



PRELIMINARY DECISION
AusNet Services distribution
determination
2016 to 2020

Attachment 5 – Regulatory
depreciation

October 2015

© Commonwealth of Australia 2015

This work is copyright. In addition to any use permitted under the Copyright Act 1968, all material contained within this work is provided under a Creative Commons Attributions 3.0 Australia licence, with the exception of:

- the Commonwealth Coat of Arms
- the ACCC and AER logos
- any illustration, diagram, photograph or graphic over which the Australian Competition and Consumer Commission does not hold copyright, but which may be part of or contained within this publication. The details of the relevant licence conditions are available on the Creative Commons website, as is the full legal code for the CC BY 3.0 AU licence.

Requests and inquiries concerning reproduction and rights should be addressed to the:

Director, Corporate Communications
Australian Competition and Consumer Commission
GPO Box 4141, Canberra ACT 2601

or publishing.unit@acc.gov.au.

Inquiries about this publication should be addressed to:

Australian Energy Regulator
GPO Box 520
Melbourne Vic 3001

Tel: (03) 9290 1444

Fax: (03) 9290 1457

Email: AERInquiry@aer.gov.au

Note

This attachment forms part of the AER's preliminary decision on AusNet Services' revenue proposal 2016–20. It should be read with all other parts of the preliminary decision.

The preliminary decision includes the following documents:

Overview

Attachment 1 - Annual revenue requirement

Attachment 2 - Regulatory asset base

Attachment 3 - Rate of return

Attachment 4 - Value of imputation credits

Attachment 5 - Regulatory depreciation

Attachment 6 - Capital expenditure

Attachment 7 - Operating expenditure

Attachment 8 - Corporate income tax

Attachment 9 - Efficiency benefit sharing scheme

Attachment 10 - Capital expenditure sharing scheme

Attachment 11 - Service target performance incentive scheme

Attachment 12 - Demand management incentive scheme

Attachment 13 - Classification of services

Attachment 14 - Control mechanism

Attachment 15 - Pass through events

Attachment 16 - Alternative control services

Attachment 17 - Negotiated services framework and criteria

Attachment 18 - f-factor scheme

Contents

Note	5-2
Contents	5-3
Shortened forms	5-4
5 Regulatory depreciation.....	5-6
5.1 Preliminary decision.....	5-6
5.2 AusNet Services' proposal.....	5-7
5.3 AER's assessment approach.....	5-8
5.3.1 Interrelationships.....	5-10
5.4 Reasons for preliminary decision	5-10
5.4.1 Standard asset lives	5-11
5.4.2 Remaining asset lives	5-12
5.4.3 Accelerated depreciation.....	5-13

Shortened forms

Shortened form	Extended form
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AMI	Advanced metering infrastructure
augex	augmentation expenditure
capex	capital expenditure
CCP	Consumer Challenge Panel
CESS	capital expenditure sharing scheme
CPI	consumer price index
DRP	debt risk premium
DMIA	demand management innovation allowance
DMIS	demand management incentive scheme
distributor	distribution network service provider
DUoS	distribution use of system
EBSS	efficiency benefit sharing scheme
ERP	equity risk premium
Expenditure Assessment Guideline	Expenditure Forecast Assessment Guideline for electricity distribution
F&A	framework and approach
MRP	market risk premium
NEL	national electricity law
NEM	national electricity market
NEO	national electricity objective
NER	national electricity rules
NSP	network service provider
opex	operating expenditure
PPI	partial performance indicators
PTRM	post-tax revenue model
RAB	regulatory asset base
RBA	Reserve Bank of Australia
repex	replacement expenditure

Shortened form	Extended form
RFM	roll forward model
RIN	regulatory information notice
RPP	revenue and pricing principles
SAIDI	system average interruption duration index
SAIFI	system average interruption frequency index
SLCAPM	Sharpe-Lintner capital asset pricing model
STPIS	service target performance incentive scheme
WACC	weighted average cost of capital

5 Regulatory depreciation

Depreciation is the allowance provided so capital investors recover their investment over the economic life of the asset (return of capital). In deciding whether to approve the depreciation schedules submitted by AusNet Services, we make determinations on the indexation of the regulatory asset base (RAB) and depreciation building blocks for AusNet Services' 2016–20 regulatory control period.¹ The regulatory depreciation allowance is the net total of the straight-line depreciation (negative) and the indexation (positive) of the RAB.

