



Final decision

Amendment

Electricity transmission network service providers

Roll forward model (version 3)

23 October 2015

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Shortened forms

Shortened form	Extended form
AER	Australian Energy Regulator
Capex	Capital expenditure
CESS	Capital expenditure sharing scheme
CPI	consumer price index
DMS	data management system
MAR	maximum allowed revenue
NEM	National Electricity Market
NER	National Electricity Rules
PTRM	post-tax revenue model
RAB	regulatory asset base
RFM	roll forward model
TAB	tax asset base
TNSP	transmission network service provider
WACC	weighted average cost of capital
WARL	weighted average remaining lives

1 Introduction

The Australian Energy Regulator (AER) is responsible for the economic regulation of prescribed transmission services provided by transmission network service providers (TNSPs) in the National Electricity Market (NEM), in accordance with the National Electricity Rules (NER).

Chapter 6A of the NER requires the AER to prepare and publish a roll forward model (RFM) for the regulatory asset base (RAB) of TNSPs.¹ In September 2007 we published the first version (version 1) of the RFM for TNSPs. In December 2010, we published a second version (version 2).² In July 2015, we released an *Explanatory statement* of proposed amendments to the RFM (version 3) for consultation. One submission was received from AusNet Services on the proposed amendments. This final decision explains our final position on the amendments that have been adopted for version 3 of the RFM.

Version 3 is necessary to allow continuation of certain regulatory approaches. We use the RFM to determine the closing RAB value for a regulatory control period. This value becomes the opening RAB used in the post-tax revenue model (PTRM) for the purposes of making a revenue determination for the next regulatory control period.

In modelling the revenue requirements for a TNSP we use the PTRM. The PTRM employs certain assumptions, including how capital expenditure (capex) is to be recognised. The PTRM for TNSPs recognises capex on a 'partially as-incurred' approach—that is, the return on capital is calculated recognising capex on an as-incurred basis and the return of capital (regulatory depreciation) is calculated recognising capex on an as-commissioned basis. This approach requires the TNSPs to provide two profiles of capex:

1. As-incurred capex—this represents the profile of capex as-spent (incurred) in each year of the regulatory control period. This is used to calculate the return on capital building block.
2. As-commissioned capex—this represents the profile of capex reflecting when assets are commissioned (placed in service) in each year of the regulatory control period. This is used to calculate the depreciation building block.

As a result, two RABs are rolled forward over the regulatory control period:

1. A partially as-incurred RAB—the opening RAB is rolled forward by adding as-incurred capex, subtracting straight-line depreciation based on as-commissioned capex/RAB and indexation of opening RAB by actual inflation.
2. An as-commissioned RAB—the opening RAB is rolled forward by adding as-commissioned capex, subtracting straight-line depreciation based on as-commissioned capex/RAB and indexation of opening RAB by actual inflation.

¹ NER, clause 6A.6.1(b).

² The AER's explanatory statement provided a list of previous changes to the RFM. See AER, *Explanatory statement, Proposed amendment, Electricity transmission network service providers, Roll forward model (version 3)*, July 2015, p. 1.

Version 2 of the RFM allowed for rolling forward both sets of capex profiles into the RAB to obtain the two closing RABs. However, version 2 of the RFM only accommodated one opening RAB as an input to RFM itself. This was because there was only a single RAB at that time, since TNSPs were transitioning to apply the partially as-incurred approach to recognising capex. Separate as-commissioned and partially as-incurred RABs have since developed. In order to continue with recognising capex under the partially as-incurred approach in the RFM, version 3 of the RFM has been modified to allow for inputs associated with both an opening partially as-incurred RAB and an opening as-commissioned RAB, rather than a single opening RAB.

Version 3 is also necessary to provide flexibility to implement recent changes to the regulatory framework.

First, the amendments reflect the AER's new *Capital expenditure incentive guideline*, which sets out the use of forecast depreciation to roll forward the RAB in conjunction with the application of a capital expenditure sharing scheme (CESS).³ Version 2 of the RFM used only an actual depreciation approach (straight-line method) to roll forward the RAB. Under this approach the depreciation deducted from the RAB depended on the actual capex commissioned and rolled into the RAB during the regulatory control period, rather than that forecast at the time of the reset. Version 3 of the RFM has been modified to give the option for selecting a forecast or actual depreciation approach to be used to roll forward the RAB. The forecast depreciation approach deducts the real forecast depreciation approved at the time of the previous reset from the RAB, and does not adjust for actual capex. This matches what the TNSP received in real depreciation allowed during the regulatory control period. This policy change also has consequential impacts on the way remaining asset lives are calculated in the RFM.

