



**Establishing the Opening TAB as at
30 June 2014**

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1. Overview

Forecast tax depreciation is a key input to calculating forecast taxable income and requires an opening tax asset base (TAB) as at 30 June 2014 and standard and remaining tax lives to calculate it.

This attachment explains how we have determined the opening TAB as at 30 June 2014 and the remaining and standard asset lives that apply to it. Attachment 12.12 provides the underlying calculations and data, and Attachment 1.13 provides support for the tax lives that we adopted.

Opening TAB

At a high level, we calculated the opening TAB as at 30 June 2014 by combining:

- historical capital expenditure and year of installation data from the internal accounting records that underpin our annual tax filings with the Australian Tax Office (ATO); and
- standard asset lives sourced from the ATO's published tax lives, and verified by Hayne & Co chartered accountants.

We elected to establish our TAB as at 30 June 2014 – rather than an alternative date – to align with our roll-forward of the regulatory asset base (RAB) over the 2014-19 regulatory period. We rolled forward both the RAB and the TAB from 30 June 2014 to 30 June 2019 using the Australian Energy Regulator's (AER's) roll-forward model (RFM), using the same gross capital expenditure and asset disposal inputs for that period, and the same asset classes.

We explain how we determined the opening TAB as at 30 June 2014 further in chapter 2. We explain how we established the opening RAB as at 30 June 2014 in Attachment 1.11 to our regulatory proposal.

Asset lives

We used published ATO tax lives to determine the standard and remaining tax lives to apply to the opening TAB.



2. Establishing the opening TAB

Establishing an opening TAB is a new requirement for Power and Water Corporation (Power and Water). This chapter explains why a TAB was needed, outlines our approach to determining the opening TAB, reports our proposed TAB and summarises the reasonableness checks that we applied.

2.1 Why a TAB is needed

Our revenue allowance for the 2014-19 regulatory period was set by the Utilities Commission (UC) using a *pre-tax* revenue model, where a pre-tax rate of return on capital was used to determine the return on capital allowance. Using a pre-tax rate meant that there was not a separately identified tax allowance in the current period's revenue allowance, and so there was no need to determine a TAB to forecast tax depreciation.

As part of our transition to the Northern Territory National Electricity Rules (NT NER) – and the AER's *post-tax* revenue model (PTRM) – we must now establish an opening TAB for regulatory purposes. The PTRM calculates a forecast corporate tax expense, by incorporating a forecast of tax depreciation calculated using an opening TAB.

2.2 Our approach

To establish the opening TAB as at 30 June 2014, we:

1. extracted historical capital expenditure data from the corporate tax asset register (TAR) used to prepare our annual tax returns for the ATO;
2. mapped each line of expenditure – or asset – from the extract in (1) to our proposed RAB (and TAB) asset classes, excluding any non-regulated assets;
3. assigned a tax asset life based on the ATO's published lives to each asset class and, in some cases, to individual assets;
4. applied the lives from (3) to the classified expenditure in (2) to determine the written down values for each asset as at 30 June 2014 using the prime cost method; and
5. aggregated the written down values for each asset into asset classes.

We explain these steps further below. Each step is completed within our opening TAB model, at Attachment 12.12.

2.2.1 Step 1: Locate the corporate tax asset register

Our TAR is used annually to file our tax return with the ATO and captures details about each asset including the year of installation and cost. Each asset is also classified against our internal 'Maximo' asset classes (or descriptors) and our business units (or entities).

Expenditure is capitalised to the TAR once an asset is commissioned and is not depreciated prior to that. Any disposed assets are removed from the TAR at the time of disposal at their written down value, net of any sale proceeds. Tax



losses – whether from capital or income – have *not* been capitalised to the TAR at this point, although our tax accounting policies do allow for this.

Due to the significant size of the full TAR file, we extracted data for only those assets assigned to our electricity network business unit, Power Networks (identified as entities 21 and 22 in our system) – which came to 160,514 assets in total. This extracted data is captured in the ‘Input_TAR’ sheet of our opening TAB model (Attachment 12.12), and includes the following fields:

- Asset number
- Description
- Historical cost
- Date placed in Service

The data at cells E10:H160524 of the ‘Input_TAR’ sheet is used in the ‘Calc – TAB’ worksheet.

2.2.2 Step 2: Map assets to TAB asset classes

The asset numbers and descriptions in the TAR are appropriate for internal and tax reporting purposes. However, without allocation they do not align with the proposed regulatory TAB asset classes.

We therefore used the ‘LU_Desc_ATO’ sheet to map each of the 995 unique descriptions assigned to the 160,514 assets to one of the 20 TAB asset class, or an unregulated category (e.g. unregulated meters). This mapping was used to both assign tax asset lives and aggregate the written asset values, as discussed in steps (3) and (5).

