AER draft decision	CIC	CIC	CIC	CIC

Source: SP AusNet, *Response to request AER RP 09 - revised opex model [confidential]*, 20 May 2013; AER analysis. Appendix 5E [Public], Table 1.1 pp.5-6; .

Impact of 'Clean Energy Future' legislation on SP AusNet's SF_6 top ups – $2.5 million

SP AusNet proposed a step change of $2.5 million for additional costs in relation to SF_6 gas it must purchase to replace leaked gas in gas insulated switchgear (GIS) and circuit breakers. We do not accept the proposed step change for SF_6 top ups because we do not consider SP AusNet will need additional opex for gas leaks given the significant capex program that will address the problem (Table D.7).

Table D.7 SP AusNet's proposed step change for SF_6 top ups ($ million, 2013–14)

	2014–15	2015–16	2016–17	Total
Impact of the 'Clean Energy Future' plan on SF6 top ups	0.8	0.8	0.8	2.5
AER's draft decision	0.0	0.0	0.0	0.0

Source: SP AusNet, *Response to request AER RP 09 - revised opex model [confidential]*, 20 May 2013; AER analysis. Appendix 5E [Public], Table 1.1 pp.5-6;

The proposed additional cost arises from the carbon tax, under which SF_6 is now subject to a $23/tonne tax. SP AusNet stated it had enough SF_6 to last until 1 April 2014, so the base year does

652 SP AusNet, *Response to EMCa031*, 22 May 2013.
653 Victorian Department of Premier and Cabinet, *Victorian Emergency Management Reform – White Paper*, December 2012, p. 11 and *Terrorism (Community Protection) Act 2003* (Vic).
654 EMCa, *SP AusNet technical review*, August 2013, p. 85, paragraph 295.

not include the additional costs resulting from the carbon tax. Beyond, 1 April 2014 SP AusNet anticipates it will need to purchase more SF_6 gas to replace gas leaks.[655]

It based its calculation on the amount of leaked gas in 2009–10. We are concerned that this method of using the gas leaked in 2009-10 as a predictor of future leaks led SP AusNet to propose a forecast that over estimates its opex requirements:

- the 2009–10 leakage rates do not reflect the expected state of the network for 2014–17. The 2009–10 data will be five years old by the time the 2014–17 regulatory control period starts.
- SP AusNet invested significant capex in CBD rebuilds, replacement capex and major station upgrades between 2011–12 and 2013–14. It proposed to continue such capital works during the 2014–17 regulatory control period. We expect these works will significantly reduce gas leaks because much of the leaking equipment has been, or will be, refurbished or replaced. As such, any increase in the cost of SF_6 is likely to be offset by the reduction in SF_6 leaks that result from the large capex program.
- SP AusNet's Asset Management Strategy lists the minimisation of SF_6 as an objective. As such, we expect the growth in gas leaks to be minimal.[656]
- SP AusNet assumed a carbon price of $29/tonne.[657] However, recent Treasury modelling forecast the carbon price to fall to $12/tonne.[658] As such, SP AusNet's forecast would appear too high.

For these reasons, we do not accept SP AusNet will need additional opex for SF_6 top ups.

EMCa advised that a step change for SF_6 top ups is unnecessary. It stated SP AusNet has planned a considerable replacement and refurbishment works for substations, which would decrease the volume of gas leaks. It also considered SP AusNet will probably focus more on reducing the leaks given the higher cost of SF_6. On this basis, EMCa recommended rejecting theSF_6 top ups step change.[659]

Transitional arrangements for the economic regulation of NSPs rule change — $2.8 million

SP AusNet proposed a $2.8 million step change for the transitional arrangements resulting from the Australian Energy Market Commission's (AEMC) rule change for the economic regulation of network service providers.[660] We do not accept this step change as proposed, because we consider SP AusNet's proposed opex is more than reasonably required to meet the opex objectives (Table D.8). We do, however, accept that a one-off (non-recurrent) step change of $1.9 million is required.

655 SP AusNet, *Revenue proposal*, *Appendix 5E*, p. 17.
656 SP AusNet, *Revenue proposal*, *Appendix 2A, Asset Management Strategy*, p. 39.
657 SP AusNet, *Revenue proposal, Appendix 5E, Proposed opex step changes 2014–17*, p. 17.
658 The Australian Government the Treasury, *Budget paper No. 1: 2013–14*, 14 May 2013, 2–48.
659 EMCa, *SP AusNet technical review*, August 2013, p. 86, paragraph 298.
660 NER, clause 11.59.3, version 54.

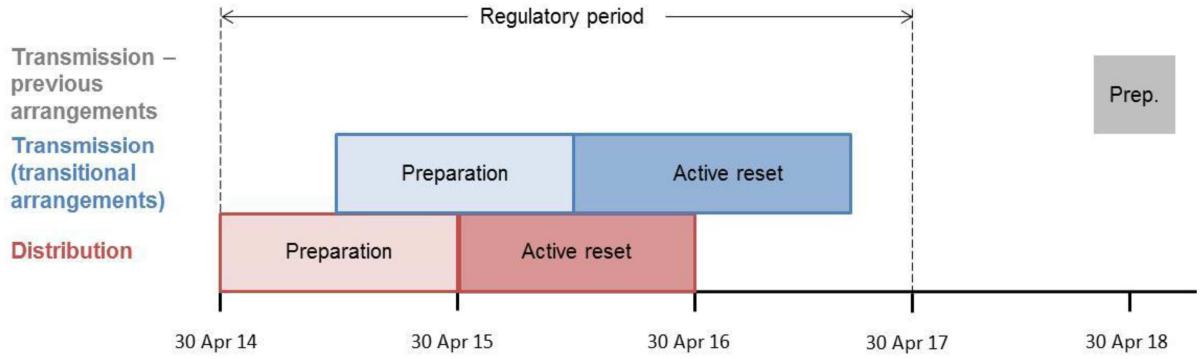
Table D.8 SP AusNet's proposed step change for transitional arrangements for the economic regulation of NSPs rule change ($ million, 2013–14)

	2014–15	2015–16	2016–17	Total
Transitional arrangements for the Economic Regulation of NSPs rule change	0.0	1.4	1.4	2.8
AER's draft decision	0.0	1.1	0.8	1.9

Source: SP AusNet, *Response to request AER RP 09 - revised opex model [confidential]*, 20 May 2013; Appendix 5E [Public], Table 1.1 pp.5-6; AER analysis..

SP AusNet stated it will incur, under the transitional arrangements, additional costs of $2.8 million opex because its submission process for its next transmission revenue proposal (October 2015) will overlap with its electricity distribution (April 2015) reset process (Figure D.1). SP AusNet currently uses its existing regulatory and engineering staff to complete both resets. It submitted it will now require two additional regulatory staff and five additional engineering staff to manage the overlap, but that this is a one-off non-recurrent step change.[661]

Figure D.1 Timing of SP AusNet's forthcoming revenue resets (distribution and transmission)



Source: SP AusNet, *Revenue proposal*, Appendix 5E, p. 18.

We do not accept the step change amount as proposed because SP AusNet's proposed additional costs are more than reasonably required to meet the opex criteria.

Our analysis showed the proposed step change of $2.8 million is more than reasonably required to perform a transmission revenue reset. SP AusNet incurred regulatory costs in the last two years of the 2008–14 regulatory control period (2012-13 and 2013-14) plus base year costs of $0.3 million (recurrent, ongoing regulatory costs). Consistent with its planning schedule in figure D.1, we escalated the costs in excess of the base year amount for the final two years of the next regulatory control period (2015-16 and 2016-17). In this way, we calculated an opex step change requirement of $1.9 million (Table D.9).[662]

661 SP AusNet, *Revenue proposal*, Appendix 5E, p. 18.
662 AER, *Draft decision: ElectraNet transmission determination 2013–14 to 2017–18*, November 2012, p. 283.

