Jemena Electricity Networks (Vic) Ltd

2016-20 Electricity Distribution Price Review Regulatory Proposal

Revocation and substitution submission

Attachmet 5-4 Asset base roll-forward and depreciation

Public

6 January 2016

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ABBREVIATIONS

AER	Australian Energy Regulator
capex	Capital Expenditure
CESS	Capital Efficiency Sharing Scheme
CPI	Consumer Price Index
EB RINs	Economic Benchmarking Regulatory Information Notices
ESC	Essential Services Commission
Incenta	Incenta Economic Consulting
JEN	Jemena Electricity Networks (Vic) Ltd
NEO	National Electricity Objective
NER	National Electricity Rules
Optimal NEO Position	The position which contributes to the achievement of the NEO to the greatest degree and best promotes the long term interests of consumers of electricity.
PTRM	Post-tax Revenue Model
RAB	Regulatory Asset Base
RBA	Reserve Bank of Australia
RFM	Roll-forward Model
TAB	Taxation Asset Base
WACC	Weighted Average Cost of Capital
WARL	Weighted Average Remaining Life

OVERVIEW

Key messages

- We generally agree with the key aspects of the preliminary decision with respect to the regulatory asset base (**RAB**), the taxation asset base (**TAB**) and associated depreciation. However we have some specific concerns with the application of historical inflation to index the RAB.
- We do not agree with the preliminary decision approach to RAB indexation because it:
  - Creates a misalignment of inflation treatment between the RAB and the control mechanism
  - Results in one year of inflation being 'skipped' and unused, understating the RAB indexation.
- We also do not agree with the preliminary decision's substitute net capex forecast because it does not allow JEN to recover its efficient costs or meet its obligations and customers' expectations, and thus does not promote the **Optimal NEO Position**[1] (see Attachment 7-1 for more detail).
- Since our April 2015 proposal, we have given further detailed consideration to the method to estimate forecast inflation over the 2016 regulatory period because current market expectations have diverged materially from the preliminary decision forecasts. Our submission now applies the 'break even' method which provides a more reasonable estimate in the current market conditions (see Attachment 6-1 for more detail).
- We welcome the preliminary decision's feedback on the approach to estimate the remaining asset lives as at 1 January 2016, and this submission incorporates the use of the 'year on year' or 'baseline' method because it:
  - Produces depreciation schedules that reflect the nature of the assets and their economic life, and
  - Ensures that total depreciation (in real terms) equals to the initial value of the assets.[2]
- We believe that setting the opening RAB and TAB values and rolling these forward appropriately serves the long-term interests of customers, ensuring that we have a reasonable opportunity to recover our efficient costs so we have the right incentives to invest, operate and maintain our network. It also promotes the efficient use of our network.
- We also welcome the preliminary decision to largely accept our proposed approaches to other key areas—which we maintain in this submission—such as:
  - Using the Australian Energy Regulator's (**AER's**) post-tax revenue model (**PTRM**) to forecast the RAB and TAB to 31 December 2020 (applied appropriately so that the value of the RAB is adjusted for actual inflation consistently with the method used for indexation of the control mechanism)
  - Estimating the standard asset lives
  - Setting up the opening TAB value as at 1 January 2016
  - Transitioning to nominal straight-line depreciation method for tax purposes over the 2016 regulatory period.
- Our submission also agrees with the preliminary decision and incorporates the use of the 'forecast' depreciation method when rolling forward the RAB to 1 January 2021 because the capital efficiency sharing scheme (**CESS**)—in combination with the use of 'forecast' depreciation—provides sufficient incentives for Jemena Electricity

[1] The position which contributes to the achievement of the National Electricity Objective (**NEO**) to the greatest degree and best promotes the long term interests of consumers of electricity

[2] National Electricity Rules (**NER**), cl. 6.5.5(b)(2)

Networks (Vic) Ltd (**JEN**) to achieve the capex incentive objective.

- Our submission includes an opening RAB value as at 1 January 2016 of $1,198.6m ($nominal), forecast to grow to $1,693.7m ($nominal) by 31 December 2020.
- For the calculation of the corporate income tax (a building block component), our submission also includes an opening TAB value as at 1 January 2016 of $754.6m ($nominal), forecast to grow to $1,392.3m ($nominal) by 31 December 2020.