This attachment sets out our preliminary decision on AusNet Services' regulatory depreciation allowance. It also presents our preliminary decision on the proposed depreciation schedules, including an assessment of the proposed standard asset lives and remaining asset lives to be used for forecasting the depreciation allowance.

5.1 Preliminary decision

We do not accept AusNet Services' proposed regulatory depreciation allowance of \$478.3 million (\$ nominal) for the 2016–20 regulatory control period.² Instead, we determine a regulatory depreciation allowance of \$368.7 million (\$ nominal) for AusNet Services. This amount represents a decrease of \$109.6 million (or 22.9 per cent) on the proposed amount. In coming to this decision:

- We accept AusNet Services' proposed asset classes, its straight-line depreciation method, and the standard asset lives used to calculate the regulatory depreciation allowance. We consider AusNet Services' proposed asset classes and standard asset lives are consistent with those approved at the 2011–15 distribution determination, and reflect the nature and economic lives of the assets (section 5.4.1).³
- We accept AusNet Services' proposed weighted average remaining life (WARL) depreciation method to calculate remaining asset lives at 1 January 2016 (section 5.4.2).
- We accept AusNet Services' proposal to accelerate the depreciation of certain high bushfire risk assets. The changed depreciation schedules reflect new regulatory requirements that have changed the economic life of the assets. However, we have not accepted AusNet Services' estimate of the value of the affected assets, and instead have substituted a lower value (section 5.4.3).
- We made determinations on other components of AusNet Services' proposal that also affect the forecast regulatory depreciation allowance—for example, the

¹ NER, cl. 6.12.1 and 6.4.3.

² AusNet Services, *Regulatory proposal*, April 2015, p. 379.

³ NER, cl. 6.5.5(b)(1).

forecast capex (attachment 6), the opening RAB value (attachment 2) and the forecast inflation rate (attachment 3).⁴

Table 5.1 sets out our preliminary decision on the annual regulatory depreciation allowance for AusNet Services' 2016–20 regulatory control period.

Table 5.1 AER's preliminary decision on AusNet Services' depreciation allowance for the 2016–20 regulatory control period (\$ million, nominal)

	2016	2017	2018	2019	2020	Total
Straight-line depreciation	182.2	154.3	173.7	167.4	179.2	856.8
Less: inflation indexation on opening RAB	85.6	91.1	97.5	103.7	110.4	488.2
Regulatory depreciation	96.6	63.3	76.2	63.8	68.8	368.7

Source: AER analysis.

5.2 AusNet Services' proposal

For the 2016–20 regulatory control period, AusNet Services proposed a total forecast regulatory depreciation allowance of \$478.3 million (\$ nominal). To calculate the depreciation allowance, AusNet Services proposed:⁵

- the straight-line depreciation method employed in our post-tax revenue model (PTRM)
- the closing RAB value at 31 December 2015 derived from our roll forward model (RFM)
- to use proposed forecast capex for the 2016–20 regulatory control period
- a WARL depreciation approach to determine remaining asset lives of existing assets at 1 January 2016
- standard asset lives for depreciating new assets associated with forecast capex for the 2016–20 regulatory control period consistent with those approved in the 2011–15 distribution determination
- to accelerate the depreciation of some existing high bushfire risk assets, through the creation of new asset classes with a total value of \$109.6 million (\$ nominal) as at 1 January 2016 and a remaining life of either one year or five years.⁶

Table 5.2 sets out AusNet Services' proposed depreciation allowance for the 2016–20 regulatory control period.