Table D.9 Derivation of AER's draft decision on revenue reset costs ($ million, 2013–14)

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17
SP AusNet's proposed regulatory step change					1.4	1.4
Corporate – revenue resets	0.3	1.4	1.1			
Amount above 2011–12 (base year) costs		1.1	0.8			
Escalated for labour costs					1.1	0.8

Source: SP AusNet, *Information request, EMCa032*, 17 June 2013, p. 2; AER analysis.

Outcome of the AEMC's transmission frameworks review

SP AusNet noted the AEMC is reviewing the arrangements for network planning in Victoria. In its draft report, the AEMC proposed significant changes to the planning arrangements in Victoria that would move network planning decisions from AEMO to SP AusNet. Given SP AusNet did not propose opex for this step change and that the driver for this step change is undecided, we did not assess it. However, if the change is implemented and SP AusNet provides a cost for this step change in its revised revenue proposal, we will assess it in the final decision.

IT related opex step changes — $2.8 million

In addition to the step change for 'SCADA security – controller simulator training', which we accept, SP AusNet proposed three step changes for new IT opex totalling $1.9 million (Table D.10). We do not accept these three step changes.

Table D.10 SP AusNet's proposed step changes for IT opex ($ million, 2013–14)

	2014–15	2015–16	2016–17	Total
SCADA security – software QA environment	0.2	0.2	0.2	0.6
IT network security	0.3	0.3	0.3	0.8
Service standard reporting tools – enable market reporting	0.2	0.2	0.2	0.5
AER's draft decision	0.0	0.0	0.0	0.0

Source: SP AusNet, *Response to request AER RP 09 - revised opex model [confidential]*, 20 May 2013 Appendix 5E [Public], Table 1.1 pp.5-6.

SCADA security (software QA environment) and IT network security

Security reviews by SP AusNet in 2009 and 2011 identified its SCADA Energy Management System was vulnerable to external attack due to insufficient software patching. SP AusNet therefore proposed a step change for a patching regime and review process to reduce the security threat.[663] It also proposed a step change of $0.6 million to address corporate and IT network security by implementing identity access management to comply with regulatory obligations.[664]

This work does not result from new externally imposed obligations. A prudent business would already have embedded processes to review, and continuously improve, its IT network security. Further, the reviews were undertaken in 2009 and 2011, and we question why work was not done when the problems were identified, particularly given SP AusNet underspent its total opex allowance. Moreover,

663 SP AusNet, *Revenue proposal*, Appendix 5E, p. 21.
664 SP AusNet, *Revenue proposal*, Appendix 5E, p. 22.

if additional costs to customers are the only solution, then we require evidence of a more robust analysis of how security concerns were addressed (or not) as part of the overall IT strategy.

EMCa supported measures to maintain SCADA and network security, but stated the proposed step change is not driven by a new obligation and there was no evidence of cost savings as a result of the work. EMCa also queried why remedial work was not undertaken when the problems were identified in 2009 and 2011. Further, it considered the considerable proposed IT capex will enhance security capability. For these reasons, EMCa considered the work to be a change in the way SP AusNet conducts these functions, rather than an increased requirement.[665]

Service standard reporting tools – enable market reporting

SP AusNet proposed an IT step change to integrate its asset management system with AEMO's NOS and Market Management System (MMS). We do not accept this step change because we do not consider additional opex is required.

This step change overlaps with the 'AEMO outage planning requirements' step change, duplicating the proposed opex requirement for an additional FTE to meet AEMO's NOS reporting requirements. We do not accept the NOS reporting requirement will lead to additional opex costs for SP AusNet(see 'AEMO outage planning requirements' above).

Further, the integration with AEMO's MMS should be self-funding because SP AusNet will realise efficiencies in collating the market data. SP AusNet currently hires consultants to provide the data and cannot verify the data at the source. The link with MSS will eliminate the cost of consultants and reduce auditing costs. In addition, this step change is not driven by a new external requirement so undertaking such a project should provide demonstrable benefits. SP AusNet did not demonstrate such benefits.

EMCa considered this step change is driven by the same requirements as the AEMO planning requirements step change. As such, it considered there is no reason for us to accept this step change.[666]

Innovation program – $1.7 million

SP AusNet proposed a step change of $1.7 million for an innovation program. We do not accept this step change is required to meet the opex criteria because it is not driven by a new external obligation and will be self-funding (Table D.11).

Table D.11 SP AusNet's proposed step change for innovation program ($ million, 2013–14)

	2014–15	2015–16	2016–17	Total
Technology innovation program	0.4	0.6	0.6	1.7
AER draft decision	0.0	0.0	0.0	0.0

Source: SP AusNet, *Response to request AER RP 09 - revised opex model [confidential]*, 20 May 2013 Appendix 5E [Public], Table 1.1 pp.5-6.

SP AusNet considered this program is required because TNSPs are not afforded an opportunity to conduct innovation programs under the regulatory framework.

665 EMCa, *SP AusNet technical review*, August 2013, p. 87, paragraph 305.
666 EMCa, *SP AusNet technical review*, August 2013, p. 87, paragraph 306.

We disagree with this premise. An innovation program should be self-funding — that is, any expected returns should be equal to or greater than the initial outlay. If not, it would not be prudent to undertake the program. Further, if SP AusNet decides to undertake a strategic investment such as this (without receiving a step change to its allowance), then it will realise the benefits of any efficiencies via a lower than forecast opex spend and an accompanying benefit under the EBSS. Consumers will also realise a benefit in the future via a lower opex forecast if a revealed cost approach is used. We therefore consider there is sufficient incentive for SP AusNet to undertake this work, as it will directly benefit from any efficiencies resulting from the program. A step change in opex is therefore not required.

EMCa noted SP AusNet has an existing innovation program. It advised that SP AusNet has already set what it considers to be an efficient and prudent level of innovation expenditure (which is inherent in the base year). EMCa did not see any reason to increase that expenditure at the commencement of the 2014–17 regulatory control period. It thus recommended rejecting this step change, but expected SP AusNet will still undertake this program of work given the expected benefits to SP AusNet and consumers.[667]

Recurrent opex not in the base year (communications infrastructure) — $2.6 million

SP AusNet proposed a step change of $2.6 million for recurrent communications infrastructure opex. In the 2008–14 regulatory control period, it classified this same work as (non–recurrent) asset works opex. However, it now considers these works to be recurrent opex and as such, it proposed a step change to add this opex to the efficient base year.[668]

We do not accept this step change is required because communications infrastructure opex was incurred of the 2008–14 regulatory control period, albeit as asset works opex, and was therefore incurred in the base year. It is not a new business requirement. Given we are substituting an opex forecast derived from our revealed cost approach, adding a step change would double count communications infrastructure opex. Our focus is on step changes required to the total controllable opex, not the reclassification of expenditure from one opex category to another.

As with the ageing asset profile step changes, this step change relates to opex that was classified as asset works opex in the 2008–14 regulatory control period. Given the significant overlap with asset works opex, we assessed this step change in conjunction with SP AusNet's asset works forecast (Appendix E).

Table D.12 SP AusNet's proposed step change for communication infrastructure ($ million, 2013–14)

	2014–15	2015–16	2016–17	Total
Communications infrastructure	0.9	0.9	0.9	2.6
AER draft decision	0.0	0.0	0.0	0.0

Source: SP AusNet, *Response to request AER RP 09 - revised opex model [confidential]*, 20 May 2013 Appendix 5E [Public], Table 1.1 pp.5-6.

667 EMCa, *SP AusNet technical review*, August 2013, p. 87, paragraph 308–9.
668 SP AusNet, *Revenue proposal*, p. 136.

E Asset works opex and related step changes

Attachment 3 sets out the AER's draft decision on SP AusNet's operating expenditure (opex) proposal for the 2014–17 regulatory control period. This appendix sets out our analysis and conclusions on the proposed asset works opex category.

SP AusNet's asset works category of opex is based on a bottom up build of forecast expenditures across a number of projects. We consider SP AusNet's asset works forecast does not reasonably reflect the opex criteria. We forecast an alternative asset works forecast (implicit in our overall forecast of controllable opex) using the revealed cost approach.