Second, the amendments reflect the AER's new *Rate of return guideline*, which allows for an annual update of the return on debt.⁴ Version 3 of the RFM has been modified to accommodate inputs for different annual rates of return.

Version 3 also allows us to make changes to the spreadsheet so that it can be automatically integrated into the AER's data management system (DMS). The DMS allows us to centrally store and easily retrieve data from all our regulatory processes. These changes do not affect the functionality of the spreadsheet.

Section 4 explains the above changes, and other minor changes, in further detail. The consultation conducted on the proposed version of the RFM is discussed in section 5.

³ AER, *Better regulation, Capital expenditure incentive guideline*, November 2013, pp. 21–22.

⁴ AER, *Better regulation, Rate of return guideline*, December 2013, p. 19.

2 NER requirements

The NER allows the AER to amend or replace the RFM and sets out the requirements the AER must comply with in doing so.⁵ The AER released an explanatory statement and proposed RFM (version 3) on 8 July 2015. Interested parties were allowed no less than 30 business days to make submissions to the AER, which closed on 19 August 2015.⁶

Within 80 business days of publishing the proposed amended RFM we must publish:⁷

- our final decision that sets out:
 - the amended model
 - the provision of the NER under which the model is being amended
 - the reasons for the amendment; and
- a notice of the making of the final decision.

This final decision fulfils these requirements in accordance with the NER.

The NER also sets out the required contents of the RFM.⁸ It must include the method for rolling forward the RAB from one regulatory control period to the next regulatory control period, and from one regulatory year to the next regulatory year in the same regulatory control period.

We must also have regard to provisions related to the RAB contained in schedule 6A.2 of the NER. This schedule covers:

- establishment of the opening RAB for a regulatory control period
- adjustments for prudent and efficient capex
- decision on depreciation approach based on forecast or actual capex
- circumstances where other assets may be removed from the RAB
- how the (forecast) roll forward should occur within the regulatory control period.

⁵ NER, cl. 6A.6.1(c).

⁶ NER, cls. 6A.20(b) and (c).

⁷ NER, cl. 6A.20(e).

⁸ NER, cl. 6A.6.1(e).

3 Reasons for the RFM

The principal reason for the RFM is to calculate the value of the closing RAB for a regulatory control period by rolling forward the RAB for each regulatory year of a regulatory control period to reflect:

- additions for actual capex
- reductions for the disposal value of assets
- reductions for depreciation
- indexation for actual inflation
- adjustment for the difference between estimated and actual capex for a previous regulatory control period
- other adjustments for removal or addition of assets made under certain circumstances (such as a change in service classification) in accordance with the NER.

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 RAB values from the RFM are inputs into the PTRM, where they are rolled forward from one regulatory year to the next regulatory year on a forecast indicative basis. They are used in the PTRM as part of the calculation of the annual building block revenue requirements.

4 Amendments

This section sets out our amendments to the RFM for the TNSPs and the associated handbook. Table 1 shows which worksheets have been amended or added.⁹

A summary of changes is provided in the 'Intro' worksheet to the RFM.

Table 1 Changes to the transmission RFM worksheets

Old RFM worksheets	Status	New RFM worksheets
Intro	Minor changes only	Intro
N/a	Added	DMS input
Input	Amended	RFM input
Adjustment for previous period	Amended	Adjustment for previous period
Actual RAB roll forward	Amended	RAB roll forward
Total actual RAB roll forward	Amended	Total RAB roll forward
Tax value roll forward	Amended	TAB roll forward
Asset lives roll forward	Split/amended	RAB remaining lives
Asset lives roll forward	Split/amended	TAB remaining lives
Output summary	Minor changes only	PTRM input summary

The amended RFM and handbook are at appendices A and B respectively. The changes are now discussed in more detail.

4.1 Accommodating the as-commissioned opening RAB

We apply a partially as-incurred approach to the recognition of capex for TNSPs. Capex can be recognised as it is incurred (spent) or when the asset is commissioned (put into service). In the PTRM for TNSPs, the partially as-incurred approach provides for the return on capital to be calculated using a RAB determined on an as-incurred basis and the return of capital (regulatory depreciation) is calculated using a RAB determined on an as-commissioned basis.