To undertake the mapping:

- first, we used VLOOKUP’s to identify the 995 unique descriptions in Column F of the ‘Input_TAR’ sheet and list them in Column C of the ‘LU_Desc_ATO’ sheet; and
- second, we had our subject matter experts review and assign each description to a TAB asset class in Column D of the same sheet, using their considered judgment and experience, and ensuring that assets were accurately separated between both:
 - regulated and non-regulated assets; and
 - different TAB asset classes.

To ensure consistency, we had the same subject matter experts map the TAR descriptions to TAB asset classes as we did to map the SKM asset valuation to the RAB asset classes (discussed further in Attachment 1.11).

2.2.3 Step 3: Assign ATO tax lives

To calculate the written down value as at 30 June 2014, we needed to use tax lives to depreciate the assets identified in step (1). To do this, we relied on the standard lives published by the ATO.



The ATO tax lives were sourced directly from the ATO website,¹ where tax lives are published for electricity, gas, water and waste services as well as for other services. We used these lives in two ways:

- first, we determined a standard life for each TAB asset class using the ATO asset description that best matched it – this is shown at rows 51:78 of the ‘LU_General’ sheet; and
- second, we assigned alternative ATO asset lives to some of the 995 unique asset descriptions where we considered that these were more accurate than ATO lives assigned to the corresponding TAB asset class – this is shown at columns F and G of the ‘LU_Desc_ATO’ sheet.

Again, our subject matter experts used their considered judgement and experience to determine which ATO asset description was most appropriate for the TAB asset classes and where appropriate individual assets. We also engaged Hayne & Co chartered accountants to independently peer review the assigned asset lives, who subsequently provided the letter at Attachment 1.13.²

Chapter 3 discusses – and presents – the asset lives adopted for each TAB asset class.

2.2.4 Step 4: Calculate written down value as at 30 June 2014

The written down value for each of the 160,514 assets is calculated in the ‘Calc_TAB’ sheet, using the data extracted in step (1) and the asset lives determined in step (3).

The first step was to calculate the drivers of the standard and remaining lives for each of the 160,514 assets in the tax asset register. These drivers can be found in columns K to N and are described in more detail in

¹ See the ATO’s *Income Tax (Effective Life of Depreciating Assets) Determination*, on the ATO website at:

www.ato.gov.au/law/view/pdf?DocID=TXR%2FTR20172%2FNAT%2FATO%2F00001&filename=law/view/pdf/pbr/tr2017-002.pdf&PiT=99991231235958

² The letter from Hayne & Co refers to a spreadsheet titled ‘PWC-TAB Mapping and Standard Life Validation – v7 – FINAL – 20 December.xlsx’. The lives from this spreadsheet are reflected in the ‘LU_Desc_ATO’ and ‘LU_General’ sheets, without edit by us.



Table 2.1.



Table 2.1: Details of the drivers of TAB standard and remaining lives to be applied to TAB opening values

Drivers	Comment
Date placed in service	Linked directly from the tax asset register.
Days in service up to 30 June 2014	Calculated based on the valuation date less the date placed in service. The valuation date is an assumption in cell L1 which is set to 30 June 2014.
Years in service up to 30 June 2014	Calculated based on days in service up to 30 June 2014 divided by 365 days.
LU Match Criteria	A column calculating the row applicable for where the description field is located in the unique list of description categories with TAB asset class and ATO lives allocated.

The second step was to use these drivers to calculate closing balances by asset, for the TAB, plus the weighted average tax asset base standard lives and tax asset base remaining lives. These values are calculated in columns D to I, as described in Table 2.2, and are the primary source of the calculations on the 'Output_RFM' sheet.

Table 2.2: Description of the calculation of TAB opening values

Calculation element	Comment
Asset Number	Linked directly from the tax asset register.
Description	Linked directly from the tax asset register.
TAB Asset Class	Calculated based on the LU Match Criteria and the allocation made in "LU_Desc_ATO".
Closing balance TAB – 30 June 2014	<p>A written down value (WDV) calculation with the following logic:</p> <ul style="list-style-type: none"> • If the remaining life for the asset is zero , then the closing balance is set to zero. • If the standard life is 'n/a', then the closing balance is set to the historical cost. • Otherwise, the WDV of the asset is calculated based on asset cost [Historical Cost, column G of "Input_TAR"] minus (asset cost / standard life x Years in Service up to 30 June 2014). <p>This approach assumes straight-line accumulated depreciation – or the prime cost method – based on ATO asset lives and years of service.</p>
Standard life	Linked directly from the applied ATO tax lives shown in column H of the 'LU_Desc_ATO' sheet.