We assessed SP AusNet's asset works forecast of $28.4 million[669] in conjunction with the following three proposed step changes because SP AusNet classified these step changes as asset works projects during the 2008–14 regulatory control period:[670]

- Overhead line condition assessment — $3.9 million. SP AusNet included this work in its 'Condition monitoring' asset works project in the 2008–14 regulatory control period.
- Corrosion risk mitigation — $9.5 million. SP AusNet called this work 'Tower corrosion – tower painting' in the 2008–14 regulatory control period.
- Communications infrastructure — $2.5 million. SP AusNet included this work in 'Miscellaneous asset works' in the 2008–14 regulatory control period.

The total of SP AusNet's asset works forecast ($28.4 million) and these three step changes is $44.4 million. We consider this higher amount more accurately reflects SP AusNet's total asset works opex forecast.[671]

Our technical consultant, EMCa, reviewed the asset works forecast using a bottom up method. We considered EMCa's advice in forming our opinion on SP AusNet's asset works proposal.

E.1 Draft decision

We do not accept SP AusNet's proposed asset works forecast. Nor do we accept SP AusNet's proposed opex step changes for overhead line condition assessment, corrosion risk mitigation and communications infrastructure.

Under the National Electricity Rules (NER), we determine a total opex forecast allowance. We do not determine, nor does the regulatory framework restrict, the manner in which SP AusNet spends its allowance over the 2014–17 regulatory control period. The incentive regulatory framework is premised on incentivising a regulated service provider to make efficient and prudent management decisions across its opex program. Therefore, our draft decision on SP AusNet's asset works opex does not represent the approval of a particular amount of opex for an opex category. Rather, our assessment of asset works opex has informed our overall draft decision on SP AusNet's forecast opex.

669 SP AusNet asset works forecast comprised $24.6 million of asset works opex and $3.8 million of asset works support opex.

670 SP AusNet, *Response to EMCa021, attachment EMCa021A*, 18 April 2013.

671 In this section, the term 'total asset works forecast' is used to refer to the asset works forecast ($28.4 million), the overhead line condition assessment step change ($3.9 million), corrosion risk mitigation step change ($9.5 million) and the communications infrastructure step change ($2.5 million). This total asset works forecast is $44.4 million.

Although we do not approve opex by category, for comparison purpose our substitute forecast is $16.1 million, derived from the revealed cost approach discussed in attachment 3 and is set out in table E.1.

Table E.1 AER's draft decision on SP AusNet's asset works opex forecast ($ million, 2013–14)

	2014–15	2015–16	2016–17	Total
Asset works	4.1	4.1	4.1	12.3
Asset works support	1.3	1.3	1.3	3.8
Total	5.3	5.4	5.4	16.1

Source: AER analysis.

E.2 SP AusNet's asset works opex proposal

SP AusNet proposed $28.4 million for non–recurrent asset works opex, derived using a bottom up forecasting method.[672] It also proposed three step changes to its recurrent opex for expenditure that was accounted for in asset works opex during the 2008–14 regulatory control period. These three step changes were:[673]

- overhead lines condition assessment program ($3.9 million)
- corrosion risk mitigation ($9.5 million)
- communications infrastructure ($2.5 million).

SP AusNet re-categorised these three step changes in its proposal for 2014–17 because it considered the work is now recurrent in nature. However, given these proposed step changes were included in asset works in the current period, and are not driven by new external obligations or requirements, we considered them together with SP AusNet's proposed asset works opex forecast. We consider this approach more accurately reflects SP AusNet's total asset works opex forecast. The total of SP AusNet's asset works forecast ($28.4 million) and the three step changes is $44.4 million (Table E.2).

672 SP AusNet, *Revenue proposal*, p. 114.
673 EMCa, *SP AusNet technical review*, August 2013, p. 84, paragraph 292 and p. 86, paragraph 301–2; SP AusNet, *Response to AER10, Lines and towers step changes*, 23 May 2013.

Table E.2 SP AusNet's asset works opex and recategorised step changes ($ million, 2013–14)

	2014–15	2015–16	2016–17	Total
Asset works	8.0	8.0	8.5	24.6
Asset works support	1.3	1.3	1.3	3.8
Overhead lines condition assessment	1.3	1.3	1.3	3.9
Corrosion risk mitigation	3.2	3.2	3.2	9.5
Communications infrastructure	0.8	0.8	0.8	2.6
Total asset works forecast	14.5	14.7	15.2	44.4

Source: SP AusNet, *Revenue proposal*,Table 5.22 and Appendix 5E [Public]; AER analysis. SP AusNet, *Response to request AER RP 09 - revised opex model [confidential]*, 20 May 2013

SP AusNet underspent its asset works opex forecast by $44.3 million (44.3 per cent) during the 2008–14 regulatory control period. It provided several reasons for the underspend:

- Forecasting inaccuracies – project specific reasons which meant asset works projects were either unnecessary or only required to a limited degree. This includes the fact that assets were in better condition than previously thought.[674]
- Deferrals – financing constraints during the global financial crisis led SP AusNet to defer asset works opex to enable the continued delivery of its overall capex program (transmission, distribution and gas capex program).[675] Works were also deferred by the presence of asbestos on the corrosion protection system of 66kV towers which slowed the progress of the 'ground level tower corrosion protection' program.[676]
- Capitalisation of asset works – optimisation of the capex portfolio which meant that a number of asset works projects were delivered as capex rather than opex. For example, switchyard resurfacing and asbestos removal were carried out as part of major station rebuilds, rather than as stand alone asset works projects.[677]
- Cost savings – realised through delivering projects in–house rather than outsourcing.[678]

E.3 Assessment approach

In assessing SP AusNet's asset works opex forecast, we considered the legislative requirements under the National Electricity Law (NEL) and National Electricity Rules (NER). When we determined SP AusNet's forecast did not meet these requirements, we then considered how to develop an alternative forecast.

E.3.1 Legislative requirements

Under the NER, we are required to set a total opex allowance, not an allowance for individual opex categories.[679] However, in coming to a conclusion on the total opex allowance, we may need to

674 SP AusNet, *Revenue proposal*, p. 59 and SP AusNet, *Response to information request EMCa 026*, p. 2.
675 SP AusNet, *Response to information request EMCa 026*, 17 April 2013, p. 2; SP AusNet, *Response to information request AER RP 20*, p. 1–3.
676 SP AusNet, *Revenue proposal*, p. 59; SP AusNet, *Response to information request EMCa 026*, p. 2.
677 SP AusNet, *Revenue proposal*, p. 59.
678 SP AusNet, *Revenue proposal*, p. 59.
679 NER, clause 6A.6.6.

assess individual opex categories. So, in assessing SP AusNet's proposed total opex forecast, we assessed its asset works opex forecast.

To accept a TNSP's forecast opex, we must be satisfied that it reasonably reflects the opex criteria.[680] This means we must be satisfied that the forecast opex reasonably reflects:[681]

- the efficient costs of achieving the opex objectives
- the expenditure a prudent operator, in the circumstances of the relevant TNSP, would require to meet the opex objectives
- a realistic expectation of the demand forecast and cost inputs required to achieve the opex objectives.

In deciding whether we are satisfied the opex forecast meets the opex criteria, we must have regard to the opex factors.[682] We had regard to each of the opex factors to the extent they were relevant. One of the factors that is particularly relevant to a revealed costs assessment is the actual opex during the preceding regulatory control periods.[683] Other opex factors that were particularly important in our decision making were the information in SPAusNet's proposal, the submissions we received, our own analysis set out in this draft decision and the analysis undertaken by expert consultants for us, as set out in this draft decision.

We must perform our regulatory functions and powers in a manner that will or is likely to contribute to the achievement of the NEO.[684] We must also take into account the revenue and pricing principles when exercising our discretion in making a transmission determination relating to direct control services.[685] As such, we considered the NEO and RPP when assessing SP AusNet's opex forecast against the opex criteria. [686]

The regulatory framework is interlinked and our decision recognises these interlinkages. We therefore considered whether SP AusNet's asset works forecast was consistent with the NER requirement that the EBSS must share fairly any efficiency gains between a TNSP and consumers.[687]

If we are not satisfied the proposed total opex forecast reasonably reflects the opex criteria, then we must provide an alternative forecast.[688]

E.3.2 AER's substitute opex forecast

We applied the revealed cost approach to derive an alternative opex forecast. We consider this approach is the best approach for forecasting opex, for the reasons set out in attachment 3.

