



Final decision

Amendment

Electricity transmission network service providers

Roll forward model handbook

December 2010

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Shortened forms

| | |
|-------|---------------------------------------|
| AER | Australian Energy Regulator |
| capex | capital expenditure |
| CPI | consumer price index |
| NEL | National Electricity Law |
| NER | National Electricity Rules |
| PTRM | post-tax revenue model |
| RAB | regulatory asset base |
| RFM | roll forward model |
| TNSP | transmission network service provider |
| WACC | weighted average cost of capital |

1. Nature and authority

1.1 Introduction

This handbook sets out the Australian Energy Regulator's (AER) roll forward model (RFM) for electricity transmission network service providers (TNSPs). The RFM is a series of Microsoft Excel spreadsheets (1997–2003 version) developed in accordance with the requirements of clause 6A.6.1 of the National Electricity Rules (NER).

1.2 Authority

Clause 6A.6.1(b) of the NER requires the AER to develop and publish the RFM, in accordance with the transmission consultation procedures.

1.3 Role of the model

The RFM is used by the AER to determine the closing regulatory asset base (RAB) for a regulatory control period. The closing RAB value for a regulatory control period as calculated by the RFM becomes the opening RAB to be used for the purposes of making a revenue determination for the next regulatory control period. The roll forward of the opening RAB for the next regulatory control period, on a forecast indicative basis, is undertaken in the AER's post-tax revenue model (PTRM) in accordance with the requirements of the NER.

1.4 Confidentiality

The AER's obligations regarding confidentiality and the disclosure of information provided to it by a TNSP are governed by the *Trade Practices Act 1974*, the National Electricity Law (NEL) and the NER.

1.5 Process for revision

The AER may amend or replace the RFM from time to time in accordance with clause 6A.6.1(c) of the NER and the transmission consultation procedures. An amended version of this handbook will accompany each amended version of the RFM.

1.6 Version history and effective date

A version number and an effective date of issue will identify each version of this handbook.

2. The model

The RFM is a set of Microsoft Excel spreadsheets (1997–2003 version) which perform calculations to derive a closing RAB for the current regulatory control period from a given set of inputs. The RFM allows the user to vary the inputs in order to assess their impact on the output data and other derived parameters.

2.1 Input sheet

The **Input** sheet provides for key input variables to be entered in the RFM. They are automatically linked to corresponding cells in the relevant sheets. Values should be entered into each cell that has light blue shading. This sheet has been split into eight sections:

- opening RAB and opening tax asset base
- actual nominal capital expenditure (capex)—as-incurred
- actual nominal asset disposals—as-incurred
- actual real net capex—as-incurred
- actual nominal capex—as-commissioned
- actual nominal asset disposals—as-de-commissioned
- actual real net capex—as-commissioned
- inflation and rate of return.

The input data to be recorded in the RFM must be in a consistent format as the data collected from the TNSP in accordance with the AER’s submission guidelines.

Figure 1 provides an example of the **Input** sheet.

The RFM can handle input data for up to an 11-year period. This includes the final year of the previous regulatory control period, as well as up to 10 years of the current regulatory control period.¹ The RFM can be adjusted to account for regulatory control periods of longer duration.

¹ For a standard (shorter) regulatory control period, the input spaces which are not required should be left blank or have zero as an input.

The RFM is configured as follows:

- Uses the straight-line method as the default position for calculating depreciation**—TNSPs may propose depreciation profiles other than the straight-line method to be accommodated within the RFM, in consultation with the AER as part of pre-lodgement discussions and subject to satisfying the requirements at clause 6A.6.3(b) of the NER.
- Recognises capex on a partially as-incurred (hybrid) approach**—This method for recognising capex calculates the return on capital based on an as-incurred approach and the return of capital (regulatory depreciation) is based on an as-commissioned approach. As such, two RABs determined on the basis of as-incurred capex and as-commissioned capex are required to be calculated by the RFM.
- Uses the weighted average method as the default position for calculating the average remaining asset lives**—TNSPs may propose approaches to calculate the average remaining lives for a group of assets other than the weighted average method within the RFM, in consultation with the AER as part of pre-lodgement discussions and subject to satisfying the requirements at clause 6A.6.3(b) of the NER.

Figure 1: Input sheet

| | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W |
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Opening regulatory asset base and tax asset base

The opening RAB is the value of assets on which a return will be earned. The opening tax asset base is used to calculate the depreciation for tax purposes. The **Input** sheet requires values for the opening RAB (broken into asset classes in rows 7 to 36) and opening tax asset base at the start of the final year of the previous regulatory control period. The RAB and tax asset base will differ each year to reflect actual capex (as-incurred for the RAB or as-commissioned for the tax asset base), asset disposals and regulatory depreciation (for the RAB) or tax depreciation (for the tax asset base).

The recorded input values are linked to subsequent sheets which calculate an annual balance of the RAB for the current regulatory control period. Notes have been included for various cells with specific comments and explanations about the relevance of the inputs.

Asset class name

The asset classes/names are recorded in column G. It is important that the number of asset classes recorded in the RAB section matches the number of asset classes identified in the capex section. This allows the RFM to model consistent depreciation across the asset classes.

The RFM is configured to accommodate up to 30 asset classes.² The number of asset classes used in the RFM will vary between businesses. However, for each business, the number of asset classes used in the RFM must be consistent with that used in the AER's post-tax revenue model (PTRM) to allow the closing RAB values determined in the RFM to be used as inputs to the opening RAB values in the PTRM.

Opening asset value

The opening asset values for each asset class are recorded in column J. These values should be as at the start of the final year of the previous regulatory control period and would be contained in the RFM used for the current revenue determination for the TNSP. They are linked to the **Adjustment for previous period** and **Actual RAB roll forward** sheets.

Average remaining life

The remaining lives of each asset class are recorded in column K, based on the economic lives of the assets as at the start of the current regulatory control period. These values should be consistent with those contained in the PTRM used in the current revenue determination for the TNSP. They are linked to the **Actual RAB roll forward** sheet.

² The RFM can be expanded to accommodate additional asset classes, when necessary.

Standard life

The standard lives of each asset class are recorded in column L and measure how long the infrastructure would physically last had it just been built. These values should be consistent with those contained in the PTRM used in the current revenue determination for the TNSP. They are linked to the **Actual RAB roll forward** sheet.

Forecast net capex

The forecast net capex values for each asset class are recorded in column M. They are based on the forecasts made in the final year of the previous regulatory control period. These values would be contained in the RFM used for the current revenue determination for the TNSP. They are linked to the **Adjustment for previous period** and **Actual RAB roll forward** sheets.

Forecast regulatory depreciation

The forecast regulatory depreciation values for each asset class are recorded in column N. They are based on the forecasts made for the final year of the previous regulatory control period. These values would be contained in the RFM used for the current revenue determination for the TNSP. They are linked to the **Adjustment for previous period** sheet.