⁴ NER, cl. 6.5.5(a)(1).

⁵ AusNet Services, *Regulatory proposal*, April 2015, pp. 382–383.

⁶ The new asset classes are established by transferring the residual value of the existing assets from either the 'Distribution system assets' class (remaining life of 34.5 years) or the 'Subtransmission' class (remaining life of 35.6 years). AusNet Services, *Regulatory proposal 2016–2020*, April 2015, pp. 382–386.

Table 5.2 AusNet Services' proposed depreciation allowance for the 2016–20 regulatory control period (\$ million, nominal)

	2016	2017	2018	2019	2020	Total
Straight-line depreciation	215.5	188.6	210.0	188.4	191.5	994.0
Less: inflation indexation on opening RAB	89.5	96.3	103.1	109.6	117.2	515.7
Regulatory depreciation	126.0	92.3	106.9	78.7	74.4	478.3

Source: AusNet Services, *Proposed PTRM*, April 2015.

Note: Totals may not add due to differences in rounding.

5.3 AER's assessment approach

We determine the regulatory depreciation allowance using the PTRM as a part of a service provider's annual revenue requirement.⁷ 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 by the depreciation schedules.⁸

Our standard approach to calculating depreciation is to employ the straight-line method set out in the PTRM. We consider the straight-line method satisfies the NER requirements in clause 6.5.5(b) as it provides an expenditure profile that reflects the nature of assets over their economic life.⁹ 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 key requirements:

- the schedules depreciate using a profile that reflects the nature of the assets of category of assets over the economic life of that asset or category of assets¹⁰
- the sum of the real value of the depreciation that is 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 distribution system.¹¹

If a service provider's building block proposal does not comply with the above requirements, then we must determine the depreciation schedules for the purpose of calculating the depreciation for each regulatory year.¹²

The regulatory depreciation allowance is an output of the PTRM. We therefore assessed the service provider's proposed regulatory depreciation allowance by

⁷ NER, cl. 6.4.3(a)(3) and (b)(3).

⁸ NER, cl. 6.5.5(a).

⁹ NER, cl. 6.5.5(b)(1).

¹⁰ NER, cl. 6.5.5(b)(1).

¹¹ NER, cl. 6.5.5(b)(2).

¹² NER, cl. 6.5.5(a)(ii).

analysing the proposed inputs to the PTRM for calculating that allowance. The key inputs include:

- the opening RAB at 1 January 2016
- the forecast net capex in the 2016–20 regulatory control period
- the forecast inflation rate for that period
- the standard asset life for each asset class—used for calculating the depreciation of new assets associated with forecast net capex in the regulatory control period
- the remaining asset life for each asset class—used for calculating the depreciation of existing assets included in the opening RAB at 1 January 2016.

Our preliminary decision on a service provider's regulatory depreciation allowance reflects our determinations on the forecast capex, forecast inflation and opening RAB at 1 January 2016 (the first three building block components in the above list). Our determinations on these components of the service provider's proposal are discussed in attachments 6, 3 and 2 respectively.

In this attachment, we assess AusNet Services' proposed standard asset lives against:

- the approved standard asset lives in the distribution determination for the 2011–15 regulatory control period
- the standard asset lives of comparable asset classes approved in our recent distribution determinations for other service providers.

We use our standard approach to depreciating a service provider's existing assets in the PTRM by using the remaining asset lives at the start of a regulatory control period. Our preferred method to establish a remaining asset life for each asset class is the weighted average method. This method rolls forward the remaining asset life for an asset class from the beginning of the 2011–15 regulatory control period. We consider this method better reflects the mix of assets within an 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.