E.4 Reasons for draft decision

We do not accept SP AusNet's asset works opex forecast for the reasons outlined in section E.4.2. We used the revealed cost approach to calculate a substitute forecast because that approach produces an opex forecast that resonably reflects the opex criteria. It is also consistent with the

680 NER, clause 6A.6.6(c).
681 NER, clause 6A.6.6(c).
682 NER, clause 6A.6.6(e).
683 NER, clause 6A.6.6(e)(5).
684 NEL, s16(1)(a).
685 NEL, s16(2)(a)(i).
686 NEL, ss7 and 7A.
687 NER, clause 6A.6.5(a) and see attachment 10 addressing the EBSS.
688 NER, clause 6A.6.6(f).

appropriate application of the EBSS, the NEO and the RPPand with our approach to forecasting other controllable opex categories.

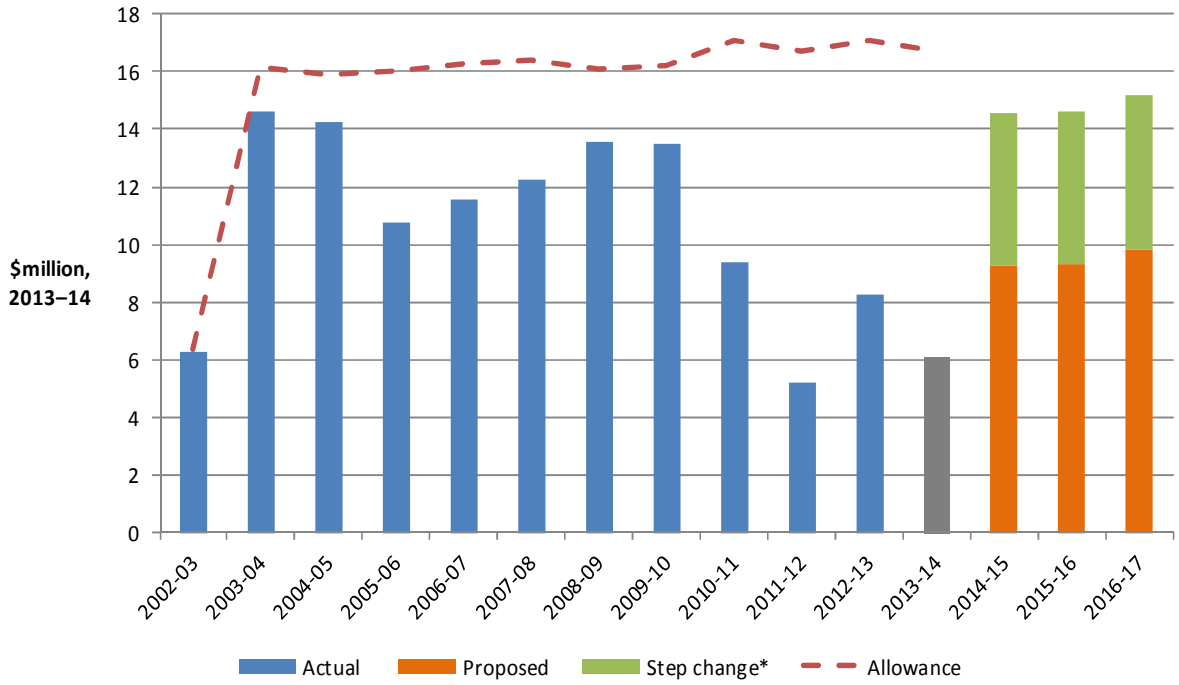
E.4.1 Reasons for not accepting SP AusNet's asset works opex forecast

We do not accept SP AusNet's separate bottom up build asset works opex forecast because it does not reasonably reflect the opex criteria. We tested it using a bottom up assessment prepared by EMCa and our own top down revealed cost approach.

Under SP AusNet's proposal, Victorian transmission users would not benefit from the realised efficiencies in the 2008–14 regulatory control period, contrary to the EBSS and the NER. SP AusNet would realise a windfall gain (retaining 140 per cent of the benefit of the underspend) for which Victorian electricity transmission users would pay, contrary to the NEO. SP AusNet's proposal is also contrary to the Revenue and Pricing Principles in that it would undermine the incentive framework and does not provide an effective incentive to promote economic efficiency.

Figure E.1 compares SP AusNet's actual asset works opex with the AER approved asset works forecast between 2002 and 2013, and the total asset works forecast for the 2014–17 regulatory control period.

Figure E.1 SP AusNet's asset works expenditure: actual/estimated and forecast: 2002–17 ($ million, 2013–14)



Source: SP AusNet, *Response to request AER RP 09 - revised opex model [confidential]*, 20 May 2013; SP AusNet, *Regulatory accounts 2012–13,* 1 August 2013; AER analysis.
Note: Grey indicates budget estimate data. Includes both asset works and asset works support costs.

Figure E.1 shows SP AusNet proposed a significant increase in its asset works opex compared with the past four years. Using a bottom up method to derive its total asset works forecast, SP AusNet overestimated its asset works opex requirements in the 2002–08 and 2008–14 regulatory control periods.[689] It underspent its asset works forecast by $17.5 million (20 per cent) in the 2003–2008

[689] SP AusNet, *Revenue proposal: 1 January 2003 to 31 March 2008*, p. 22 and SP AusNet, *Revenue proposal: 2008–09 to 2013–14*, p. 84.

regulatory control period and underspent its forecast $44.3 million (44.3 per cent) in the 2008–14 regulatory control period. It proposed to use the same bottom up forecasting method for the 2014–17 regulatory control period.

E.4.2 Assessment against the opex criteria using a bottom up method

EMCa assessed SP AusNet's underspend in the 2008–14 regulatory control period on a bottom up basis and concluded:[690]

- forecasting inaccuracies contributed $26.6 million to the underspend
- deferred asset works contributed $13.9 million to the underspend
- capitalised asset works contributed $7.3 million to the underspend.

EMCa's assessment of SP AusNet's asset works proposal

EMCa assessed SP AusNet's asset works forecast from a bottom up perspective. While it considered the proposed works are generally required from a technical perspective, it considered SP AusNet may be overcompensated for the works.[691] EMCa stated: [692]

> While some Asset Works may have been found not to be required, or at least not to be required in that timeframe, and may therefore have been "prudently deferred", SP AusNet has nevertheless recovered revenue to undertake this work in the current RCP. And it is further seeking revenues to undertake what to some extent is the same work, in the next RCP. It appears to us that there is a clear issue of "double dipping" here. Moreover, the amount is substantial: SP AusNet proposed that it needed $100.1m57 but underspent this by $45.8m….
>
> We bring this matter to the AER's attention as Technical Advisors, since the implications of under achieving previously accepted opex asset works appears to lead to a regulatory anomaly under the current Rules.

We consider that there is not an anomaly under the NER if the revealed cost approach is used to forecast controllable opex. However, if a hybrid approach is used, as proposed by SP AusNet, then SP AusNet will be over compensated in this case. We have addressed this issue in this appendix. Given the application of the revealed costs approach to asset works in a manner consistent with the EBSS was not within its terms of reference, EMCa did not assess this issue further.

EMCa did, however, assess the reasons for SP AusNet's underspend in the 2008–14 regulatory control period. It estimated that:

- forecasting inaccuracies contributed $26.6 million to the underspend[693]
- deferred asset works contributed $13.9 million to the underspend[694]
- capitalised asset works contributed $7.3 million to the underspend.[695]

EMCa assessed SP AusNet's corrosion risk mitigation step change (but not the overhead line condition assessment step change and communications infrastructure step change) in conjunction with the asset works opex.