Prudent additional capex allowance

The prudent additional capex allowance values for each asset class are recorded in column O. This data may be required for TNSPs where the allowance was added to the closing RAB for the previous regulatory control period. The amount of prudent additional capex allowance (if any) would be contained in the RFM used for the current revenue determination for the TNSP. These values are linked to the **Adjustment for previous period** sheet.

Foregone return on additional capex

The foregone return on additional capex values for each asset class are recorded in column P. This data may be required for TNSPs where, in the case of a capex overspend, the foregone return associated with the amount of prudent additional capex allowed in the previous regulatory control period was added to the closing RAB for the previous regulatory control period. The amount of foregone return on additional capex (if any) would be contained in the RFM used for the current revenue determination for the TNSP. The foregone return on additional capex values are linked to the **Adjustment for previous period** sheet.

Forecast assets under construction

The forecast assets under construction values for each asset class during the final year of the previous regulatory control period are recorded in column Q. This data may be required for TNSPs transitioning to recognising capex on a partially as-incurred approach during the previous regulatory control period. In this case, forecast assets under construction values would have been added to the closing RAB for the previous regulatory control period. The amount of forecast assets under construction (if any) would be contained in the RFM used for the current revenue determination for the

TNSP.³ The forecast assets under construction values are linked to the **Adjustment for previous period** sheet.

Actual assets under construction

The actual assets under construction values for each asset class during the final year of the previous regulatory control period are recorded in column R. This data may be required for TNSPs transitioning to recognising capex on a partially as-incurred approach during the previous regulatory control period. These values are linked to the **Adjustment for previous period** sheet.

Tax asset values—opening tax asset value, average tax remaining life, tax standard life

The RFM includes a mechanism to roll forward tax asset values between regulatory control periods. The **Input** sheet requires the tax asset values comprising of the opening tax values, average tax remaining lives and tax standard lives for each asset class. The tax asset values will differ each year to reflect actual capex (as-commissioned), asset disposals and tax depreciation.

For each asset class, the opening tax values at the start of the first year of the current regulatory control period are recorded in column S, the average tax remaining lives are recorded in column T and the tax standard lives are recorded in column U. These values are linked to the **Tax asset roll forward** sheet to calculate a running balance of the tax asset values for the current regulatory control period.

Base financial year

The financial year for the start of the current regulatory control period is recorded in cell V7.

Length of the current regulatory control period

The number of years in the current regulatory control period is recorded in cell W7.

Actual nominal capital expenditure—as-incurred⁴

The actual capex (as-incurred) values for the current regulatory control period (including the final year for the previous regulatory control period) are recorded for each year in rows 41 to 70 (by asset class). Generally, capex falls into three broad categories:

³ Alternatively, the forecast assets under construction values may be obtained from the opening asset base input in the PTRM used for the current revenue determination for the TNSP.

⁴ Actual capex and actual asset disposals are undertaken evenly over a year and therefore the reported capex values are assumed to be in middle of the year terms. All other input values are assumed to be in end of the year terms.

- asset augmentation (e.g. works to enlarge a network or to increase the capability of a network)
- asset replacement (e.g. replacing assets that have passed their useful lives)
- non-network asset (e.g. support the business expenditure).

These inputs are assumed to be in middle of the year terms (based on nominal dollar terms).

Actual nominal asset disposals—as-incurred

The actual asset disposal values for each year are recorded in rows 75 to 104. These inputs are assumed to be in middle of the year terms (based on nominal dollar terms).

Actual real net capital expenditure—as-incurred

This section on real net capex does not require inputs to be recorded. For each asset class, actual real net capex values are calculated based on the recorded nominal capex values less asset disposal values, and adjusted for actual inflation. The real net capex (as-incurred) values are displayed in rows 109 to 138 and form part of the roll forward of the RAB in the **Adjustment for previous period** and **Actual RAB roll forward** sheets. These inputs are assumed to be in middle of the year terms (based on the final year of the previous regulatory control period real dollar terms).

Actual nominal capital expenditure—as-commissioned

The actual capex (as-commissioned) values are recorded for each year in rows 143 to 172. These inputs are assumed to be in middle of the year terms (based on nominal dollar terms).

Actual nominal asset disposals—as-de-commissioned

The actual de-commissioned asset values are recorded for each year in rows 177 to 206. These inputs are assumed to be in middle of the year terms (based on nominal dollar terms).

Actual real net capital expenditure—as-commissioned

This section on real net capex does not require inputs to be recorded. For each asset class, actual real net capex values are calculated based on the recorded nominal capex values less the value of de-commissioned assets, and adjusted for actual inflation. The real net capex (as-commissioned) values are displayed in rows 211 to 240 and are used to calculate depreciation in the **Actual RAB roll forward** sheet. These inputs are assumed to be in middle of the year terms (based on the final year of the previous regulatory control period real dollar terms).

Inflation and rate of return

This section records the actual annual inflation rates (based on the consumer price index) over the current regulatory control period and in the final year of the previous regulatory control period (rows 245 to 246). It also records the forecast inflation and

weighted average cost of capital (WACC) rates used in the revenue determinations corresponding to the two regulatory control periods (rows 247 to 252). These parameters are linked to the **Adjustment for previous period** and **Actual RAB roll forward** sheets.

The actual inflation rate for the second last year of the previous regulatory control period needs to be recorded in cell F6 in the **Adjustment for previous period** sheet.

2.2 Adjustment for previous period sheet

The **Adjustment for previous period** sheet adjusts for the final year of the previous regulatory control period the difference between:

- 1) forecast and actual net capex values
- 2) forecast and actual assets under construction values (if any).

These adjustments are consistent with the requirements of clause S6A.2.1 of the NER, which specifies that a reconciliation would include adjustments that remove any benefit or penalty on the returns associated with any difference between the forecast and actual capex values for the final year of the previous regulatory control period.

First, this sheet calculates the difference between forecast and actual net capex for the final year of the previous regulatory control period, as well as the aggregate compounded return on that difference (rows 11 to 168). This adjustment is made to the closing RAB at the end of the current regulatory control period in the **Total actual RAB roll forward** sheet. This two-step process is outlined in box 1.

Box 1: Adjusting for actual capex in the final year of the previous regulatory control period

| |
|--|
| 1) Calculating the difference between actual and forecast net capex |
| Nominal actual net capex (including a half-nominal vanilla WACC allowance) – Nominal forecast net capex (including a half-nominal vanilla WACC allowance) = Nominal difference between forecast and actual net capex (adjusted for lagged actual inflation) |
| 2) Calculating the return on the difference and compounding it for each year of the current regulatory control period |
| Note: <ul style="list-style-type: none">▪ Nominal forecast net capex = forecast net capex allowed in the final year of the previous regulatory control period.▪ Nominal actual net capex = actual net capex incurred during the final year of the previous regulatory control period.▪ Adjustments for lagged actual inflation are to ensure that the actual net capex is consistent with the forecast net capex in nominal terms. The actual inflation rate is required as an input to cell F6.▪ The return on the difference between actual and forecast net capex is calculated by applying the nominal vanilla WACC (adjusted for actual inflation) applicable to the current regulatory control period (as determined in the current revenue determination).▪ Each of these adjustments is made to the final closing RAB for the current regulatory control period in the Total actual RAB roll forward sheet. |

Second, this sheet calculates the difference between forecast and actual assets under construction values for the final year of the previous regulatory control period, as well as the aggregate compounded return on that difference (rows 172 to 329). This adjustment is also made to the closing RAB at the end of the current regulatory control period in the **Total actual RAB roll forward** sheet. This two-step process is outlined in box 2.