AusNet Services' proposal also included accelerated depreciation of assets which have a residual value and are being replaced. Our assessment approach for accelerated depreciation aligns with our general approach. One key consideration is whether the accelerated depreciation produces depreciation schedules that reflect the economic life of the affected assets, as set out in clause 6.5.5(b)(1) of the NER.¹³ Our assessment is also conceptually linked to the assessment of the proposed replacement capex against the relevant capex criteria in the NER. As described in attachment 6, our capex assessment is at a high level and we do not determine the specific projects that AusNet Services must undertake. Nonetheless, the underlying

¹³ This includes an overall assessment across all asset classes, mitigating the risk that selective downward revision of remaining lives for specific asset classes (or sub-classes) will lead to a biased outcome.

principle remains whether it is efficient and prudent to undertake the capex to replace the assets. If so justified, this suggests that it might no longer be economically efficient to use the replaced assets to provide standard control services and the depreciation schedules associated with the residual value of the replaced assets could possibly be accelerated to reflect their reduced remaining economic life.

5.3.1 Interrelationships

The regulatory depreciation allowance is a building block component of the annual revenue requirement.¹⁴ Higher (or quicker) depreciation leads to higher revenues over the regulatory control period. It also causes the RAB to reduce more quickly (assuming no further capex). This outcome reduces the return on capital allowance, although this impact is usually secondary to the increased depreciation allowance.

Ultimately, however, a service provider can only recover the capex that it incurred on assets once. The depreciation allowance reflects how quickly the RAB is being recovered, and it is based on the remaining and standard asset lives used in the depreciation calculation. It also depends on the level of the opening RAB and the forecast capex. Any increase in these factors also increases the depreciation allowance.

To prevent double counting of inflation through the WACC and the RAB, the regulatory depreciation allowance also has an offsetting reduction for indexation of the RAB.¹⁵ Factors that affect forecast inflation and/or the size of the RAB will affect the size of this indexation adjustment.

Figure 2.1 (in attachment 2) shows the relative size of the inflation and straight-line depreciation and their impact on the RAB. A 10 per cent increase in the straight-line depreciation causes revenues to increase by about 3.6 per cent.

5.4 Reasons for preliminary decision

We accept AusNet Services' proposed straight-line depreciation method for calculating the regulatory depreciation allowance. We also accept the proposed asset classes, standard asset lives, and the accelerated depreciation of certain high bushfire risk assets. Further, we accept AusNet Services' proposed weighted average method to calculate remaining asset lives as at 1 January 2016.

Overall, we reduced AusNet Services' proposed forecast regulatory depreciation allowance by \$109.6 million (or 22.9 per cent) to \$368.7 million (\$ nominal). This amendment also reflects our determinations regarding other components of AusNet

¹⁴ The PTRM distinguishes between straight-line depreciation and regulatory depreciation, the difference being that regulatory depreciation is the straight-line depreciation minus the indexation adjustment.

¹⁵ If the asset lives are extremely long, such that the straight-line depreciation rate is lower than the inflation rate, then negative regulatory depreciation can emerge. In this case the indexation adjustment is greater than the straight-line depreciation.

Services' regulatory proposal—for example, the forecast capex (attachment 6), the forecast inflation rate (attachment 3) and the opening RAB as at 1 January 2016 (attachment 2)—that affect the forecast regulatory depreciation allowance.

5.4.1 Standard asset lives

We accept the AusNet Services' proposed standard asset lives for its existing asset classes. These asset lives are consistent with the approved standard asset lives for the 2011–15 regulatory control period and comparable with the standard asset lives approved in our recent determinations for other electricity distribution service providers.¹⁶ We are satisfied these proposed standard asset lives reflect the nature of the assets over the economic lives of the asset classes.¹⁷

We received submissions from the CCP and the Victorian Energy Consumer and User Alliance (VECUA) stating that the standard asset lives for AusNet Services differed from the actual lives, and from the standard asset lives for equivalent assets used by other distributors.¹⁸ Each submitted that these variations have major implications for depreciation and allowed distributors to choose asset lives that optimise their returns for each revenue reset.