1. Table OV–1 summarises our response to the preliminary decision.

Table OV–1: Overview of our submission response to the preliminary decision

Issue	Preliminary decision	Our response to PD	Our submission
Opening RAB as at 1 January 2016			
Historical inflation used for RAB indexation	Substituted the application of the 'lagged' inflation index with an 'un-lagged' index for RAB indexation	✗	Same as our April 2015 proposal, and consistent with the method used for indexation of the control mechanism
Adjustment for previous period capex			
Previous period rate of return	Removed the half-year WACC allowance for 2010 actual net capex	✓	Adopted position in the preliminary decision
Capitalised finance charges	Removed capitalised finance charges from 2011 actual capex	✓	Adopted position in the preliminary decision
Forecast closing RAB as at 31 December 2020			
Forecast inflation	Applied the AER's current approach (since AusNet Services 2009 transmission determination), i.e. using the geometric mean of two years of RBA data, and eight years of mid-point of target inflation, noting our position that a review of the AER's current approach may be required if current market conditions persist	✗	Since our April 2015 proposal, we have reviewed the AER's current approach and in this submission we propose a 'break even' method to estimating forecast inflation in light of current market conditions
Forecast net capital expenditure	Substituted our proposed net capex forecast with its own alternative	✗	Revisited our position from our April 2015 proposal (see Attachment 7-1)
Forecast regulatory depreciation	Accepted the real straight line depreciation method for new assets, but substituted forecast depreciation for existing assets using the 'year on year' tracking or 'baseline' method.	✓	Adopted position in the preliminary decision
Standard asset lives	Accepted our proposed approach to determining standard asset lives for existing asset classes, except for the 'SCADA/Network control' asset class	✓	Adopted position in the preliminary decision

Issue	Preliminary decision	Our response to PD	Our submission
Remaining asset lives	Did not accept our proposed 'average depreciation' method to calculate remaining asset lives at 1 January 2016	✓	Adopted position in the preliminary decision—using the 'year on year tracking' or 'baseline' method).
Taxation asset base			
Tax depreciation	Accepted our proposal to use the nominal straight line depreciation method	✓	Adopted position in the preliminary decision
Opening TAB as at 1 January 2016	Accepted our proposed method to establish the opening TAB as at 1 January 2016, *but* not the amount (removed the capitalised finance charges from 2011 capex) and included a 'land' asset class.	✓	Adopted position in the preliminary decision
Tax standard asset lives	Accepted our proposed approach to determining standard tax asset lives, except for the 'SCADA/Network control' and 'equity raising cost' asset classes	✓	Adopted position in the preliminary decision
Tax remaining asset lives	Accepted our proposed method (i.e. tax standard asset life x ratio of RAB remaining life : RAB standard asset life)	✓	Adopted position in the preliminary decision
Closing TAB as at 31 December 2020	Accepted our use of the AER's PTRM to calculate forecast TAB as at 31 December 2020	✓	Adopted position in the preliminary decision

2. The April 2015 proposal (together with any supporting material contained or referred to in the April 2015 proposal) is incorporated into, and forms part of, this submission.

1. REGULATORY ASSET BASE

3. The RAB is rolled forward over two regulatory periods:

   - The 2011 regulatory period—to establish the opening RAB as at 1 January 2016
   - The 2016 regulatory period—to establish the closing RAB as at 31 December 2020.

4. The AER deals with the first roll forward of the RAB in Attachment 2 of its preliminary decision and the second roll forward of the RAB in Attachment 5. Our submission below follows this same structure, and includes other topics such as adjustment for previous period capex, previous rate of return input, capitalised finance charges and others.

1.1 OPENING RAB AS AT 1 JANUARY 2016

1.1.1 HISTORICAL INFLATION INPUTS TO RFM

5. JEN welcomes the issues raised in the preliminary decision about actual inflation inputs to the roll-forward model (**RFM**). For the purpose of this document, and for clarity, JEN describes the relevant inflation or CPI measure as:

   - **'Un-lagged inflation'**—interpreted as being the actual inflation measure (for year t), calculated as the annual change in Consumer Price Index (**CPI**) from September quarter t-1 to the September quarter t over the 2011 regulatory period, and using the June quarter over the 2016 regulatory period, hence the 'unlagged' terminology
   - **'Lagged inflation'**—interpreted as being the actual inflation measure (for year t), calculated as the annual change in CPI from September quarter t-2 to the September quarter t-1 over the 2011 regulatory period, and using the June quarter over the 2016 regulatory period, hence the 'one-year lagged' terminology used by the AER in its preliminary decision.