Version 2 of the RFM was modified to allow the roll forward of two closing RABs based on as-commissioned capex and as-incurred capex. This was because all TNSPs transitioned from a single RAB to recognising capex under the partially as-incurred approach resulting in the need to keep track of two RABs. The change was consistent with the PTRM which required inputs for the two separate RABs. Version 2 of the RFM, however, only accommodated a single RAB as an input to itself.

⁹ Minor changes relate to formatting, labelling or formula updates which, while noted for completeness, are not consequential to the operation of the RFM.

For the next round of transmission determinations the RFM will also require these two separate RAB inputs consistent with the PTRM. To accommodate the separate opening RAB values—one based on rolling in as-commissioned capex and another based on rolling in as-incurred capex—amendments have been made to the *'RFM input'* worksheet in the proposed RFM to allow for inputs associated with the as-commissioned RAB. The formulae on the RAB roll forward calculations for the *'Adjustment for previous period'*, *'RAB roll forward'*, *'Total RAB roll forward'* and *'TAB roll forward'* worksheets have also been amended to accommodate these inputs.

These modifications were already included in the proposed RFM we published for consultation in July 2015. There were no comments on these changes, and no additional modifications have been made for this issue in the final RFM.

4.2 Forecast or actual depreciation in RAB roll forward

To date, all versions of the RFM calculated the depreciation based on actual capex for use in the RAB roll forward. This approach is referred to as an 'actual depreciation' approach. The use of actual depreciation reflected in part that there was no capex incentive schemes applied in the past. Under an actual depreciation approach the TNSP keeps the difference between actual and forecast depreciation over the regulatory control period if it can reduce its actual capex below the amount that was forecast.

However, in recent decisions and based on the development of our *Capital expenditure incentive guideline*, we applied the CESS and decided that in future a 'forecast depreciation' approach—where the real forecast depreciation amount (based on forecast capex) approved at the last reset for the TNSP—be used to roll forward the RAB.¹⁰ Using the forecast depreciation amount to roll forward the RAB means a service provider would not receive any windfall gain/loss in terms of depreciation from actual capex being different from that forecast.¹¹ The forecast depreciation subtracted from the RAB therefore reflects the amount that was recovered by the TNSP during the regulatory control period.

Accordingly, we have created a section for recording forecast depreciation inputs in the *'RFM input'* worksheet of the proposed RFM. The formulae in the *'RAB roll forward'* and *'Total RAB roll forward'* worksheets have also been amended to allow either the forecast depreciation approach or actual depreciation approach to be used to roll forward the RAB. The forecast depreciation amounts are entered in real terms, so that actual inflation is applied as part of the RAB roll forward, consistent with other components of the RAB.

These modifications were already included in the proposed RFM we published for consultation in July 2015. There were no comments on these changes, and no additional modifications have been made for this issue in the final RFM.

¹⁰ A recent discussion on the choice of depreciation approach was in the AER decision on TransGrid. See AER, *Draft decision: TransGrid transmission determination 2015–16 to 2017–18, Attachment 2: Regulatory asset base*, November 2014, pp. 14–15 and AER, *Final decision: TransGrid transmission determination 2015–16 to 2017–18, Attachment 2: Regulatory asset base*, April 2015, p. 6.

¹¹ The tax asset base is rolled forward using depreciation based on actual capex, consistent with the tax framework.

4.3 Remaining asset lives

The adoption of forecast depreciation in the RAB roll forward requires a modification to the way the weighted average remaining asset lives (WARL) of each asset class is calculated for the RAB. This is because any differences between forecast and actual capex could impact the weighting of the old and new assets.¹² The distortion created by any forecast error could result in an asset life that does not reflect the nature of the asset class over the economic life of that asset class.¹³

To prevent any forecast error in capex from distorting the WARL, we have extended the current calculations and propose to track the remaining asset life of each year of capex separately over the period of its standard life. Version 2 of the RFM calculated the WARL only over the 5 years of the current regulatory control period. Version 3 of the RFM will allow the WARL to be calculated over multiple regulatory control periods. For example, after 20 years of using version 3 of the RFM there would be 20 disaggregated yearly capex expenditures for each asset class with their remaining lives separately tracked.¹⁴ These lives are then weighted by the expected remaining value of each year of capex, depreciated under a straight-line method and based on the expected standard life of the asset class when the capex was incurred.