We note that the standard asset lives reported by CCP and VECUA are from disaggregated categories used to model replacement capital expenditure (repex), rather than the higher-level categories used when calculating the regulatory depreciation allowance.¹⁹ Although individual distributors may have higher or lower standard asset lives for specific repex asset categories, there is less variation in the standard asset lives of the aggregated categories.²⁰ The exceptions are the two 'Other assets' categories reported by CPP and VECUA, where the variation reflects different categorisation and reporting of assets across the different distributors. We consider that the standard asset lives approved for AusNet Services to calculate the regulatory depreciation allowance are comparable to the equivalent categories used in other regulatory determinations.²¹

¹⁶ AER, *Final decision, Victorian electricity distribution network service providers, Distribution determination 2011–2015*, October 2010, p. 467; AER, *Final decision: Ausgrid distribution determination 2015–16 to 2018–19, attachment 5*, April 2015, p. 10; AER, *Final decision: Endeavour distribution determination 2015–16 to 2018–19, attachment 5*, April 2015, p. 9; and AER, *Final decision: Essential Energy distribution determination 2015–16 to 2018–19, attachment 5*, April 2015, p. 9.

¹⁷ NER, cl. 6.5.5(b)(1).

¹⁸ CCP3, *Response to proposals from Victorian electricity distribution network service providers for a revenue reset for the 2016–2020 regulatory period*, 5 August 2015, pp. 49–51; Victorian Energy Consumer and User Alliance (VECUA), *Submission to the AER Victorian Distribution Networks' 2016–20 Revenue Proposals*, July 2013, pp. 30–31.

¹⁹ The different levels of disaggregation/aggregation are each appropriate for the relevant purpose.

²⁰ In general, each distributor has some repex asset classes with below average standard asset lives, and some with above average asset lives. When these repex asset classes are aggregated into the higher level asset classes used in the RFM and PTRM, the two offset each other. Further, we must allow for some variation in standard asset lives even for disaggregated categories reflecting the specific nature of each distributor's network.

²¹ This includes the April 2015 final determinations for the NSW electricity distributors, as well as the other Victorian distribution determinations made contemporaneously with this preliminary decision.

Table 5.3 sets out our preliminary decision on AusNet Services' standard asset lives for the 2016–20 regulatory control period.

5.4.2 Remaining asset lives

We accept AusNet Services' proposed weighted average method to calculate the remaining asset lives as at 1 January 2016. The proposed method is consistent with our preferred approach.

In accepting the weighted average method, we have updated AusNet Services' remaining asset lives to reflect our adjustments to the actual net capex in the RAB roll forward in the RFM, as discussed in section 2.4.1 of attachment 2.²² This is because the actual net capex values are inputs for calculating the weighted average remaining asset lives in the RFM.

Table 5.3 sets out our preliminary decision on AusNet Services' remaining asset lives for the 2016–20 regulatory control period.

Table 5.3 AER's preliminary decision on AusNet Services' standard and remaining asset lives as at 1 July 2014 (years) – distribution

Asset class	Standard asset life	Remaining asset life at 1 January 2016
Subtransmission	45.0	35.6
Distribution system assets	50.0	34.5
Standard metering	n/a	n/a
Public lighting	n/a	n/a
SCADA/Network control	10.0	3.9
Non-network general assets - IT	5.0	3.2
Accelerated depreciation opening RAB adjustment - Subtransmission	n/a	1.0
Accelerated depreciation opening RAB adjustment - Distribution	n/a	1.0
Accelerated depreciation - Subtransmission (2016–20)	n/a	5.0
Accelerated depreciation - Distribution (2016–20)	n/a	5.0
Equity raising costs	47.9	42.5

Source: AER analysis.

n/a: not applicable.