1.1.2 JEN'S APRIL 2015 PROPOSAL

6. As noted in the RFM submitted by JEN, we amended the formula to ensure that nominal 2011 dollars are converted to real 2010 dollars using the inflation rate of 2.79%—which is a one year 'lagged inflation' from September 2010 to September 2009—because the inputs are in end-year dollars.[3] That is, the amendment was necessary to ensure that the 'lagged inflation' series was used to escalate the opening RAB in the 'Actual Roll-forward RAB' sheet (cells H6:L6). The amendment sought to use the lagged series at cells G177:L177 of the 'input' sheet, and so required changes to the indexation at cells H178:Q178 of the same sheet to ensure that the index remained lagged.

7. These amendments are consistent with the amendments contained in JEN's responses to the AER's economic benchmarking regulatory information notices (**EB RINs**), submitted to the AER in April 2014 and April 2015.[4] As

[3] JEN, *JEN Roll Forward Model – Distribution*, April 2015, Attachment 06.03, Input sheet, row 178, column R

[4] See: JEN Basis of Preparation document submitted with the response to the RIN on 30 April 2014, p 42, where JEN noted that in rolling forward the RAB two adjustments were made to the RFM, being: (a) adjustment made within the "*total actual RAB roll forward*" sheet to take into account the difference between forecast capex and actual capex for the regulatory year 2005 as well as the return on the difference, and (b) adjustment made within the "*Input*" sheet to amend the CPI index (one year lagged) to ensure the nominal capex spent in the regulatory year 2011 is deflated to real 2009-10 dollars using an index of 1.0279 (using a year on year Dec-quarter

discussed below, the amendments to the RFM are necessary to ensure consistency between the roll forward of the RAB with the method used for indexation of the control mechanism for standard control services in the preceding regulatory control period.

1.1.3 PRELIMINARY DECISION

8. The preliminary decision noted that the RFM submitted by JEN contained actual inflation inputs that were already one year lagged observations and that JEN had amended the coding in the RFM to account for the one year 'lagged inflation' rate inputs.[5] The preliminary decision did not consider it appropriate for JEN to change the method set out in the RFM and replaced JEN's 'lagged inflation' inputs so that they are recorded in the year related to their measure (i.e. 'unlagged inflation') and removed JEN's coding changes to the indexation formula.[6]

9. On its review of the RFM published with the preliminary decision, JEN identified that the AER applied a September to September quarter ('un-lagged inflation') rate to roll forward the RAB. In this respect the preliminary decision states:[7]

> *Our approach to RAB indexation in the template RFM is to apply a one year lagged inflation rate to net capex and straight-line depreciation consistent with the method of indexation used in the control mechanism. The actual CPI rate is used to index the opening RAB in the FRM. In order to do this, the RFM requires each actual CPI rate measured for a year to be recorded in that specific year (un-lagged). These actual observations are converted as part of coding within the RFM into a one year lagged index for use in the RAB roll forward process.*

1.1.4 JEN'S RESPONSE AND THIS SUBMISSION

10. JEN's primary concern with the preliminary decision on the opening RAB as at 1 January 2016 is the AER's use of 'un-lagged inflation' to roll forward the RAB to 1 January 2016.

11. Consistent with the control mechanism applicable for standard control services over the 2011 regulatory period—used to determine prices in each year of the regulatory period—where a 'lagged inflation' index is used, consistency requires the RAB to be rolled forward using lagged inflation. This is both as a matter of logic and is required by clause 6.5.1(e)(3) of the National Electricity Rules (**NER**). In this submission, we have therefore maintained the amendments made to the RFM (from our April 2015 proposal) to ensure that the adjustments made to the RAB for actual inflation are consistent with the method used for the indexation of the control mechanism for standard control services during the preceding regulatory control period.

12. There is no disagreement (between JEN and the AER) on the application of lagged CPI figures used in the control mechanism to set tariffs. However, there is disagreement as to the AER's use of 'unlagged inflation' to escalate the RAB from the opening value in 2011 to the opening value in 2016.

13. Table 1–1 compares the CPI index and CPI rates for the years 2006 to 2015 applied in JEN's April 2015 proposal, the preliminary decision and JEN's submission, including JEN's position on the preliminary decision. It further highlights that JEN disagrees with the CPI indexes and rates applied in the preliminary decision for the years 2011 to 2015.