690 EMCa, *SP AusNet technical review*, August 2013, p. 93, paragraph 323.
691 EMCa, *SP AusNet technical review*, August 2013, p. 93–4 paragraphs 325–7.
692 EMCa, *SP AusNet technical review*, August 2013, p. 93–4, paragraphs 325 and 327.
693 EMCa, *SP AusNet technical review*, August 2013, p. 93, paragraph 323.
694 EMCa, *SP AusNet technical review*, August 2013, p. 93, paragraph 323.
695 EMCa, *SP AusNet technical review*, August 2013, p. 93, paragraph 323.

General concerns with SP AusNet's asset works forecast

EMCa expressed some general concerns with SP AusNet's asset works forecast. In particular, EMCa stated that:[696]

> It is difficult, given information on the current regulatory control period, to have a high degree of confidence in SP AusNet's asset works program budget for the next regulatory control period. Our view is that the significant variance to budget can be ascribed to one or a combination of factors and we have no evidence to suggest that these factors have materially changed. These include:
>
> - That the need was conservatively over-estimated
> - That the unit costs for the program were conservatively over-estimated
> - That needs that were reasonably estimated based on information available at the time of proposing for an RCP tend to be later found not to exist, or to be less than has been reasonably estimated
> - Noting that recurrent expenditure was considerably higher than was proposed, starting from the first year of the current regulatory control period, it is possible that work that was proposed as asset works has in fact been undertaken under recurrent maintenance, or has been capitalised. In either case, this would be a concern as, unless adjusted for, it leads to "double dipping". Other than in the specific instances referred to above, we have not found further evidence for this, however it would require a regulatory accounting audit of current regulatory control period expenditure to unequivocally rule out this possibility and it indicates a need to focus on expenditure categorisation in regulatory accounting;
> - That SP AusNet has held over work that reasonably should have been done, in order to obtain the three-pronged benefits of (a) increased profit and increased cash-flow within the regulatory period (since revenue was not reduced for the work not done), (b) an EBSS efficiency benefit and (c) obtaining an allowance for the same work to be undertaken in its proposal for the next regulatory control period.

EMCa also noted:[697]

> Whilst we have seen evidence that SP AusNet apply top down assessments and adjustments to the bottom up derived expenditure estimates, we have remaining concerns that this has been insufficient. Our concerns are significantly influenced by our review of expenditure outcomes in the current RCP, which in many areas fall well short of what SP AusNet projected in 2007/08.
>
> We suggest that SP AusNet could improve the validity of outcomes from its otherwise sound asset management framework, by addressing these issues, and thereby developing expenditure forecasts that better reflect what is likely to be spent. This could be assisted by obtaining a more strategic-level review of expenditure proposals, to strengthen the governance process.

Asset works and corrosion risk mitigation step change

EMCa reviewed the corrosion risk mitigation step change and considered it reasonable in scope and cost. However, it considered the step change did not represent an ongoing step change. EMCa therefore included its corrosion risk mitigation opex within its assessment of SP AusNet's asset works. EMCa also noted that SP AusNet had completed a significantly lower amount of tower repainting in the 2008–14 regulatory control period than it had forecast. While it considered the tower corrosion risk mitigation program to be appropriately costed, EMCa noted that SP AusNet was reproposing tower painting as a step change to recurrent opex for work that it did not do in the current period.[698] This was on top of other asset works that SP AusNet had deferred and was reproposing. This totalled

696 EMCa, *SP AusNet technical review*, August 2013, p. 94, paragraph 328.
697 EMCa, *SP AusNet Technical review*, August 2013, p. 48, paragraphs 130 and 132.
698 EMCa, *SP AusNet technical review*, August 2013, p. 93 paragraph 322.

$21.1 million of work that SP AusNet had deferred or not completed, for which it was again seeking opex.[699]

From its review of SP AusNet's asset works forecast of $28.4 million forecast, EMCa recommended a reduction of $7.9 million to $20.5 million.[700] It considered SP AusNet's forecast for several projects within asset works were not reasonable and recommended the adjustments shown in table E.3.

Table E.3 EMCa reductions to SP AusNet's asset works projects ($m, 2013–14)

Project name	SP AusNet's proposal	EMCa's adjusted forecast	Reason for reduction
Tower corrosion – ground level	5.2	1.2	EMCa saw no reason for the proposed increase from $0.1 million in 2013–14 to $1.8 million. It considered the works would continue at a similar level as during the 2008–14 period.
Transformer and CT failure risk	5.3	1.9	EMCa considered $3.4 million of the proposed work is capex.
Transmission line hardware and replacement of tower steelwork	1.7	1.2	EMCa noted less work was undertaken in the 2008–14 period, but even less cost was incurred. It found these categories were likely overestimated.

Source: EMCa, *SP AusNet technical review*, August 2013, pp. 90–2.

EMCa also assessed SP AusNet's corrosion risk mitigation step change as part of asset works. It recommended accepting SP AusNet's forecast but did not consider the work to be a step change. This increased the asset works forecast to $30.4 million, but EMCa considered SP AusNet could undertake the work within its proposed budget of $28.4 million.[701] EMCa also recommended we accept SP AusNet's proposed step changes for overhead line condition assessment and communications infrastructure.

Overhead line condition assessment step change

EMCa reviewed the overhead line condition assessment step change and noted it was an existing program that began in 2013–14.[702] It considered the proposed program of work is consistent with good transmission asset management practice. It also considered the focused corrective maintenance resulting from such inspections will likely be justified by avoiding premature replacement and by extending transmission line asset lives. EMCa was satisfied that this work was not inherent in the base year, and therefore recommended we accept the proposed step change.[703]

Communications infrastructure step change

EMCa noted that the costs associated with this proposed step change appeared to be driven by ongoing compliance obligations that have existed for many years (for example, complying with the Occupational Health and Safety Act 2004). However, EMCa considered the step change acceptable

699 Deferred work ($11.2 milion) plus corrosion risk mitigation step change ($9.8 million, escalated) = $21.1 million. EMCa, *SP AusNet technical review*, August 2013, p. 93 paragraph 322–3.
700 This figure includes a total of $3.8 million for asset works support costs, which EMCa accepted. EMCa, *SP AusNet technical review*, August 2013, p. 20.
701 EMCa, *SP AusNet technical review*, August 2013, p. 17 paragraph 41; $24.6 million not including support costs.
702 EMCa, *SP AusNet technical review*, August 2013, p. 84 paragraph 291.
703 EMCa, *SP AusNet technical review*, August 2013, p. 84 paragraph 291.

on the basis that communications expenditure was not included in SP AusNet's base year and that it has only been included in asset works opex in the 2008–14 regulatory control period.[704]

E.4.3 EMCa's recommendation on asset works opex and related step changes

To compare EMCa's recommendation with our assessment of asset works opex, EMCa's recommendation for the asset works forecast is presented with the three related step changes. EMCa therefore recommended accepting:

- an asset works forecast of $28.4 million (incorporating SP AusNet's proposed corrosion risk mitigation step change)
- Overhead condition assessment step change of $3.9 million
- Communications infrastructure step change of $2.5 million.

These amounts come to a total asset works forecast of $34.9 million for SP AusNet's total asset works opex forecast.

Table E.4 EMCa's assessment of SP AusNet's total asset works opex ($m, 2013–14)

	SP AusNet total	EMCa total	AER total
Asset works	24.6	28.4	12.3
Asset works support	3.8	3.8	3.8
Overhead lines condition assessment	3.9	3.9	0.0
Corrosion risk mitigation	9.5	0.0	0.0
Communications infrastructure	2.6	2.5	0.0
Total asset works forecast	44.4	34.9	16.1

Source: *SP AusNet, Revenue proposal*; EMCa, *SP AusNet technical review*, August 2013.

E.4.4 Assessment of SP AusNet's proposal using the revealed costs method

We also assessed SP AusNet's opex forecast using the revealed costs method. Our discussion of the method and its application to assessing the opex forecast is explained in detail in attachment 3 and is not repeated here.