Box 2: Adjusting for actual assets under construction in the final year of the previous regulatory control period

1) Calculating the difference between actual and forecast assets under construction

Nominal actual assets under construction
– Nominal forecast assets under construction
= Nominal difference between actual and forecast assets under construction

2) Calculating the return on the difference and compounding it for each year of the current regulatory control period

Note:

- Forecast assets under construction = forecast assets under construction allowed in the final year of the previous regulatory control period.
- Actual assets under construction = actual assets under construction incurred during the final year of the previous regulatory control period.
- The return on the difference between actual and forecast assets under construction is calculated by applying the nominal vanilla WACC (adjusted for actual inflation) applicable to the current regulatory control period (as determined in the current revenue determination).
- Each of these adjustments is made to the final closing RAB for the current regulatory period in the **Total actual RAB roll forward** sheet.

Finally, this sheet uses the opening RAB for the final year of the previous regulatory control period to roll forward for forecast net capex, regulatory depreciation as well as any specific adjustments that may be required as a result of the previous revenue determination (e.g. transition to a partially as-incurred approach for recognising capex (rows 333 to 523) to determine the closing RAB for that year. This adjustment process is set out in box 3. Because inflation during the final year of the previous regulatory control period is known at the time the previous revenue determination was made, there is no need to make an adjustment in this sheet for actual inflation when rolling forward the RAB to the end of the final year of the previous regulatory control period.

Box 3: Roll forward of the final year of the previous regulatory control period and calculating the opening RAB (partially as-incurred) for the current regulatory control period

Calculating the opening RAB (partially as-incurred) for the current regulatory control period

Opening RAB for the final year of the previous regulatory control period

- + Nominal forecast net capex
- Nominal forecast regulatory depreciation
- + Nominal prudent additional capex allowance from the previous regulatory control period (if any)
- + Nominal foregone return on prudent additional capex allowance from the previous regulatory control period (if any)
- + Nominal forecast assets under construction (if any)
- = **Opening RAB (partially as-incurred) for the first year of the current regulatory control period**

Where:

- Nominal forecast net capex = forecast net capex allowed for the final year of the previous regulatory control period.
- Nominal forecast regulatory depreciation = forecast straight-line depreciation – forecast inflation adjustment on the opening RAB.
- Forecast assets under construction = forecast assets under construction for the final year of the previous regulatory control period. This may be relevant for some TNSPs transitioning to recognising capex on a partially as-incurred approach.
- The prudent additional capex allowance and the foregone return on that amount are one-off adjustments to the closing RAB for the previous regulatory control period that may be relevant for some TNSPs.

Figure 2 provides an example of the **Adjustment for previous period** sheet.

Figure 2: Adjustment for previous period sheet

| | A | B | C | D | E | F | G | H | I | J | K | L |
|-----|---|---|---|---|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1 | | | | | | | | | | | | |
| 2 | | Adjustments for Previous Regulatory Control Period - RFM Version: 2.0 | | | | | | | | | | |
| 3 | | | | | | | | | | | | |
| 4 | | Year | | | | 2003-04 | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 |
| 5 | | | | | | | | | | | | |
| 6 | | Actual CPI Inflation Rate | | | | 1.98% | 2.36% | | | | | |
| 7 | | Nominal Vanilla WACC (fixed real time varying) | | | | | | 9.96% | 9.38% | 11.31% | 9.41% | 9.86% |
| 8 | | | | | | | | | | | | |
| 9 | | Nominal Adjustments for Difference Between Forecast and Actual Capex | | | | | | | | | | |
| 10 | | | | | | | | | | | | |
| 11 | | Nominal Forecast Net Capex (previous regulatory control period) | | | | 180.00 | | | | | | |
| 42 | | | | | | | | | | | | |
| 43 | | Nominal Actual Net Capex | | | | 163.70 | | | | | | |
| 74 | | | | | | | | | | | | |
| 75 | | Nominal Difference Between Actual and Forecast Net Capex | | | | - 16.91 | | | | | | |
| 106 | | | | | | | | | | | | |
| 107 | | Compounded Return on Difference - Net Capex | | | | | | 1.68 - | 1.74 - | 2.30 - | 2.13 - | 2.44 |
| 168 | | <i>Total Return at End of Regulatory Period</i> | | | | | | | | | | 10.30 |
| 169 | | | | | | | | | | | | |
| 170 | | Nominal Adjustments for Difference Between Forecast and Actual Assets Under Construction | | | | | | | | | | |
| 171 | | | | | | | | | | | | |
| 172 | | Nominal Forecast Assets Under Construction (previous regulatory period) | | | | 45.00 | | | | | | |
| 203 | | | | | | | | | | | | |
| 204 | | Nominal Actual Assets Under Construction | | | | 50.00 | | | | | | |
| 235 | | | | | | | | | | | | |
| 236 | | Nominal Difference Between Actual and Forecast Assets Under Construction | | | | 5.00 | | | | | | |
| 267 | | | | | | | | | | | | |
| 268 | | Compounded Return on Difference - Assets Under Construction | | | | | | 0.50 | 0.52 | 0.68 | 0.63 | 0.72 |
| 329 | | <i>Total Return at End of Regulatory Period</i> | | | | | | | | | | 3.05 |
| 330 | | | | | | | | | | | | |
| 331 | | Nominal Roll Forward for Final Year of Previous Regulatory Control Period | | | | | | | | | | |
| 332 | | | | | | | | | | | | |
| 333 | | Nominal Opening Regulatory Asset Base | | | | 3,500.00 | 3,640.00 | | | | | |
| 364 | | | | | | | | | | | | |
| 365 | | Nominal Forecast Net Capex | | | | 180.00 | | | | | | |
| 396 | | | | | | | | | | | | |
| 397 | | Nominal Forecast Regulatory Depreciation | | | | - 85.00 | | | | | | |
| 428 | | | | | | | | | | | | |
| 429 | | Nominal Prudent Additional Capex Allowance | | | | - | | | | | | |
| 460 | | | | | | | | | | | | |
| 461 | | Nominal Foregone Return on Prudent Additional Capex | | | | - | | | | | | |
| 492 | | | | | | | | | | | | |
| 493 | | Nominal Forecast Assets Under Construction | | | | 45.00 | | | | | | |
| 524 | | | | | | | | | | | | |

Nominal adjustments for difference between forecast and actual capex

This section calculates the difference between forecast and actual capex for the final year of the previous regulatory control period and determines the compounded return on that difference. The process involved is based on that depicted in box 1.