These calculations are made in the '*RAB remaining lives*' worksheet for the RAB and the '*TAB remaining lives*' worksheet for the tax asset base (TAB). These two worksheets are also set up to accommodate the historical capex data needed to track the remaining asset lives year-by-year. There would be no historical capex for the first time the version 3 of the RFM is used as there is no scope to go back further than the remaining asset lives the AER last approved.¹⁵ In subsequent resets, the historical capex from earlier regulatory control periods would have to be recorded as inputs to the RFM.

These modifications were already included in the proposed RFM we published for consultation in July 2015. AusNet Services submitted that the calculation of remaining asset lives needed to account for the remaining life of end of period adjustments.¹⁶ We discuss the additional modifications that have been made to address this issue in the next section. This included consequential changes to the formulae used to calculate the WARL for RAB and TAB purposes.

¹² For example, forecast depreciation for an asset class may be \$60 million over the regulatory control period. However, based on actual capex the actual depreciation is \$40 million. This means that \$20 million of the \$60 million removed from this asset class for forecast depreciation at the end of the regulatory control period relates to assets that never existed (although the revenue was received by the TNSP). To not control for this impact would distort the remaining asset lives of actual assets (based on existing and new assets actually commissioned during the regulatory control period) in that asset class.

¹³ NER, clause 6A.6.3 (b)(1).

¹⁴ Year-by-year tracking of remaining asset lives also allows accurate switching back to an actual depreciation approach if required.

¹⁵ The first application of version 3 of the RFM results in the same WARLs as if version 2 were used a last time.

¹⁶ AusNet Services, *Proposed amendments to the electricity transmission roll forward model (RFM)*, 17 August 2015, p. 3.

4.4 End of period adjustments

The proposed RFM included new input sections where end of period adjustments could be made. This allowed additions to or deductions from specific asset classes at the end of a regulatory control period. As an example, if assets were reclassified from prescribed transmission services to negotiated transmission services, an end of period deduction could be used to remove the value of the reclassified assets from the relevant asset class in the RFM. Such an adjustment was not possible in version 2 of the RFM, and so an ad-hoc modification to the base template was required on occasion.

The proposed RFM did not include an input for the remaining life associated with the asset adjustment. In effect, this meant an implicit assumption that the adjustment had not changed the remaining life of the asset class. AusNet Services submitted that such an input was necessary to accurately track the roll forward of the remaining lives for the RAB and TAB.¹⁷ We agree that, in conjunction with the other changes made to the tracking of remaining asset lives, the absence of such adjustment may lead to material inaccuracies.¹⁸

Accordingly, the final version of the RFM now includes a section in the '*RFM input*' worksheet where the remaining asset life of each adjustment for RAB and (separately) TAB purposes may be recorded.¹⁹ The RFM does not track the remaining asset life of each end of period adjustment separately, as it does for each year of capex. Instead, each asset class has a single remaining asset life for all end of period adjustments. When a new end of period adjustment is made, the RFM calculates the WARL of the end of period adjustment and the residual value (if any) of earlier end of period adjustments. Given the infrequency of these adjustments (at most once per regulatory control period) this provides a reasonable balance between complexity and accuracy.

AusNet Services also submitted that it would need to true-up previous end of period adjustments to account for the difference between estimates and actuals.²⁰ We consider that including such a feature in the final RFM template would add significantly to the complexity of the spreadsheet, but would only be relevant to a very limited number of TNSPs. In our proposed handbook released with the explanatory statement, we noted:²¹

In general, TNSPs that have other RAB adjustments made in the final year of the previous regulatory control period will not require a true-up. However, in certain circumstances, a TNSP may have other final year asset adjustments for the previous regulatory control period that require a true-up. In this case, the RFM calculations would need to be expanded to accommodate the true-up using the same principles set out for the final year net capex true-up.

¹⁷ AusNet Services, *Proposed amendments to the electricity transmission roll forward model (RFM)*, 17 August 2015, p. 3.

¹⁸ This assumption is reasonable if the added or removed assets had approximately the same remaining life as the asset class as a whole; or if the value of the added or removed assets was small relative to the value of the asset class as a whole. This was usually the case in version 2 of the PTRM. However, the change to year-by-year tracking alters the frame of reference to be the disaggregated years of capex, instead of the asset class as a whole. This makes it more likely that the remaining life of the added or removed assets will have a material effect.

¹⁹ The remaining asset life for RAB purposes may differ from the remaining tax asset life for TAB purposes.

²⁰ AusNet Services, *Proposed amendments to the electricity transmission roll forward model (RFM)*, 17 August 2015, pp. 2–3.