Calculation element	Comment
Remaining life	<p>A calculation based on standard life less years in service up to 30 June 2014.</p> <p>If the years in service up to 30 June 2014 is greater than the standard life value, the formula avoids negative remaining lives by setting the value to zero.</p> <p>The remaining life is set to 'n/a' where the standard life is 'n/a'.</p>

2.2.5 Step 5: Aggregate written down values by TAB asset class

Once the written down value was calculated for each asset, the final step was to aggregate this value – and determine weighted average remaining lives – for each TAB asset class. This was done on the 'Output_RFM' sheet.

Opening balances by TAB asset class are calculated by summing the values in column G of 'Calc_TAB' sheet which have been tagged with the specific asset class shown in D11 to D33 of 'Output_RFM'. The calculation uses a SUMIF function and is included at cells E11 to D33 of that same sheet.

The weighted average remaining lives and standard lives are discussed in the next chapter.

2.3 Proposed TAB as at 30 June 2014

The outcome of this process produced the following TAB opening values for both standard control services (SCS) and alternative control services (ACS) metering. By way of background, the opening TAB value for electronic meters is lower than mechanical meters as we had only recently started installing electronic meters as at 30 June 2014.

Table 2.3: Opening TAB values for standard control services as at 30 June 2014

A\$k as at 30 June 2014 (\$nominal)	Opening TAB
SCS	
Substations	98,535.6
Distribution Lines	238,367.3
Transmission Lines	28,297.1
LV Services	1,202.0
Distribution Substations	42,418.7
Distribution Switchgear	15,441.6
Protection	4,354.5
SCADA	586.6
Communications	5,318.4
Land and Easements	387.3



A\$K as at 30 June 2014 (\$nominal)	Opening TAB
Property	558.3
IT and Communications	423.2
Motor Vehicles	115.3
Plant and Equipment	5,100.7
Sub-total SCS TAB	441,106.6
ACS metering	
Mechanical Meters	3,554.8
Electronic Meters	925.6
Metering Communications	-
Metering Dedicated CTs and VTs	-
Metering Non-network Other	-
Metering Non-network IT and Communications	-
Sub-total ACS metering TAB	4,480.4
Total TAB	445,587.0

2.4 Reasonableness checks

As this was the first time establishing an opening TAB – and given its importance to forecasting tax depreciation, we recognised the need for care, hence we undertook two reasonableness checks.

First, we compared the ratio of our proposed TAB to RAB as at 30 June 2014 to those approved by the AER for other networks. Our SCS TAB to RAB ratio (as at 30 June 2014) is 51.7% while our ACS metering TAB to RAB ratio is 59.7% – which, as shown at the bottom of Table 2.4, are comparable to those observed for other networks. This analysis gave us comfort that combining the tax asset register with published ATO tax lives produced reasonable outputs suitable for our proposal.

Table 2.4: Comparison of TAB to RAB ratios by peer network

Network	AER decision	Closing RAB	Closing TAB	Ratio
Comparator networks (A\$M as per determination)				
AGN (Albury)	2013-17	34.8	7.8	22.5%
Jemena (G)	2015-20	2,312.7	570.8	24.7%
Multinet	2013-17	1,024.9	343.7	33.5%
AGN (VIC)	2013-17	1,117.4	382.7	34.3%
Energex	2015-20	17,845.4	6,672.9	37.4%

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Network	AER decision	Closing RAB	Closing TAB	Ratio
United Energy	2016-20	3,452.8	1,369.7	39.7%
AGN (SA)	2016-21	1,385.6	608.0	43.9%
TransGrid	2014-19	6,075.8	3,750.3	61.7%
Jemena (E)	2016-20	1,186.8	746.8	62.9%
Ergon	2015-20	9,873.0	6,291.1	63.7%
AusNet Services	2016-20	3,442.1	2,218.2	64.4%
SA Power Networks	2015-20	3,778.4	2,485.4	65.8%
ActewAGL (G)	2016-21	338.4	231.7	68.5%
CitiPower	2016-20	1,762.9	1,215.3	68.9%
Ausgrid (D)	2014-19	12,251.7	8,559.3	69.9%
Powercor	2016-20	3,307.0	2,359.5	71.35%
Ausgrid (T)	2014-19	2,035.7	1,502.1	73.8%
Directlink	2015-20	129.4	99.1	76.6%
Essential Energy	2014-19	6,774.2	5,344.2	78.9%
TasNetworks	2014-19	1,410.3	1,137.4	80.7%
Endeavour	2014-19	5,581.3	4,576.6	82.0%
ActewAGL (D)	2014-19	693.5	608.6	87.8%
ActewAGL (T)	2014-19	154.0	137.1	89.0%
Total		85,968.2	51,218.6	59.6%
Power and Water Corporation (A\$M, as at 30 June 2014, \$nominal)				
SCS		853.1	441.1	51.7%
ACS metering		7.5	4.5	59.7%
Total		860.6	445.6	51.8%

(a) The RAB value shown here for Power and Water Corporation is in real \$2014 (i.e. dollars as at 30 June 2014), and may differ to the values shown in Chapter 12 of the Regulatory Proposal – which are in real \$2019.