The nominal forecast net capex values for each asset class in the final year of the previous regulatory control period are displayed in rows 12 to 41. The values are sourced from the **Input** sheet. Row 11 displays the sum of each asset class values for rows 12 to 41.

The nominal actual net capex values (including a half WACC allowance) for each asset class in the final year of the previous regulatory control period are calculated in rows 44 to 73. Given the timing assumption that capex on average takes place halfway through the year, a half-nominal vanilla WACC is applied to the actual net capex for

each asset class to ‘gross-up’ the actual values.⁵ Row 43 displays the sum of each asset class calculations for rows 44 to 73.

The differences between the actual and forecast net capex values for each asset class are calculated in rows 76 to 105. Row 75 displays the sum of each asset class calculations for those rows.

Finally, in rows 107 to 167 a nominal vanilla WACC (row 7) is applied to calculate the return on the difference, which is compounded to the end of the current regulatory control period.⁶ The total compounded return at the end of the current regulatory control period is displayed in row 168. This value is linked to the **Total actual RAB roll forward** sheet.

Nominal adjustments for difference between forecast and actual assets under construction

This section calculates the difference between forecast and actual assets under construction values for the final year of the previous regulatory control period and determines the compounded return on that difference. The process involved is based on that depicted in box 2.

The nominal forecast assets under construction values for each asset class in the final year of the previous regulatory control period are displayed in rows 173 to 202. These values are sourced from the **Input** sheet. Row 172 displays the sum of each asset class values for rows 173 to 202.

The nominal actual assets under construction values for each asset class in the final year of the previous regulatory control period are displayed in rows 205 to 234. These values are sourced from the **Input** sheet. Row 204 displays the sum of each asset class values for rows 205 to 234.

The differences between the actual and forecast assets under construction values for each asset class are calculated in rows 237 to 266. Row 236 displays the sum of each asset class calculations for those rows.

Finally, in rows 268 to 328 a nominal vanilla WACC (row 7) is applied to calculate the return on the difference, which is compounded to the end of the current regulatory control period. The total compounded return at the end of the current regulatory control period is displayed in row 329. This value is linked to the **Total actual RAB roll forward** sheet.

⁵ AER, *Roll forward model: Final decision*, September 2007. See section 4.3.1 which discusses the need for the application of a half-nominal WACC allowance.

⁶ The nominal vanilla WACC is based on a fixed real time varying WACC—that is, a fixed real vanilla WACC adjusted for actual inflation.

Nominal roll forward for final year of previous regulatory control period

This section calculates the closing RAB for the final year of the previous regulatory control period, based on the net capex and regulatory depreciation forecasts for that year (including any relevant adjustments that may be required—e.g. assets under construction, prudent additional capex allowance and foregone return on prudent additional capex). The process involved is based on that depicted in box 3.

The sum of the opening RAB values for the final year of the previous regulatory control period (cells G334 to G363), which are sourced from the **Input** sheet, is shown in cell G333. The sum (cell G365) of the forecast net capex values shown in cells G366 to G395 is rolled into the opening RAB for the final year of the previous regulatory control period. The sum (cell G397) of the nominal forecast regulatory depreciation values shown in rows 398 to 427 is deducted from the opening RAB for the final year of the previous regulatory control period.⁷

The nominal prudent additional capex allowance from the previous regulatory control period (if any), the foregone return on that amount (if any), and the nominal forecast assets under construction (if any) are included (rows 429 to 523) to determine the closing RAB for the final year of the previous regulatory control period. This becomes the opening RAB (partially as-incurred) for the first year of the current regulatory control period.

Nominal opening RAB (partially as-incurred)

The sum of the nominal opening RAB (partially as-incurred) for the first year of the current regulatory control period (cells H334 to H363) is shown in H333. This is calculated based on the forecast capex, regulatory depreciation values and any additional adjustments that may be required—e.g. assets under construction, prudent additional capex allowance and foregone return on prudent additional capex. This opening RAB (partially as-incurred) appears again in the **Actual RAB roll forward** sheet so that the roll forward of the RAB can be undertaken for the current regulatory control period.

2.3 Actual RAB roll forward sheet

The **Actual RAB roll forward** sheet calculates the nominal closing RAB (which becomes the opening RAB) for each year of the current regulatory control period using the partially as-incurred and as-commissioned approaches. Under clause S6A.2.1 of the NER, in rolling forward the RAB each year during the current regulatory control period, the AER must have regard to actual data such as capex and inflation outcomes. Accordingly, the opening RAB (based on either the partially

⁷ Nominal regulatory depreciation is based on the nominal straight-line depreciation less the inflation applied to the opening RAB.

as-incurred or as-commissioned approaches) for the first year of the current regulatory control period is rolled forward for actual net capex (as-incurred or as-commissioned) and regulatory depreciation values, and adjusted for actual inflation.

It is possible that a TNSP may overspend or underspend the capex allowance during the current regulatory control period. Such variances may be caused by unforeseen increases or decreases in demand, higher than expected costs of construction or forecasting error. The RFM handles such variances by adjusting the closing RAB to reflect the actual capex and actual regulatory depreciation for each year during the current regulatory control period. On the basis of the incentive framework set out in chapter 6A of the NER, there is no additional adjustment in rolling forward the RAB to account for the above/below forecast returns resulting from the respective under/overspend in the current regulatory control period.

For example, in relation to a lower than forecast capex, the TNSP retains both the returns on and of capital associated with the current regulatory control period. Conversely, in relation to a higher than forecast capex, the TNSP is not compensated for the returns on and of capital foregone associated with the current regulatory control period.

The process for rolling forward the RAB from year to year under both the partially as-incurred and as-commissioned approaches for recognising capex is set out in box 4.⁸

⁸ For illustrative purposes this is based on a standard five-year regulatory control period.

Box 4: Rolling forward the RAB (partially as-incurred or as-commissioned) in the current regulatory control period

Rolling forward actual net capex and depreciation amounts into the RAB

Opening RAB (partially as-incurred or as-commissioned) for year 1 of the current regulatory control period

+ Nominal actual net capex (as-incurred or as-commissioned) for year 1

– Nominal actual regulatory depreciation for year 1

= Closing RAB (partially as-incurred or as-commissioned) for year 1 of the current regulatory control period

= Opening RAB (partially as-incurred or as-commissioned) for year 2 of the current regulatory control period

+ Nominal actual net capex for year 2

– Nominal actual regulatory depreciation for year 2

= Closing RAB (partially as-incurred or as-commissioned) for year 2 of the current regulatory control period

= Opening RAB (partially as-incurred or as-commissioned) for year 3 of the current regulatory control period

...

= Closing RAB (partially as-incurred or as-commissioned) for year 5 of the current regulatory control period

= Interim closing RAB (partially as-incurred or as-commissioned) for the current regulatory control period

Where:

- Opening RAB (partially as-incurred or as-commissioned) for year 1 of the current regulatory control period = closing RAB (partially as-incurred or as-commissioned) for the final year of the previous regulatory control period.
- Nominal actual net capex (as-incurred or as-commissioned) = real actual net capex (as-incurred or as-commissioned, including half-nominal vanilla WACC allowance) adjusted for actual inflation.
- Nominal actual regulatory depreciation = Nominal actual straight-line depreciation – actual inflation adjustment on the opening RAB.