²² At the time of this preliminary decision, the roll forward of AusNet Services' RAB includes estimated actual capex values for 2015. We will update the 2015 estimated capex values for the substitute decision. The 2015 capex values are used to calculate the weighted average remaining asset lives in the RFM. Therefore, for the substitute decision we will recalculate AusNet Services' remaining asset lives as at 1 January 2016 using the method approved in this preliminary decision.

5.4.3 Accelerated depreciation

We accept AusNet Services' proposal to accelerate the depreciation of certain high bushfire risk assets.²³ These assets will be transferred from existing asset classes ('Distribution system assets', remaining life 34.5 years or 'Subtransmission', remaining life 35.6 years) to new asset classes with a remaining life of one or five years. However, we have not accepted AusNet Services' estimate of the value of the affected assets of \$109.6 million (\$ nominal) as at 1 January 2016. We instead substitute a value of \$80.4 million, a reduction of \$29.2 million (or 26.6 per cent) compared to AusNet Services' proposal.

The accelerated depreciation proposal arises from recommendations made by the Victorian Bushfire Royal Commission (VBRC), which was established to investigate the causes and impact of the major bushfires in Victoria in 2009.²⁴ The VBRC recommended that certain high bushfire risk assets be replaced to manage the risk of future bushfires. The replacement of these older assets with newer equipment will reduce the likelihood that electrical faults may start fires, particularly on high fire risk days.

The high bushfire risk assets include:²⁵

- steel conductors
- copper conductors
- wooden cross-arms
- services (including neutral screened services)
- oil circuit reclosers (OCRs)
- high voltage aerial bundled cable (ABC) conductors
- expulsion drop-out (EDO) fuses.

We consider that there is a regulatory requirement for AusNet Services to replace the high bushfire risk assets, imposed upon it by the Victorian Government.²⁶ Some of these assets have already been replaced, and the rest will be replaced over the 2016–

²³ Accelerated depreciation does not change the total amount received in depreciation (return of capital), though it does change the timing of that receipt and the consequential return on capital.

²⁴ AusNet Services, *Regulatory proposal 2016–2020*, April 2015, p. 383.

²⁵ AusNet Services, *Regulatory proposal 2016–2020*, April 2015, p. 384.

²⁶ More specifically, AusNet Services has a regulatory requirement to submit an Energy Safety Management Scheme (ESMS) including a Bushfire Management Plan (BMP) to Energy Safe Victoria (ESV), the independent technical regulator created by the Victorian Government under the Energy Safe Victoria Act 2005. The ESV assesses these documents with regard to the VBRC recommendations, in accordance with the Electricity Safety Act 1998. Once approved, the ESV also monitors AusNet Services' ongoing adherence to those plans.

20 regulatory control period.²⁷ In either case, the effective economic life of the assets is reduced and therefore we accept AusNet Services' proposal to change its depreciation schedule for these assets to align with the reduced economic life.²⁸ For already replaced assets, we accept AusNet Services' proposed remaining asset life of one year, which means that the return of capital occurs as soon as possible. For the remainder, we accept AusNet Services' proposed five year remaining asset life as it aligns with the replacement program across the 2016–20 regulatory control period.

While we accept AusNet Services' proposal to accelerate the depreciation of high bushfire risk assets, we do not accept the residual value of the assets proposed by AusNet Services. It is necessary to estimate the residual value of the relevant assets, since their regulatory depreciation has not been separately tracked.²⁹ AusNet Services estimated that the assets already replaced had a current value of \$46.3 million, and assets set to be replaced during the 2016–20 regulatory control period had a current value of \$63.3 million, for a total of \$109.6 million (\$ nominal) as at 1 January 2016.