E.4.5 The opex factors, the NEO and the RPP

When making our decision we must have regard to the opex factors. We must perform our regulatory functions and powers in a manner that will or is likely to contribute to the achievement of the NEO.[705] We must also take into account the revenue and pricing principles when exercising our discretion in making a transmission determination relating to direct control services.[706]

704 EMCa, *SP AusNet technical review*, August 2013, p. 86 paragraph 301–2.
705 NEL, clause 16(1)(a).
706 NEL, clause 16(2)(a)(i).

Opex factors

We have referred to various opex factors throughout attachment 3 and the appendixes when discussing our complete analysis of SP AusNet's proposal and so do not repeat them here. Nevertheless we think it is important to highlight that one opex factor that is particularly relevant for the revealed costs method is the actual and expected operating expenditure of the provider during preceding regulatory control periods.

Given SP AusNet's history of overestimating asset works opex, and the inherent tendency within a bottom up build approach to lead to overestimates as explained in attachment 3, we take the view that applying the revealed costs method determines an opex forecast that better reflects the opex criteria.

Giving effect to the National Electricity Objective (NEO)

A significant reason for the asset works underspend in the 2008–14 regulatory control period appears to be the deferral of work in circumstances where the deferral was not an ongoing efficiency that would benefit consumers. EMCa estimated that the deferrals of work contributed about $13.9 million to the $44.3 million underspend.[707] SP AusNet stated that it deferred asset works due to funding constraints resulting from the global financial crisis: the cost savings realised by deferring asset works opex helped to fund gas and electricity distribution capital works.[708] SP AusNet's Asset Management Plan also noted that to maintain asset works opex at the 2011–12 level, asset works planned for 2012–13 and 2013–14 would be deferred into the 2014–17 regulatory control period.[709] As a result, it has proposed a significantly higher level of asset works opex than was actually spent in the 2008–14 period. Consumers have, in this sense, already paid for the asset works via the opex allowance in the 2008–14 regulatory control period, and SP AusNet is now proposing that consumers pay for these works again.

SP AusNet stated that without this additional funding, the risk of network outages will increase further.[710] A step change to address elevated risk levels may be appropriate if those risk levels resulted from an external obligation or unforseen event. However, SP AusNet's forecast elevated risk levels are a direct result of SP AusNet's decision to cancel or defer works.[711] As a direct result of its asset works underspend (partly due to the deferral of work) it will receive a benefit of retaining the $44.3 million underspend in the 2008–14 regulatory control period while obtaining $24 million under the EBSS in the 2014–17 regulatory control period.[712]

SP AusNet's proposal is not consistent with the NEO, which states that the objective of the National Electricity Law is:[713]

> …to promote efficient investment in and operation and use of electricity services for the long term interests of consumers with respect to:
>
> a) price, quality, safety, reliability and security of supply of electricity; and
>
> b) the reliability, safety, security of the national electricity system.

SP AusNet's proposal would result in it being overcompensated with respect to the factors listed in the NEO. If we accepted the asset works forecast, a TNSP could propose a program of work, defer

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707 EMCa, *SP AusNet technical review*, August 2013, p. 93 paragraph 323.
708 SP AusNet, *Response to AER20*, 23 May 2013.
709 SP AusNet, *Response to EMCa 037, Asset Management Plan, March 2011*, 27 June 2013, p. 10.
710 SP AusNet, *Response to EMCa 037, Asset Management Plan, March 2011*, 27 June 2013, p. 10.
711 SP AusNet, *Response to EMCa 037, Asset Management Plan, March 2011*, 27 June 2013, p. 10.
712 This is the direct EBSS carryover benefit as a result of SP AusNet underspending its asset works forecast. Note that its total proposed EBSS carryover for the 2014–17 regulatory control period is $47 million.
713 NEL, s7.

that work into the next period and realise the benefit under the EBSS. The TNSP could then propose that work again at its next reset through a bottom up forecast and submit evidence of why the work needs to be done (for example, to mitigate heightened risk levels). This behaviour could continue indefinitely. Consumers would therefore pay more than necessary for transmission services by paying for:

- the overestimate, deferred and capitalised opex in the 2008–14 regulatory control period ($44.3 million)
- the efficiency carryover in the 2014–17 regulatory control period ($24 million)
- the opex forecast above revealed cost for asset works.

This outcome is not in the long term interests of consumers with respect to price, safety, reliability and security of supply of electricity and therefore is not consistent with the NEO.

Taking the Revenue and Pricing Principles into account

SP AusNet's proposal is inconsistent with the Revenue and Pricing Principles. The Revenue and Pricing Principles state that a TNSP should be provided with, among other things:[714]

- a reasonable opportunity to recover at least the efficient cost it incurs in providing direct control network services
- effective incentives in order to promote economic efficiency with respect to direct control network services it provides.

In relation to the first principle, SP AusNet has been afforded a reasonable opportunity to recover its efficient costs in the 2008–14 regulatory control period. It overestimated its asset works requirements and made a management decision to defer asset works opex. Customers paid for these deferred works and forecasting errors in network tariffs in the 2008–14 regulatory control period. They should not pay for SP AusNet to be afforded a second opportunity to recover these costs.

Regarding the second principle, the bottom up forecast used by SP AusNet undermines the incentive to provide transmission services efficiently. By pursuing short term policies to underspend its allowance (rather than pursuing sustainable efficiencies) and proposing a bottom up forecast, a TNSP may be able to recover revenue for the same projects of work twice. This incentivises a TNSP to defer or avoid opex, even when it may not be prudent to do so. It therefore does not provide an effective incentive for economic efficiency. Meanwhile, consumers may bear an increased risk of outages as a result of this deferral. The revealed cost approach, however, works with the EBSS to incentivise sustained efficiencies and is therefore consistent with the aim of the RPP to provide effective incentives for economic efficiency.[715] The revealed cost approach also deals effectively with non–sustainable efficiency gains (such as deferrals) because the TNSP will be rewarded for the underspend via the EBSS carryover while benefiting consumers via a lower opex forecast.

Consistency with the EBSS

We also considered whether SP AusNet's asset works opex forecast was consistent with the application of the EBSS and the NER requirements for the EBSS. While consideration of the EBSS is not a listed opex factor under the NER, the opex factors are non–exhaustive and the consideration of

[714] NEL, clauses 7A(2) and (3).
[715] NEL, clause 7A(3).

whether the asset works opex forecast is consistent with the application of the EBSS is relevant in the broader context of our overall decision on revenue.[716]

Under the NER, the EBSS must provide a 'fair sharing' between the TNSP and consumers of any efficiency gains or losses realised in the regulatory control period.[717] The EBSS shares any efficiency gains or losses between consumers and the TNSP at a ratio of 70:30.[718] To do so, it assumes opex is forecast using the revealed cost approach. However, the sharing ratio of the EBSS changes if a bottom up forecast is used, or if an endogenous step change is applied. SP AusNet's proposed bottom up asset works forecast and step changes would result in it retaining 140 per cent of the underspend, rather than the intended 30 per cent under the EBSS.[719] This result would occur because, by underspending its asset works opex and constructing a bottom up forecast for the 2014–17 regulatory control period, SP AusNet would:

- keep the underspend in the current period ($44.3 million)
- obtain $24 million in revenue via the EBSS carryover as a direct result of the asset works underspend in the 2008–14 regulatory control period; and
- obtain a higher opex forecast for asset works than would be the case under a revealed cost approach.

This outcome does not meet the NER requirement for the EBSS to fairly share efficiency gains between consumers and the TNSP.[720] This concern is set out, with examples, in attachment 3.

E.4.6 AER's substitute asset works opex forecast

We used the revealed cost approach to forecast SP AusNet's total controllable opex. The reasons why we consider this to be the best forecasting method is set out in attachment 3. Implicit in our forecast of total controllable opex is a consideration of the forecast proposed by SP AusNet for its asset works opex.

Consistency with the opex criteria

Expenditure forecasts are not exact. However, we consider that our revealed cost approach provides the best forecast of SP AusNet's opex, given its circumstances.[721] We consider that basing the opex forecast on actual costs incurred in the 2008–14 regulatory control period will provide a forecast that reasonably reflects the the efficient costs of a prudent operator and the cost inputs required to achieve the opex objectives.[722] This approach does not prejudge the sustainability of cost reductions.