Note:

The interim closing RAB (partially as-incurred or as-commissioned) for the current regulatory period becomes the opening RAB (partially as-incurred or as-commissioned) for the next regulatory period after the final adjustments for the previous regulatory control period have been made (these adjustments are included in the **Total actual RAB roll forward** sheet—see box 5 for a description).

Figure 3 provides an example of the **Actual RAB roll forward** sheet.

Figure 3: Actual RAB roll forward sheet

| | A | B | C | D | E | F | G | H | I | J | K | L | M |
|----|---|---|---|---|---|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1 | | | | | | | | | | | | | |
| 2 | | | Asset Base Roll Forward - RFM Version: 2.0 | | | | | | | | | | |
| 3 | | | | | | | | | | | | | |
| 4 | | | Year | | | | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11 |
| 5 | | | | | | | | | | | | | |
| 6 | | | Actual CPI Inflation Rate | | | | 2.36% | 2.98% | 2.44% | 4.24% | 2.47% | 2.89% | 0.00% |
| 7 | | | Actual CPI (one year lagged) | | | | 1.0000 | 1.0236 | 1.0541 | 1.0798 | 1.1256 | 1.1534 | 1.1867 |
| 8 | | | | | | | | | | | | | |
| 9 | | | Asset Values (\$m Real 2004-05) | | | | | | | | | | |
| 10 | | | | | | | | | | | | | |
| 11 | | | Real Actual Net Capex - As Incurred | | | | | 160.84 | 155.77 | 153.40 | 145.90 | 142.68 | - |
| 12 | | | | | | | | | | | | | |
| 13 | | | Real Actual Net Capex - As Commissioned | | | | | 160.84 | 155.77 | 153.40 | 145.90 | 142.68 | - |
| 14 | | | | | | | | | | | | | |
| 15 | | | Real Actual Straight-line Depreciation | | | | | - 116.23 | - 119.36 | - 122.38 | - 125.46 | - 128.39 | - |
| 16 | | | | | | | | | | | | | |
| 17 | | | Asset Values – Partially As Incurred (\$m Nominal) | | | | | | | | | | |
| 18 | | | | | | | | | | | | | |
| 19 | | | Nominal Opening Regulatory Asset Base | | | | 3,500.00 | 3,640.00 | 3,794.24 | 3,925.04 | 4,125.01 | 4,249.74 | 4,388.96 |
| 20 | | | | | | | | | | | | | |
| 21 | | | Nominal Actual Net Capex | | | | 180.00 | 164.63 | 164.20 | 165.64 | 164.22 | 164.56 | - |
| 22 | | | | | | | | | | | | | |
| 23 | | | Nominal Actual Regulatory Depreciation | | | | - 85.00 | - 10.39 | - 33.40 | - 34.34 | - 39.49 | - 25.34 | - |
| 24 | | | | | | | | | | | | | |
| 25 | | | Nominal Prudent Additional Capex Allowance | | | | - | | | | | | |
| 26 | | | | | | | | | | | | | |
| 27 | | | Nominal Foregone Return on Prudent Additional Capex | | | | - | | | | | | |
| 28 | | | | | | | | | | | | | |
| 29 | | | Nominal Forecast Assets Under Construction | | | | 45.00 | | | | | | |
| 30 | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | |
| 32 | | | Nominal Actual Straight-line Depreciation | | | | - 167.58 | - 118.98 | - 125.82 | - 132.15 | - 141.22 | - 148.08 | - |
| 33 | | | | | | | | | | | | | |
| 34 | | | Nominal Actual Inflation on Opening RAB | | | | 82.58 | 108.58 | 92.42 | 166.49 | 101.73 | 122.74 | - |
| 35 | | | | | | | | | | | | | |
| 36 | | | Asset Values – As Commissioned (\$m Nominal) | | | | | | | | | | |
| 37 | | | | | | | | | | | | | |
| 38 | | | Nominal Opening Regulatory Asset Base | | | | 3,500.00 | 3,595.00 | 3,747.90 | 3,877.57 | 4,075.53 | 4,199.04 | 4,336.79 |
| 39 | | | | | | | | | | | | | |
| 40 | | | Nominal Actual Net Capex | | | | 180.00 | 164.63 | 164.20 | 165.64 | 164.22 | 164.56 | - |
| 41 | | | | | | | | | | | | | |
| 42 | | | Nominal Actual Regulatory Depreciation | | | | - 85.00 | - 11.74 | - 34.53 | - 32.32 | - 40.71 | - 26.81 | - |
| 43 | | | | | | | | | | | | | |
| 44 | | | Nominal Prudent Additional Capex Allowance | | | | - | | | | | | |
| 45 | | | | | | | | | | | | | |
| 46 | | | Nominal Foregone Return on Prudent Additional Capex | | | | - | | | | | | |
| 47 | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | |
| 49 | | | Nominal Actual Straight-line Depreciation | | | | - 167.58 | - 118.98 | - 125.82 | - 132.15 | - 141.22 | - 148.08 | - |
| 50 | | | | | | | | | | | | | |
| 51 | | | Nominal Actual Inflation on Opening RAB | | | | 82.58 | 107.24 | 91.29 | 164.47 | 100.51 | 121.27 | - |
| 52 | | | | | | | | | | | | | |

Real asset values

Real asset values are displayed in rows 11 to 465. The real actual net capex values (as-incurred, including a half-nominal vanilla WACC allowance) for each asset class are displayed in rows 12 to 41.⁹ Row 11 displays the sum of each asset class values for those rows. The real actual net capex values (as-commissioned, including a half-nominal vanilla WACC allowance) for each asset class are displayed in rows 44 to 73. Row 43 displays the sum of each asset class values for those rows.

⁹ The half-nominal vanilla WACC is based on a fixed real time varying WACC—that is, a fixed real vanilla WACC adjusted for actual inflation.

The capex values (as-incurred and as-commissioned) for the current regulatory control period (sourced from the **Input** sheet) are those provided by the TNSPs to the AER for the purpose of rolling forward their asset base to the end of the current regulatory control period.

The real actual straight-line depreciation values for each asset class (rows 76 to 465) are calculated based on the opening RAB, actual net capex values (as-commissioned) and asset lives from the **Input** sheet. Row 75 displays the sum of each asset class calculations for those rows.

Nominal asset values—partially as-incurred

Partially as-incurred nominal asset values are displayed in rows 469 to 725. The nominal opening RAB values for each year are displayed in row 469. The nominal opening RAB for the first year of the current regulatory control period (cell G469) is the same value as that calculated in the **Adjustment for previous period** sheet in accordance with box 3.

The nominal opening RAB for the remaining years of the current regulatory control period is calculated in accordance with box 4. The nominal actual net capex values (as-incurred) for each year (row 501) is equal to the real actual net capex values (as-incurred) (row 11) indexed by actual inflation (row 7). The nominal actual regulatory depreciation values (row 533) are calculated as nominal actual straight-line depreciation (row 663) less the actual inflation applied to the opening RAB (row 695).