AusNet Services arrived at these estimates using the following formula:³⁰

$$\left(\frac{\text{Number of replaced assets}}{\text{Number of assets of that type}} \right) \times \left(\frac{\text{Value of assets of that type, as a percentage of total RAB value 2012}}{\text{RAB value 2012}} \right) \times \left(\frac{\text{Total RAB value, 2011 or 2016, with adjustments}}{\text{RAB value 2012}} \right) = \left(\frac{\text{Value of replaced assets}}{\text{RAB value 2012}} \right)$$

The inputs to this formula were drawn from several sources:³¹

- The number of replaced assets was drawn from AusNet Services' record of replacements already completed in the 2011–15 regulatory control period, and the volume of replacements projected in its planning documents.³² For example, AusNet Services replaced 46 785 wooden cross arms across the 2011–15 regulatory control period, and expects to replace 45 645 wooden cross arms across the 2016–20 regulatory control period.
- The number of assets of each type was drawn from AusNet Services' repex model. The repex model records most (but not all) of AusNet Services' distribution system

²⁷ The capex to replace the high bushfire risk assets is consistent with the overall capex approved in attachment 6. Note that our capex assessment is at a high level and we do not determine the specific projects that AusNet Services must undertake.

²⁸ NER, cl. 6.5.5(b)(1).

²⁹ The residual value is the starting value of the assets, less the depreciation already recovered, plus an adjustment for inflation.

³⁰ AusNet Services, *Regulatory proposal 2016–2020*, April 2015, pp. 384–385 and the attached model 'RAB Accelerated Depreciation Analysis.xls'.

³¹ AusNet Services, *Regulatory proposal 2016–2020*, April 2015, pp. 384–385 and the attached model 'RAB Accelerated Depreciation Analysis.xls'.

³² More specifically, the projected replacements are listed in its ESMS, which AusNet Services lodges with the technical regulator for Victoria, ESV.

assets.³³ For example, the repex model records 188,201 wooden cross arms as at 31 December 2012, the census date used by AusNet Services for this calculation.

- The value of assets of each type was also drawn from AusNet Services' repex model, which records a written down value for each asset.³⁴ At the same time, the total RAB value at the end of 2012 was also calculated from the repex model, noting that the repex model excludes IT and non-network assets. These two values then combine to give the RAB percentage for the relevant asset type. For example, wooden cross arms were 6.4 per cent of the total value of the repex model RAB—that is, excluding IT and non-network assets.
- The total RAB value as at 1 January 2011 (for assets replaced across 2011–15) or 1 January 2016 (for assets scheduled for replacement across 2016–20) was taken from the proposed RAB RFM. These RAB amounts were adjusted to exclude IT and non-network assets, so as to be consistent with the previous calculation based on the repex model.

To conclude the example, the value of wooden cross arms replaced across the 2011–15 regulatory control period is:

$$\left(\frac{46\,785}{188\,201}\right) \times (6.4\%) \times (\$1950.4 \text{ million}) = \$30.9 \text{ million}$$

The value of wooden cross arms scheduled to be replaced across the 2016–20 regulatory control period is:

$$\left(\frac{45\,645}{188\,201}\right) \times (6.4\%) \times (\$3365.2 \text{ million}) = \$52.0 \text{ million}$$

We consider that this approach is incorrect because it:

- inconsistently combines data from different dates (1 January 2011, 31 December 2012 and 1 January 2016)
- does not account for the depreciation already received by the service provider during the 2011–15 regulatory control period
- does not correctly adjust for inflation from 2011 to 2016.

For each type of asset, the percentage of the total RAB is established as at 31 December 2012 (the repex model census date). This is then multiplied by a RAB value established as at 1 January 2011 or 1 January 2016. Hence, the AusNet Services approach assumes that the value of the existing assets will increase in line

³³ The repex model does not include IT or non-network assets. AusNet Services, *Regulatory Proposal 2016–2020*, April 2015, p. 385.