²¹ AER, *Explanatory statement, Proposed amendment, Electricity transmission network service providers, Roll forward model handbook*, July 2015, p. 15.

In keeping with AusNet Services' submission, we intend to implement such an adjustment via an ad-hoc modification to the base RFM template as required.²²

4.5 Annual WACC updates

The weighted average cost of capital (WACC) is used as an input to the RFM to:

- account for the timing assumption of capex being rolled into the RAB
- calculate the accumulated return on capital associated with the difference between actual and estimated capex used in the previous regulatory control period.

The proposed RFM has been modified so that it can accommodate different annual WACCs over the regulatory control period in the '*RFM input*' worksheet. This change is a consequence of changes to the PTRM (version 3) in January 2015 providing for annual WACC updates during the regulatory control period.²³ Consistent with the changes to the PTRM, the proposed RFM gives effect to the AER's *Rate of return guideline*, which allows for an annual update for the return on debt.²⁴

These modifications were already included in the proposed RFM we published for consultation in July 2015. There were no comments on these changes, and no additional modifications have been made for this issue in the final RFM.

4.6 Input worksheet for AER data management system

We have developed a data management system (DMS) to collect data from regulatory information notices and from the various regulatory models. We have added a new '*DMS input*' worksheet to help our system ingest the relevant data from the RFM. This worksheet has no impact on the operation of the RFM. The worksheet previously labelled '*Input*' has been renamed '*RFM input*' to distinguish the two input worksheets. The TNSP will need to complete both input worksheets when submitting its proposed RFM. The additional information required is minimal (contact details and a few cells identifying the context for the RFM submission).

These modifications were already included in the proposed RFM we published for consultation in July 2015. There were no comments on these changes. There have been some minor modifications to the back-end sections of the RFM that interface with the DMS. However, these changes do not affect the end-user operation of the RFM.²⁵

²² Such modifications may be made to the '*Adjustment for previous period*', '*RAB roll forward*' and '*Total RAB roll forward*' worksheets to accommodate the true-up.

²³ Refer to the explanatory statement for the PTRM amendment for background on this change. See AER, *Explanatory statement: Proposed amendment, Electricity transmission and distribution network service providers, Post-tax revenue models (version 3)*, 3 October 2014, pp. 10–11.

²⁴ AER, *Better regulation, Rate of return guideline*, December 2013, p. 19.

²⁵ In the proposed RFM, protection of the back-end DMS integration meant that no additional worksheets could be added to the workbook. This was inadvertent, and in the final RFM users may once more add worksheets to the workbook (as requested by AusNet Services).

4.7 Presentational and other functional improvements

We have taken the opportunity to improve the presentation and functionality of some calculations in the RFM by making a few minor presentational and operational changes. The changes include:

- Extending the number of asset classes from 30 to 50.
- Adjusting the minimum supported regulatory control period length from five years to two years for displaying RAB roll forward outputs.
- Adding a section for inputs relating to asset adjustments at the end of the regulatory control period—for example, due to a change in service classification
- Removing sections that were made redundant or replicated in other worksheets.

Relative to the proposed RFM, we have made a few labelling improvements for the final RFM. This also includes some minor updates to the handbook to improve clarity on several issues. We also removed the CPI input for the penultimate year of the previous regulatory control period as this value is no longer required for use in the RAB roll forward process.

5 Consultation

This section highlights the consultation that has been undertaken with stakeholders and our response to an issue raised in a submission which we have not accepted.

5.1 Initial consultation

In early 2015, we undertook initial consultation with some TNSPs, including the relevant industry body, Grid Australia. We provided them with a draft model and asked for feedback.

The responses from this initial round of consultation then informed our preparation of the July 2015 proposed RFM. Our explanatory statement sets out in more detail the issues arising from this initial consultation and how the proposed RFM addressed these issues.

5.2 Submissions on proposed amendments

We received one submission on the proposed RFM, from AusNet Services.²⁶ A number of the points made by AusNet Services have been reflected in the amendments for the final RFM, and we discuss these where relevant in section 4. However, there was one issue where we have not accepted AusNet Services' proposal. This is discussed below.

5.2.1 RAB indexation using actual or lagged CPI

In our proposed RFM, the opening RAB for each year was indexed by actual inflation (using the consumer price index, CPI) for that year.²⁷ Other components of the roll forward, including the indexation of net capex and depreciation, use an inflation measure lagged by one year (lagged CPI) to bring them into nominal terms.²⁸ This approach is consistent with the previous version of the transmission RFM, as well as the current version of the RFM for distribution networks.