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716 This is reflected in the new version of the NER (NER, version 56, clause 6A.6.6(e)(8)) under which we can consider whether an opex forecast is consistent with the operation of the EBSS. While the AEMC added this clause to clarify our ability to do this, the version of the NER applicable to SP AusNet does not prevent this consideration. See AEMC, *Draft determination, Economic regulation of Network Service Providers, and price and revenue regulation of Gas Services*, August 2012, p. 114.

717 NER, clause 6A.6.5(a).

718 Consumers receive 70 per cent of the gain via a lower opex forecast while the TNSP retains 30 per cent of the gain. AER, *Final electricity transmission network service providers – Efficiency benefit sharing scheme*, September 2007, p. 8.

719 If opex allowances are forecast using a bottom up approach SP AusNet will retain 100 per cent of all underspends, since actual expenditure does not influence the forecast in the following period. By adding carryovers on top of this (which have been calculated on the assumption revealed cost forecasts will be used) SP AusNet will retain more than 100% of the efficiency gain. We estimate it will retain 140 per cent. That is, the gain to SP AusNet (the underspend [$38 million] plus the carryover amount [$15 million] is $53 million) as a proportion of the net social gain ($38m) is 140 per cent. The net social gain is the gain to SP AusNet ($53 million) minus the cost to consumers of paying the carryover (–$15 million). Note: we adjusted all numbers into net present value terms.

720 NER, clause 6A.6.5(a).

721 SP AusNet was subject to an EBSS during the 2008–13 regulatory control period. Since 2002 it was subject to efficiency sharing schemes that were in operation under the regulatory framework applicable at that time —AER, *SP AusNet transmission determination 2008–09 to 2013–14,* January 2008, Table S.8, p.19.

722 NER, clause 6A.6.6(c).

It allows the incentive framework to drive management effort to managing the network in the long term interests of consumers.[723] The revealed costs approach to setting the base year provides an unbiased forecast based on actual costs. If the revealed opex turns out to be sustainable recurrent expenditure (our forecast turn out to be 'accurate') over the next regulatory control period, then the EBSS payments will, as intended (share with consumers), reward SP AusNet for any recurrent efficiencies it has achieved in 2008–14.

If, on the other hand the revealed cost opex forecast turns out to be unsustainable non recurrent expenditure (our forecast turn out to be 'too low'), SP AusNet are not disadvantaged. This is because their total revenue is based on all building blocks, including an EBSS building block for the EBSS carryover payment from the 2008–14 regulatory control period. Further, if this scenario eventuates, the opex allowance in the subsequent regulatory control period will take account of the revealed opex during 2014–17 to provide a higher base year opex for the subsequent regulatory control period.

Consistency with the NEO and the Revenue and Pricing Principles

The revealed cost approach to assessing all controllable opex maintains an effective incentive framework consistent with the revenue and pricing principles and the NEO.[724] It is consistent with the NEO as it avoids the potential for windfall gains (for which consumers would pay) as a result of using bottom up forecasts. Similarly, it meets the objectives and requirements of the EBSS under the NER[725] as it fairly shares the efficiency benefit between consumers and SP AusNet. The approach works because consumers would benefit from a lower opex forecast based on SP AusNet's 2011–12 base year, while the incentive for the TNSP to reduce costs remains. As a result, customers would not be worse off as a result of the deferral of works as long as a revealed cost approach was used to forecast opex in the subsequent regulatory control period. That is, consumers would fund the same opex only once, while SP AusNet still keeps its underspend and receives the EBSS benefit carryover at the sharing ratio intended by the EBSS. This maintains an effective incentive to promote economic efficiency, consistent with the RPP, while meeting the long term interests of consumers, consistent with the NEO.[726]

Consistency with forecasting other controllable opex categories

SP AusNet stated that the asset works forecast was based on a bottom up build because it is comprised of programs of work that address specific risks and ad hoc work.[727] However, while individual programs of work may be non–recurrent, asset works is a continuous expense. Refurbishment, condition monitoring and asset repair are activities that any TNSP conducts on an ongoing basis. While a particular project may only be required infrequently, there is an ongoing requirement for this kind of expenditure, driven by the TNSP's risk assessment. As such, there is no reason to forecast asset works in a different manner to any other opex category. Asset works should be forecast with all other controllable opex on a revealed cost basis.

Consistency with the EBSS

The application of the revealed cost approach will also encourage the efficient provision of transmission services to consumers. This is because the incentives established under the EBSS to efficiently manage opex are based on the use of the revealed cost approach. The incentive framework under the NER and EBSS allows a TNSP to manage and prioritise its operational decisions in a

723 NEL, s7.
724 NEL, ss7 and 7A.
725 NER, clause 6A.6.5(a). The EBSS shares efficiency gains and loss between customers and TNSPs 70:30.
726 NEL, ss 7A(3) and 7.
727 SP AusNet, *Revenue proposal*, p. 114; SP AusNet, *Response to EMCa 021*, 18 April 2013, p. 3.

prudent and efficient manner. This may include taking steps to deliver its opex program in a more cost effective way. The incentive framework works because there is a clear benefit to the TNSP of underspending opex: it keeps the additional cash flow at the time of the underspend, while also being rewarded for the efficiency gain via the EBSS carry-over in the next regulatory control period (2014–17). This is how the incentive framework drives continuous operational and management efficiencies.

To facilitate these efficient outcomes, a regulatory framework is established whereby an ex ante opex allowance is provided to the TNSP. Consumers fund this opex allowance through network tariffs. This regulatory framework, however, does not include funding the same work again at the next regulatory determination if a TNSP decides to defer expenditure. If it did, the incentive framework would not encourage continuous and sustained efficiencies: rather, it would incentivise one off cost deferrals, to the detriment of consumers because they would pay for work multiple times.

F Contingent projects – (sensitive information)

This appendix is not public because it contains commercial–in–confidence (sensitive) information.

G Consultation and engagement

G.1 Engagement meetings

Date	Parties	Subject of discussion
09/01/2013	SP AusNet & AER staff	Pre lodgement meeting
04/02/2013	SP AusNet & AER staff	Pre lodgement - Network capacity incentive
06/02/2013	SP AusNet & AER staff	Pre lodgement - PASS 55 presentation
12/02/2013	SP AusNet & AER staff	Pre lodgement meeting
7/03/2013	SP AusNet, EMCa & AER staff	Introductory/preparatory for EMCa and SP AusNet
18/03/2013	SP AusNet, EMCa & AER staff	On site discussions and review over 4 days
20/03/2013	SP AusNet, EMCa & AER staff	Visit to Richmond & West Melbourne stations
20/03/2013	SP AusNet & AER staff	Post lodgement general catch-up between SP AusNet Director Regulation and AER, GM Network Regulation
21/03/2013	VIC department and AER staff	Post lodgement briefing by AER, GM Network Regulation
30/03/2013	SP AusNet, EMCa & AER staff	EMCa questions to SP AusNet
19/04/2013	SP AusNet CEO & AER Board	SP AusNet presents key issues to the AER Board
24/03/2013	Stakeholders	Public forum on revenue proposal hosted by AER
17/05/2013	AEMO & AER staff	Interaction with AEMO on proposed capex
29/05/2013	EMCa & AER staff	EMCa's initial findings workshop
30/05/2013	SP AusNet, EMCa & AER staff	EMCa's initial findings presentation to SP AusNet (question and answer style)
31/05/2013	EUAA, EMCa & AER staff	EMCa's initial findings presentation to energy users (question and answer style)
31/05/2013	EMCa & AER Board	AER Board directly engages with EMCa on technical findings
14/06/2013	SP AusNet, AON, am Actuaries & AER staff	Workshop on SP AusNet's insurance proposal
18/06/2013	SP AusNet & AER staff	Discussion AER RP 06 & 29 re: Timing assumption for capex, opex and PTRM inputs and remaining asset lives as at 1 April 2014 for PTRM input purposes.
20/06/2013	AEMO & AER staff	Discussion of availability incentive scheme and network capability component of the STPIS
24/07/2013	SP AusNet & AER staff	ERC and CPI discussion
29/07/2013	SP AusNet, AER Board & AER staff	AER Board and staff attend site visit at SP AusNet terminal stations (West Melbourne and Richmond)
13/08/2013	SP AusNet & AER staff	Pre-draft decision capex and opex modelling discussion