³⁴ The exception was EDO fuses, where a separate bottom up estimate was calculated based on the estimated replacement value in March 2014.

with increases in the overall RAB from 2012 to 2016.³⁵ In effect, the AusNet Services approach allows increases in the RAB arising from unrelated capex to inflate the estimated value of the existing high bushfire risk assets.³⁶ The replacement program relates to existing assets which were in place at the commencement of the 2011–15 regulatory control period.³⁷ The value of the existing assets will decrease across this period, reflecting the depreciation already received by the service provider.³⁸ Even where there has been new expenditure in an asset class, this will not change the value of the existing assets that are yet to be replaced—but this occurs under the Ausnet Services approach.

As an example, consider wooden cross arms, which constitute 6.4 per cent of the RAB based on the repex model census date (2012). As set out in the example calculations above, the AusNet Services approach implies that in 2011 the remaining value of 46 785 wooden cross arms is \$30.9 million. By 2016 the remaining value of 45 645 wooden cross arms is \$52.0 million (both \$ 2016).³⁹ This is implausible when the wooden cross arms that have been replaced (or are to be replaced) were all in place at the start of 2011, and have been depreciating over this time.⁴⁰

Our substitute approach recognises that the relevant figure is the residual value of the assets as at 1 January 2016.⁴¹ The residual value is calculated based on a roll forward from 1 January 2011, adding inflation and deducting depreciation each year.⁴² This provides an estimate of the residual value for all existing assets of a given type, without this value being inflated by new expenditure in that asset class (or in other unrelated asset classes). Only some of these assets have already been replaced across the 2011–15 regulatory control period or are scheduled to be replaced in the 2016–20 regulatory control period. We establish the proportion transferred to new asset classes in line with this step of AusNet Services' calculation.⁴³

This results in the following new asset categories for accelerated depreciation:

³⁵ Similarly, the approach assumes that the value of the existing assets will decrease in line with decreases in the overall RAB from 2012 to 2011.

³⁶ As a secondary effect, it also allows the increase in the RAB arising from capex in the relevant asset class to increase the value of existing assets in the class.

³⁷ The VBRC tabled its final report on 31 July 2010.

³⁸ There are offsetting effects under real straight line depreciation—the value of these assets increases because of inflation indexation but decreases because of depreciation. For the assets in question, the indexation increase is of smaller magnitude than the depreciation decrease, so there is a net decrease in nominal terms (and in real terms).

³⁹ This also reflects AusNet Services' treatment of a 2011 RAB value expressed in nominal terms as if it were expressed in \$ 2016.

⁴⁰ Note that even where there are new wooden cross arms installed (which may be a legitimate reason for an increase in the total value of wooden cross arms) this would not increase the value of existing wooden cross arms.

⁴¹ That is, for assets already replaced, AusNet Services still received depreciation allowances across the 2011–15 regulatory control period, calculated using the remaining life for the assets class as a whole.

⁴² AusNet Services provided revised estimates as at 1 January 2011, but explained that these were estimated figures derived from the 2012 repex model (no 2010 repex model exists). Nonetheless, we have used these figures as the best available proxy for the required data. AusNet Services, *Response to information request #022*, 16 September 2015 (attachment 'AST estimated RAB information (Jan 2011).xlsx').

⁴³ That is, we multiply by (number of replaced assets / number of assets of that type).

- \$0.6 million of subtransmission assets already replaced (one year remaining life)
- \$44.0 million of distribution assets already replaced (one year remaining life)
- \$0.6 million of subtransmission assets to be replaced in the next five years (five year remaining life)
- \$35.2 million of distribution assets to be replaced in the next five years (five year remaining life)

In total, we estimate the value of the high bushfire assets scheduled for accelerated depreciation is \$80.4 million, a reduction of \$29.2 million compared to AusNet Services' proposed value of \$109.6 million (\$ nominal) as at 1 January 2016.⁴⁴

⁴⁴ The \$22.3 million remains in AusNet Services' RAB in the relevant asset category (Distribution system assets or Subtransmission), and so will continue to depreciate over the existing schedule (remaining lives of 34.5 years or 35.6 years, respectively).