Nominal asset values—as-commissioned

As-commissioned nominal asset values are displayed in rows 729 to 953. The nominal opening RAB values for each year are displayed in row 729. The nominal opening RAB for the first year of the current regulatory control period (cell G729) is calculated in accordance with box 3, but excluding any adjustment for assets under construction in the previous regulatory control period.

The nominal opening RAB for the remaining years of the current regulatory control period is calculated in accordance with box 4. The nominal actual net capex values (as-commissioned) for each year (row 761) are equal to the real actual net capex values (as-commissioned) (row 43) indexed by actual inflation (row 7). The nominal actual regulatory depreciation (row 793) is calculated as nominal actual straight-line depreciation (row 891) offset by the actual inflation applied to the opening RAB (row 923).

2.4 Total actual RAB roll forward sheet

The **Total actual RAB roll forward** sheet brings together the relevant data from the **Adjustment for previous period** and **Actual RAB roll forward** sheets to calculate the final closing RAB for the current regulatory control period in nominal terms. The sheet is separated into two sections—the first section rolls forward the RAB under the partially as-incurred approach to recognising capex and the second section rolls forward the RAB under the as-commissioned approach to recognising capex.

Partially as-incurred RAB roll forward

Under the partially as-incurred approach to recognising capex, row 7 calculates the opening RAB values for each year of the current regulatory control period, which is based on the interim closing RAB (partially as-incurred) in row 201. The calculations are based on data sourced from the **Actual RAB roll forward** sheet. Similarly, the nominal actual net capex (row 39) and regulatory depreciation (row 71) values (including any additional adjustments that may be required—e.g. prudent additional capex allowance (row 103), foregone return on prudent additional capex (row 135) and assets under construction (row 167)) are sourced from the **Actual RAB roll forward** sheet.

Rows 233 to 359 represent the required adjustments based on the final year of the previous regulatory control period and are sourced from the **Adjustment for previous period** sheet. These adjustments include:

- the difference between forecast and actual net capex (and a compounded return on that difference)
- the difference between forecast and actual assets under construction (and a compounded return on that difference).

The process for calculating the final closing RAB (partially as-incurred) for the current regulatory control period is set out in box 5.

Box 5: Adjusting for the final year of the previous regulatory control period (partially as-incurred)

Calculating the differences between actual net capex and forecast net capex, actual assets under construction and forecast assets under construction, and the compounded return on the differences

Interim closing RAB (partially as-incurred) for the current regulatory control period

+ Difference between nominal actual net capex and forecast nominal net capex (adjusted for actual inflation)

+ Compounded return on that difference for net capex

+ Difference between nominal actual assets under construction and nominal forecast assets under construction

+ Compounded return on that difference for assets under construction

= **Closing RAB (partially as-incurred) for the current regulatory control period**

= **Opening RAB (partially as-incurred) for the first year of the next regulatory control period**

Note:

- The opening RAB (partially as-incurred) for the first year of the next regulatory control period becomes an input into the PTRM for the purposes of determining the return on capital for the next regulatory control period.

The closing RAB (partially as-incurred) for the current regulatory control period is shown in cell L361. This value becomes the opening RAB (partially as-incurred) for the next regulatory control period and is used as an input into the PTRM for calculating the allowed return on capital in the next revenue determination. A break down of the closing RAB values by asset classes are displayed in rows 362 to 391.

As-commissioned RAB roll forward

Under the as-commissioned approach to recognising capex, row 395 calculates the opening RAB values for each year of the current regulatory control period, which is based on the interim closing RAB (as-commissioned) in row 557). The calculations are based on data sourced from the **Actual RAB roll forward** sheet. Similarly, the nominal actual net capex (row 427) and regulatory depreciation (row 459) values (including any additional adjustments that may be required—e.g. prudent additional capex allowance (row 491) and foregone return on prudent additional capex (row 523)) are sourced from the **Actual RAB roll forward** sheet.

Rows 589 to 651 represent the required adjustments based on the final year of the previous regulatory control period and are sourced from the **Adjustment for previous period** sheet. This adjustment includes the difference between forecast and actual net capex (and a compounded return on that difference).

The process for calculating the final closing RAB (as-commissioned) for the current regulatory control period is set out in box 6.

Box 6: Adjusting for the final year of the previous regulatory control period (as-commissioned)

| |
|--|
| Calculating the difference between actual net capex and forecast net capex, and the compounded return on the difference |
| <p>Interim closing RAB (as-commissioned) for the current regulatory control period</p> <p>+ Difference between nominal actual net capex and forecast nominal net capex (adjusted for actual inflation)</p> <p>+ Compounded return on that difference for net capex</p> <p>= Closing RAB (as-commissioned) for the current regulatory control period</p> <p>= Opening RAB (as-commissioned) for the first year of the next regulatory control period</p> |
| <p>Note:</p> <ul style="list-style-type: none"> ▪ The opening RAB (as-commissioned) for the first year of the next regulatory control period becomes an input into the PTRM for the purposes of determining the return of capital (depreciation) for the next regulatory control period. |

The closing RAB (as-commissioned) for the current regulatory control period is shown in cell L653. This value becomes the opening RAB (as-commissioned) for the

next regulatory control period and is used as an input into the PTRM for calculating the allowed return of capital (depreciation) in the next revenue determination. A break down of the closing RAB values by asset classes are displayed in rows 654 to 683.

Figure 4 provides an example of the **Total actual RAB roll forward** sheet.