G.2 Submissions received

Submission	Date
Energy Users Association of Australia	24 May 2013
Energy Users Coalition of Victoria	24 May 2013

G.3 Information exchanges with SP AusNet

During the review, in addition to meetings, we receive a large amount of information from SP AusNet in response to questions from our technical consultants and us. The table below lists these responses.[728]

Reference	Date	Subject
SP EMCa002 (A,B,C)	14/03/2013	Current RCP Project data
SP EMCa 003	25/03/2013	Condition monitoring costs
SP EMCa 004	25/03/2013	Actual and forecast augmentation and connection capex
SP EMCa 005	25/03/2013	Consolidated IT and communications expenditure
SP EMCa 006	25/03/2013	Incident reporting and KPIs
SP EMCa 007	25/03/2013	Asset condition information requirements - SAP
SP EMCa 008	25/03/2013	Sensitivity to VCR and life value assumptions
SP EMCa 009	25/03/2013	Cost estimation for TRR capex projects
SP EMCa 010	25/03/2013	Current RCP capex variances relative to 2008 SP AER Decision
SP EMCa 011	25/03/2013	Group 3 Roll-in Capex
SP EMCa 012	25/03/2013	Asset management - optimisation and sensitivity
SP EMCa 013	25/03/2013	Current and next RCP Opex trends
SP EMCa 014	25/03/2013	Next RCP Project information – West Melbourne
SP EMCa 015	25/03/2013	Opex Non-recurrent Asset Works program – current RCP
SP EMCa 016	25/03/2013	Replacement cost value of SP transmission assets

[728] Some of the information provided contain sensitive information provided commercial-in-confidence.

Reference	Date	Subject
SP EMCa 017	25/03/2013	Capex overheads
SP EMCa 018	25/03/2013	Historical Non-recurring Routine Maintenance
SP EMCa 019	25/03/2013	Cost Estimation - Unit rates, procurement, process governance and modelling
SP EMCa 020	25/03/2013	STPIS data quality
SP EMCa 021	11/04/2013	Follow up request to EMCa015
SP EMCa 022	11/04/2013	Historical capex data check
SP EMCa 023	11/04/2013	Current RCP projects and program scopes
SP EMCa 024	11/04/2013	Follow up response SP EMCa009 Q1&2
SP EMCa 025	12/04/2013	Follow up response SP EMCa009
SP EMCa 026	16/04/2013	Opex efficiency
SP EMCa 027	17/04/2013	Opex step changes
SP EMCa 028	18/04/2013	Control estimates – follow up from EMCa 009
SP EMCa 029	19/04/2013	AMS 10-14
SP EMCa 030	19/04/2013	Follow up to response SP EMCa014
SP EMCa 031	15/05/2013	Security and critical infrastructure step change
SP EMCa 032	15/05/2013	Question 2 opex step changes
SP EMCa 033	15/05/2013	Clarification of SP 021A
SP EMCa 034	15/05/2013	ICT Strategy
SP EMCa 034	19/05/2013	Communications infrastructure step change
SP EMCa 036	22/05/2013	Clarification of GTS costs
SP AER RP 01	13/05/2013	Adjustments to EBSS spread-sheet inflation
SP AER RP 02	16/05/2013	2007-08 Actual capex

Reference	Date	Subject
SP AER RP 03	16/05/2013	Assets under construction
SP AER RP 04	16/05/2013	Group 3 assets RAB roll forward
SP AER RP 05	16/05/2013	Group 3 assets RAB opex
SP AER RP 06	16/05/2013	Remaining asset lives PTRM input
SP AER RP 07	16/05/2013	Movements in provisions
SP AER RP 08	16/05/2013	Materials escalation inputs
SP AER RP 09	16/05/2013	Confirmation of capex and opex models
SP AER RP 10	17/05/2013	Overhead lines condition and corrosion risk management step changes
SP AER RP 11	17/05/2013	Overhead lines condition and corrosion risk management step changes
SP AER RP 12	17/05/2013	Tower corrosion - tower painting as recurrent opex
SP AER RP 13	17/05/2013	IT step changes
SP AER RP 14	17/05/2013	Business case or cost/benefit for innovation program step change
SP AER RP 15	17/05/2013	Opex on security activities re TCP Act
SP AER RP 16	17/05/2013	Other security related opex
SP AER RP 17	17/05/2013	Remodel SF6 costs re updated carbon price
SP AER RP 18	17/05/2013	Asset works
SP AER RP 19	17/05/2013	Asset works
SP AER RP 20	17/05/2013	Asset works
SP AER RP 21	17/05/2013	Difference between regulatory accounts and pro formas
SP AER RP 22	17/05/2013	Difference in asset works between model and pro formas
SP AER RP 23	17/05/2013	Time series data
SP AER RP 24	17/05/2013	Insurance cost allocation

Reference	Date	Subject
SP AER RP 25	17/05/2013	Insurance quotes or invoices
SP AER RP 26	17/05/2013	Insurance - Treasury estimates
SP AER RP 27	17/05/2013	Service component
SP AER RP 28	17/05/2013	NCIPAP
SP AER RP 29	21/05/2013	Timing assumptions for capex/opex
SP AER RP 30	21/05/2013	Movement in provisions
SP AER RP 31	21/05/2013	EBSS Model
SP AER RP 32	30/05/2013	Terrorism event definition
SP AER RP 33	3/06/2013	Historical actual insurance premiums
SP AER RP 34	5/06/2013	Follow-up to SP AER RP 02 2007–08 actual capex—FDC
SP AER RP 35	5/06/2013	Follow-up to SP AER RP 04 'Group 3' assets—RAB roll forward
SP AER RP 36	5/06/2013	Follow-up to SP AER RP 07 Movements in provisions—for RAB roll forward
SP AER RP 37	5/06/2013	2007–08 forecast net capex input in the RFM
SP AER RP 38	5/06/2013	AON market report
SP AER RP 39	5/06/2013	Self insurance claim details
SP AER RP 40	5/06/2013	Additional invoices for 2012-13
SP AER RP 41	5/06/2013	Reconcile invoices and model
SP AER RP 42	5/06/2013	Changes in insurance allocation
SP AER RP 43	6/06/2013	IT Capex Appendix 2B Table reconciliation
SP AER RP 44	6/06/2013	IT capex Appendix 4 H allocation reconciliation
SP AER RP 45	6/06/2013	IT capex contingency allowance
	7/06/2013	SP response to EMCa findings workshop

Reference	Date	Subject
SP AER RP 46	7/06/2013	West Melbourne AIS option
EMCa 37	10/06/2013	Totex deferral risk changes
SP AER RP 48	11/06/2013	Aon fee
SP AER RP 49	13/06/2013	Paired bonds ISIN
SP AER RP 50	13/06/2013	Follow up question to SP AER RP 35
SP AER RP 51	17/06/2013	Post insurance workshop clarifications
SP AER RP 52	19/06/2013	Equity raising costs
SP AER RP 53	24/06/2013	Remaining asset lives PTRM input
SP AER RP 54	27/06/2013	'Group 3' opex escalator
SP AER RP 55	28/06/2013	STPIS
SP AER RP 56	28/06/2013	Security step change
SP AER RP 57	2/07/2013	WMTS AIS and GIS costs
SP AER RP 58	3/07/2013	Capitalisation of ERC
SP AER RP 59	9/07/2013	Capitalisation of overheads
SP AER RP 60	11/07/2013	Capitalisation of overheads
SP AER RP 61	17/07/2013	Asset lives for amortising equity raising costs
SP AER RP 62	18/07/2013	Change to the CPI timing in the annual MAR adjustment process
SP AER RP 63	05/08/2013	Updated material cost inputs
SP AER RP 64	05/08/2013	IT capex cost allocation
SP AER RP 65	05/08/2013	AIS opex objective