Second, we compared the relative contribution of each asset class to the TAB and RAB totals. As shown in Table 2.5, the difference between the TAB and RAB contributions are relatively small, with only three asset classes with



variances above 10% (substations, distribution lines and transmission lines).³ This gave us further comfort that our proposed methodology was producing reasonable outputs.

Table 2.5: Difference between TAB and RAB contributions by asset class

TAB asset class (SCS and ACS Metering)	TAB contribution (%)	RAB contribution (%)	Difference (%)
Substations	22.1%	34.6%	-12.5%
Distribution Lines	53.5%	26.4%	27.2%
Transmission Lines	6.4%	19.7%	-13.3%
LV Services	0.3%	0.0%	0.2%
Distribution Substations	9.5%	9.6%	-0.1%
Distribution Switchgear	3.5%	1.8%	1.7%
Protection	1.0%	1.1%	-0.1%
SCADA	0.1%	0.2%	0.0%
Communications	1.2%	0.7%	0.5%
Land and Easements	0.1%	4.0%	-3.9%
Property	0.1%	0.1%	0.0%
IT and Communications	0.1%	0.1%	0.0%
Motor Vehicles	0.0%	0.0%	0.0%
Plant and Equipment	1.1%	0.9%	0.2%
Mechanical Meters	0.8%	0.5%	0.3%
Electronic Meters	0.2%	0.4%	-0.2%
Metering Communications	0.0%	0.0%	0.0%
Metering Dedicated CTs and VTs	0.0%	0.0%	0.0%
Metering Non-network Other	0.0%	0.0%	0.0%
Metering Non-network IT and Communications	0.0%	0.0%	0.0%

³ Together, the variances for the three asset classes (-12.4%, 27.1% and -13.3%) largely offset each other (i.e. 1.3% in total). Given the similarity between the classes, these variances indicated to us that there may be some differences between: (a) how the underlying assets were classified and (b) the TAB and RAB asset lives used.

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TAB asset class (SCS and ACS Metering)	TAB contribution (%)	RAB contribution (%)	Difference (%)
Total	100.0%	100.0%	#N/A



3. Establishing the remaining and standard lives

As noted above, the purpose of the ‘Output_RFM’ worksheet is to aggregate the asset level data into TAB asset classes and summarise the opening TAB value, with the associated remaining life and the associated standard life. To ensure consistency, this utilised the same data and assumptions used to determine the opening asset value by proposed asset class, including the tax asset lives discussed above.

Table 3.1 shows the remaining and standard asset lives as at 30 June 2014, as reflected in our opening TAB model at Attachment 12.12. Our approaches to determining these are discussed in the next two sections of this chapter.

These values link into T7:U26 at the top of the ‘RFM Input’ sheet of our RFM, at Attachment 12.11. Data on the ‘Output_RFM’ worksheet is used for all remaining life values.

Table 3.1: Remaining and standard lives by new asset class as at 30 June 2014

TAB (and RAB) asset class	Remaining asset lives	Standard asset lives
Substations	30.6	40.0
Distribution Lines	30.7	47.5
Transmission Lines	42.2	47.5
LV Services	36.0	40.0
Distribution Substations	26.1	40.0
Distribution Switchgear	31.9	40.0
Protection	7.3	10.0
SCADA	8.4	10.0
Communications	10.9	10.0
Land and Easements	n/a	n/a
Property	9.8	20.0
IT and Communications	2.6	4.0
Motor Vehicles	4.7	5.0
Plant and Equipment	8.2	10.0
Mechanical Meters	17.6	25.0
Electronic Meters	24.5	25.0
Metering Communications	-	10.0



TAB (and RAB) asset class	Remaining asset lives	Standard asset lives
Metering Dedicated CTs and VTs	-	15.0
Metering Non-Network Other	-	10.0
Metering Non-Network IT and Communications	-	5.0

3.1 Establishing the remaining lives

The opening remaining asset lives used for the current period RFM for SCS and ACS metering TAB asset classes as at 30 June 2014 are calculated at cells F11:F30 of the 'Output_RFM' sheet.

For each asset class, the remaining life is calculated as the written down value weighted average of each asset assigned to that asset class. The formula is adjusted to ignore any assets that do not depreciate (such as land and easements).

3.2 Establishing the standard lives

The opening standard asset lives for SCS and ACS metering TAB asset classes as at 30 June 2014 are shown at cells H11:H30 of the 'Output_RFM' sheet, and source directly from the 'LU_General' sheet.

As described in section 2.2.3 above, these standard lives were determined by identifying the published ATO life that best corresponds to the TAB asset description. We had these validated by Hayne & Co chartered accountants.