Figure 4: Total actual RAB roll forward sheet

| | A | B | C | D | E | F | G | H | I | J | K | L |
|-----|---|---|--|---|---|---|----------------|----------------|----------------|----------------|----------------|-----------------|
| 1 | | | | | | | | | | | | |
| 2 | | | Total Asset Base Roll Forward - RFM Version: 2.0 | | | | | | | | | |
| 3 | | | | | | | | | | | | |
| 4 | | | Year | | | | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 |
| 5 | | | Asset Values – Partially As Incurred (\$m Nominal) | | | | | | | | | |
| 6 | | | | | | | | | | | | |
| 7 | | | Nominal Opening Regulatory Asset Base | | | | 3,500.00 | 3,640.00 | 3,794.24 | 3,925.04 | 4,125.01 | 4,249.74 |
| 38 | | | | | | | | | | | | |
| 39 | | | Nominal Actual Net Capex | | | | 180.00 | 164.63 | 164.20 | 165.64 | 164.22 | 164.56 |
| 70 | | | | | | | | | | | | |
| 71 | | | Nominal Actual Regulatory Depreciation | | | - | 85.00 | 10.39 | 33.40 | 34.34 | 39.49 | 25.34 |
| 102 | | | | | | | | | | | | |
| 103 | | | Nominal Prudent Additional Capex Allowance | | | | - | | | | | |
| 134 | | | | | | | | | | | | |
| 135 | | | Nominal Foregone Return on Prudent Additional Capex | | | | - | | | | | |
| 166 | | | | | | | | | | | | |
| 167 | | | Nominal Forecast Assets Under Construction | | | | 45.00 | | | | | |
| 198 | | | | | | | | | | | | |
| 199 | | | Interim Closing Regulatory Asset Base – Partially As Incurred | | | | | | | | | |
| 200 | | | | | | | | | | | | |
| 201 | | | Interim Closing Regulatory Asset Base | | | | 3,640.00 | 3,794.24 | 3,925.04 | 4,125.01 | 4,249.74 | 4,388.96 |
| 232 | | | | | | | | | | | | |
| 233 | | | Difference Between Actual and Forecast Net Capex | | | | | | | | - | 16.91 |
| 264 | | | | | | | | | | | | |
| 265 | | | Return on Difference - Net Capex | | | | | | | | - | 10.30 |
| 296 | | | | | | | | | | | | |
| 297 | | | Difference Between Actual and Forecast Assets Under Construction | | | | | | | | | 5.00 |
| 328 | | | | | | | | | | | | |
| 329 | | | Return on Difference - Assets Under Construction | | | | | | | | | 3.05 |
| 360 | | | | | | | | | | | | |
| 361 | | | Closing Regulatory Asset Base – Partially As Incurred | | | | | | | | | |
| 392 | | | | | | | | | | | | 4,369.79 |
| 393 | | | Asset Values – As Commissioned (\$m Nominal) | | | | | | | | | |
| 394 | | | | | | | | | | | | |
| 395 | | | Nominal Opening Regulatory Asset Base | | | | 3,500.00 | 3,595.00 | 3,747.90 | 3,877.57 | 4,075.53 | 4,199.04 |
| 426 | | | | | | | | | | | | |
| 427 | | | Nominal Actual Net Capex | | | | 180.00 | 164.63 | 164.20 | 165.64 | 164.22 | 164.56 |
| 458 | | | | | | | | | | | | |
| 459 | | | Nominal Actual Regulatory Depreciation | | | - | 85.00 | 11.74 | 34.53 | 32.32 | 40.71 | 26.81 |
| 490 | | | | | | | | | | | | |
| 491 | | | Nominal Prudent Additional Capex Allowance | | | | - | | | | | |
| 522 | | | | | | | | | | | | |
| 523 | | | Nominal Foregone Return on Prudent Additional Capex | | | | - | | | | | |
| 554 | | | | | | | | | | | | |
| 555 | | | Interim Closing Regulatory Asset Base – As Commissioned | | | | | | | | | |
| 556 | | | | | | | | | | | | |
| 557 | | | Interim Closing Regulatory Asset Base | | | | 3,595.00 | 3,747.90 | 3,877.57 | 4,075.53 | 4,199.04 | 4,336.79 |
| 588 | | | | | | | | | | | | |
| 589 | | | Difference Between Actual and Forecast Net Capex | | | | | | | | - | 16.91 |
| 620 | | | | | | | | | | | | |
| 621 | | | Return on Difference - Net Capex | | | | | | | | - | 10.30 |
| 652 | | | | | | | | | | | | |
| 653 | | | Closing Regulatory Asset Base – As Commissioned | | | | | | | | | |
| 684 | | | | | | | | | | | | 4,309.58 |

2.5 Tax value roll forward sheet

The **Tax value roll forward** sheet calculates the nominal opening tax values for each year of the current regulatory control period by taking the opening tax value for the

start of final year of the current regulatory control period and rolling forward for actual net capex (as-commissioned) and tax depreciation values. Since the calculations are based on actual nominal data the roll forward of the tax values does not require any adjustments for inflation.

The process for rolling forward the tax asset values is set out in box 7.¹⁰

Box 7: Rolling forward the tax asset values

| Rolling forward actual net capex and depreciation values into the tax asset base |
|---|
| <p>Opening tax asset value for the first year of the current regulatory control period</p> <ul style="list-style-type: none"> – Nominal forecast net capex for the final year of the previous regulatory control period + Nominal actual net capex for the final year of the previous regulatory control period <p>= Adjusted opening tax asset value for year 1 of the current regulatory control period</p> <ul style="list-style-type: none"> + Nominal actual net capex for year 1 – Nominal actual tax depreciation for year 1 <p>= Closing tax asset value for year 1 of the current regulatory control period</p> <p>= Opening tax asset value for year 2 of the current regulatory control period</p> <p>...</p> <p>= Closing tax asset value for year 5 of the current regulatory control period</p> <p>= Opening tax asset value for the first year of the next regulatory control period</p> |
| <p>Where:</p> <ul style="list-style-type: none"> ▪ Nominal actual net capex = nominal actual capex – nominal actual asset disposals. ▪ Nominal actual tax depreciation = nominal actual straight-line tax depreciation. <p>Note:</p> <p>The closing tax asset value for the current regulatory control period becomes the opening tax asset value for the next regulatory control period.</p> |

¹⁰ For illustrative purposes this is based on a standard five-year regulatory control period.

Figure 5 provides an example of the **Tax value roll forward** sheet.

Figure 5: Tax value roll forward sheet

| | A | B | C | D | E | F | G | H | I | J | K | L | M |
|-----|---|--|---|---|---|---|---|----------|----------|----------|----------|----------|----------|
| 1 | | | | | | | | | | | | | |
| 2 | | Tax Asset Value Roll Forward - RFM Version: 2.0 | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | |
| 4 | | Year | | | | | | | | | | | |
| 5 | | Tax Values (\$m Nominal) | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | |
| 7 | | Opening Tax Asset Values | | | | | | 2,777.00 | 2,827.00 | 2,873.57 | 2,916.71 | 2,956.30 | 2,992.33 |
| 38 | | | | | | | | | | | | | |
| 39 | | Actual Net Capex | | | | | | 157.00 | 157.00 | 157.00 | 157.00 | 157.00 | - |
| 70 | | | | | | | | | | | | | |
| 71 | | Actual Tax Depreciation | | | | | | - 107.00 | - 110.43 | - 113.86 | - 117.41 | - 120.97 | - |
| 462 | | | | | | | | | | | | | |

Opening tax asset values

The opening tax asset value at the start of the first year of the current regulatory control period is adjusted by removing forecast capex for the final year of the previous regulatory control period so that actual capex for that year is included in the tax asset base. Rows 8 to 37 roll forward the tax asset values for each asset class by taking the previous year’s nominal opening tax asset value, then adding nominal actual net capex (as-commissioned) for the year and subtracting nominal actual tax depreciation for the year.

Based on the sum of each asset class calculations for those rows, the opening tax asset value for each year of the current regulatory control period is displayed in row 7. These values are calculated in accordance with box 7. The opening tax asset value for the next regulatory control period is shown in cell M7. This value is used as an input into the PTRM for calculating the tax depreciation in the next revenue determination. A break down of the closing tax asset values by asset classes are displayed in cells M8 to M37.