In our explanatory statement, we asked for comment on this approach which had been established during our previous development process for the AER models in 2007. The only submission, from AusNet Services, supported a change.²⁹ AusNet Services submitted that it would be simpler to index the opening RAB using lagged CPI as with the other components, and that this would also be consistent with the methodology used in the calculation of annual maximum allowed revenue (MAR).

After consideration of the material before us, we have decided to maintain the approach from the proposed RFM in the final RFM. We agree that the consistent treatment of inflation

²⁶ AusNet Services, *Proposed amendments to the electricity transmission roll forward model (RFM)*, 17 August 2015.

²⁷ Generally, the CPI proxy will be the year ending six months before the end of the relevant regulatory year (though some TNSPs are still using a three month gap and will transition to six months to fit with new annual pricing rules). This six month gap allows the publication of CPI figures and implementation in the annual revenue adjustment. The six month offset is not considered contentious so long as it is consistently implemented.

²⁸ As with the previous footnote, the CPI proxy will generally end six months before the commencement of the relevant year, for a total lag of eighteen months.

²⁹ AusNet Services, *Proposed amendments to the electricity transmission roll forward model (RFM)*, 17 August 2015, p. 2.

indexation within the RFM is desirable. Above this, we also seek consistent treatment of inflation across the RFM, PTRM and the annual revenue adjustment process where revenue outcomes (and end user prices) are determined. It is not possible to use a single 'correct' inflation outcome across all of these regulatory elements. Using the PTRM, we make a regulatory determination and set the MAR in advance using inflation forecasts. Subsequently, at each annual revenue adjustment during the regulatory control period, prior year inflation outcomes are known but the expected inflation for the relevant year must still be forecast. At the next regulatory determination when the RFM is used, inflation outcomes for all years of the previous regulatory control period are known. Overall, the joint effect of the inflation treatment across these regulatory elements should be to minimise the distortions arising from the difference between inflation forecasts and inflation outcomes (that is, errors in the inflation forecast used to set the MAR).

We are satisfied that the approach in the final RFM implements the appropriate treatment of inflation across regulatory elements, even though this means different inflation treatment for different RFM components. The interactions are complex. The annual revenue adjustment will use inflation outcomes lagged by one year, because it must occur before the commencement of the relevant year for transmission pricing purposes. The indexation in the RFM of depreciation and net capex by lagged inflation to bring them into nominal terms will align them with the annual revenue adjustment. Indexing the opening RAB by actual CPI will ensure that the real value of the RAB is preserved, which aligns with the underlying premise for the PTRM.³⁰

We have reviewed some sensitivity testing to examine the impact of errors in the inflation forecast across a five year regulatory control period. Overall, the final RFM approach appears to outperform a consistently lagged approach where the opening RAB, depreciation and net capex are all indexed by lagged inflation. Outperformance in this context means that the final RFM approach produces a smaller departure from the revenue outcomes that would have arisen if inflation had been forecast accurately. However, there are scenarios where the general result is reversed, suggesting that no one approach is preferred in all circumstances.

As a final consideration, we note that our explanatory statement highlighted this issue for comment from affected stakeholders.³¹ We received only one response, which does not suggest that there is a broad consensus for change from the current approach.

³⁰ AusNet Services stated that the NERA consultant report underlying the current approach did not set out a clear rationale for applying actual CPI to the RAB indexation. We have reviewed the NERA report and agree that it only deals implicitly with the indexation of the opening RAB using actual CPI. Nonetheless, the worked examples in that report do indicate that the RAB should be indexed using actual CPI and so support the approach in the final RFM. NERA, *AER's first proposed post-tax revenue model, roll forward model and efficiency benefit sharing scheme, Report for Electricity Transmission Network Owners Forum*, 1 May 2007, pp. 5–7.

³¹ AER, *Explanatory statement, Proposed amendment, Electricity transmission network service providers, Roll forward model (version 3)*, July 2015, p. 10.

Appendices

The appendices include the final amended model and handbook. There is a high level summary of changes for version 3 in the *'Intro'* worksheet of the RFM and a detailed list of changes in appendix C.

Appendix A: Roll forward model (transmission)

Appendix B: Roll forward model handbook (transmission)

Appendix C: List of changes from previous version of RFM