Actual net capex

The actual net capex values for each asset class (rows 40 to 69) are calculated by taking nominal actual capex (as-commissioned) from the **Input** sheet (rows 143 to 172) and subtracting nominal actual de-commissioned assets from the same sheet (rows 177 to 206). Row 39 displays the sum of each asset class calculations for rows 40 to 69.

Actual tax depreciation

The actual tax depreciation values for each asset class (rows 72 to 461) are calculated based on the nominal opening tax asset values, nominal actual net capex (as-commissioned) values and tax asset lives, in accordance with the straight-line method. Row 71 displays the sum of each asset class calculations for those rows.

2.6 Asset lives roll forward sheet

The **Asset lives roll forward** sheet calculates the average remaining lives of each asset class at the end of the current regulatory control period using a weighted average method. These weighted average remaining lives are used as inputs to the PTRM for the next regulatory control period to calculate the depreciation values in the next

revenue determination. The inputs for these calculations are sourced from the **Input** and **Actual RAB roll forward** sheets.

The process for calculating the weighted average remaining lives is set out in box 8.

Box 8: Calculating the weighted average remaining asset lives

| Calculating the weighted average remaining asset lives for the end of the current regulatory control period by asset class |
|--|
| <p>Opening RAB for year 1</p> <p>– Total real actual depreciation on opening RAB</p> <p>= Closing capital value of opening RAB</p> <p>Real actual net capex for year 1</p> <p>– Total real actual depreciation on net capex for year 1</p> <p>= Closing capital value of net capex for year 1</p> <p>...</p> <p>Sum of closing capital values</p> <p>= Total closing capital value for the asset class</p> |
| <p>Opening RAB average remaining life – length of current regulatory control period</p> <p>= Closing average remaining life of opening RAB</p> <p>Asset class standard life – number of years of depreciation applied to capex for year 1</p> <p>= Closing average remaining life of capex for year 1</p> <p>...</p> |
| <p>Closing capital value of opening RAB ÷ Total closing capital value for the asset class</p> <p>× Closing average remaining life of opening RAB</p> <p>+</p> <p>Closing capital value of net capex for year 1 ÷ Total closing capital value for the asset class</p> <p>× Closing average remaining life of capex for year 1</p> <p>+</p> <p>...</p> <p>= Weighted average remaining life for the asset class</p> |

Where:

- Opening RAB for year 1 = closing RAB for the final year of the previous regulatory control period
- Total real actual depreciation on opening RAB = the sum of the real actual depreciation on opening RAB calculated for the current regulatory control period
- Real actual net capex = real actual net capex (including half-nominal vanilla WACC allowance)
- Total real actual depreciation on net capex = the sum of the real actual depreciation on net capex calculated for the current regulatory control period
- The opening RAB average remaining life is that used for the current revenue determination.
- The asset class standard life is that used for the current revenue determination.

In calculating the weighted average remaining lives for each asset class, the remaining life of each capital stream (representing the opening asset value or any capex value in each year of the regulatory control period) is weighted by the associated level of closing capital (or asset) value (column E) as a proportion of the total closing capital value of the asset class. The resulting average remaining lives for each capital stream and the total weighted average remaining life for the asset class are shown in column F. A break down of the weighted average remaining lives by asset classes are displayed in cells F19 to F425.

Closing tax values and average tax remaining lives are calculated using inputs from the **Input** and **Tax value roll forward** sheets. The weighted average tax remaining lives are calculated similar to the process described in box 8.

In calculating the weighted average tax remaining lives for each asset class, the tax remaining life of each tax capital stream (representing the opening tax asset value or any capex value in each year of the regulatory control period) is weighted by the associated level of closing tax capital value (column J) as a proportion of the total closing tax capital value of the asset class. The resulting average tax remaining lives for each tax capital stream and the total weighted average tax remaining life for the asset class are shown in column K. A break down of the weighted average remaining lives by asset classes are displayed in cells K19 to K425.

Figure 6 provides an example of the **Asset lives roll forward** sheet.

Figure 6: Asset lives roll forward sheet

| | A | B | C | D | E | F | G | H | I | J | K |
|----|---|---|--------------------|---|---------------------|------------------------|---|---|---|-------------------|----------------------------|
| 1 | | | | | | | | | | | |
| 2 | | Average Remaining Asset Lives Roll Forward - RFM Version: 2.0 | | | | | | | | | |
| 3 | | | | | | | | | | | |
| 4 | | | | | | | | | | | |
| 5 | | Closing Asset Values and Lives | | | (\$m Real 2005-06) | (Age in years) | | | | (\$m Nominal) | (Age in years) |
| 6 | | | | | Closing Asset Value | Average Remaining Life | | | | Closing Tax Value | Average Tax Remaining Life |
| 19 | | | Transmission lines | | 2,039.78 | 24.94 | | | | 1,496.33 | 21.92 |
| 33 | | | Substations | | 1,139.83 | 28.29 | | | | 934.00 | 24.17 |
| 47 | | | Land | | 607.14 | - | | | | 585.00 | - |
| 61 | | | - | | - | - | | | | - | - |

2.7 Output summary sheet

The **Output summary** sheet outlines the opening RAB values (columns J and K) and the opening tax values (column N) for the next regulatory control period. These values are set out by asset classes in rows 7 to 36, based on the closing RAB and tax asset values as determined in the RFM. The average remaining lives for regulatory and tax purposes, and the base financial year for the start of the next regulatory control period are also displayed in columns L, O and Q respectively. All values are outputs from the RFM that need to be entered into the **Input** sheet of the PTRM for the next regulatory control period. The information from the **Output summary** sheet is sourced from the **Input, Total actual RAB roll forward, Tax value roll forward and Asset lives roll forward** sheets.

Figure 7 provides an example of the **Output summary** sheet.

Figure 7: Output summary sheet

| | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | |
|----|---|---|--------------------|---|---|---------------------------------------|-------------------------------|----------------------|---|-------------------|-----------------------------------|--------------------------|---------------------|--|--|
| 1 | | | | | | | | | | | | | | | |
| 2 | | Output Summary - RFM Version: 2.0 | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | Opening Regulatory Asset Base for 2010-11 (\$m Nominal) | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | Asset Class Name | | | Opening Asset Value (Partially As Incurred) | Opening Asset Value (As Commissioned) | Average Remaining Life (Year) | Standard Life (Year) | | Opening Tax Value | Average Tax Remaining Life (Year) | Tax Standard Life (Year) | Base Financial Year | Length of Regulatory Control Period (Year) | |
| 8 | | Asset Class 1 | Transmission lines | | 2,327.40 | 2,287.60 | 24.94 | | | 1,466.33 | 21.92 | | | 2010-11 | |
| 9 | | Asset Class 2 | Substations | | 1,341.27 | 1,328.07 | 28.29 | | | 944.00 | 24.17 | | | | |
| 10 | | Asset Class 3 | Land | | 701.12 | 693.71 | - | | | 582.00 | - | | | | |
| 11 | | Asset Class 4 | - | | - | - | - | | | - | - | | | | |
| 37 | | Total | | | 4,369.79 | 4,309.58 | | | | 2,992.33 | | | | | |