14. Table 1–1 further suggests that the opening RAB value as at 2011 had been escalated using lagged CPI. In the preliminary decision, however, the AER calculates the opening 2016 RAB value using unlagged CPI. This

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inflation of 2.79%) instead of 1.26%. The same adjustment was made in the information submitted on 30 April 2015, with some further amendments identified. See: JEN Basis of Preparation document submitted with the response to the RIN on 30 April 2015, p 28

5 AER, *Preliminary Decision, Jemena distribution determination 2016 to 2020, Attachment 2*, p 2-14

6 Ibid, p 2-14

7 Ibid, p 2-14

results in one year of inflation—the figure of 2.79% for 2011 and highlighted in blue—being skipped. JEN considers that the NER require the RAB to be rolled forward using lagged inflation and, therefore, has made appropriate adjustments to the RFM—as JEN did in its April 2015 proposal—so that it has this effect.

Table 1–1: Application of CPI measures for the RAB indexation. %.

Year	April 2015 proposal and control mechanism (3)		Preliminary decision		JEN's position	JEN's submission and control mechanism (3)	
	CPI index	CPI	CPI index	CPI		CPI index	CPI
2006	Sep 04 – Sep 05	3.03%	Sep 04 – Sep 05	3.03%	✓	Sep 04 – Sep 05	3.03%
2007	Sep 05 – Sep 06	3.94%	Sep 05 – Sep 06	3.94%	✓	Sep 05 – Sep 06	3.94%
2008	Sep 06 – Sep 07	1.86%	Sep 06 – Sep 07	1.86%	✓	Sep 06 – Sep 07	1.86%
2009	Sep 07 – Sep 08	4.98%	Sep 07 – Sep 08	4.98%	✓	Sep 07 – Sep 08	4.98%
2010	Sep 08 – Sep 09	1.26%	Sep 09 – Sep 10	1.26%	✓	Sep 08 – Sep 09	1.26%
2011	Sep 09 – Sep 10	2.79%	Sep 10 – Sep 11	3.52%	✗	Sep 09 – Sep 10	2.79%
2012	Sep 10 – Sep 11	3.52%	Sep 11 – Sep 12	2.00%	✗	Sep 10 – Sep 11	3.52%
2013	Sep 11 – Sep 12	2.00%	Sep 12 – Sep 13	2.16%	✗	Sep 11 – Sep 12	2.00%
2014	Sep 12 – Sep 13	2.16%	Sep 13 – Sep 14	2.31%	✗	Sep 12 – Sep 13	2.16%
2015	Sep 13 – Sep 14	2.31%	Placeholder (1)	2.31%	✗	Sep 13 – Sep 14	2.31%

(1) In the preliminary decision, the AER used 2.31% as a placeholder for 2015 as inflation to September 215 was not available at the time. If the approach from the preliminary decision remains unchanged, the AER would apply 1.51% for 2015.

(2) The inflation figure of 2.79% (in blue) for 2011 (from JEN's April 2015 proposal and this submission) is 'skipped' and is not used by the AER in its preliminary decision RFM.

(3) The April 2015 proposal and JEN's submission mirror the CPI in the AER approved annual control mechanism to set JEN's tariffs.

15. In light of the comment in the preliminary decision that the one year 'lagged inflation' index is to be used for the RAB roll forward process—but the apparent use by the AER of 'un-lagged inflation' to roll forward the RAB—we sought clarification from the AER as to whether it intended using 'un-lagged inflation' to roll-forward the RAB while using 'lagged inflation' to escalate net capital expenditure (**capex**) and depreciation.[8]

16. In response to our request for clarification, the AER stated that in the preliminary decision it intended to apply a one year 'lagged inflation' rate to net capex and straight-line depreciation, and actual inflation observations ('un-lagged') to calculate indexation of the opening RAB component of regulatory depreciation.[9] The AER noted:

> *We are satisfied that this approach meets clause 6.5.1(e)(3) of the NER to adjust the RAB for actual inflation, consistent with the method of indexation used in the control mechanism. Our preliminary decision is also consistent with the treatment of indexation set out in the distribution*

8 Letter from JEN (Robert McMillian) to AER (Anthony Bell), 13 November 2015

9 Email from AER (Moston Neck) to JEN (Ana Dijanosic), 1 December 2015

> *RFM template, prepared and published in accordance with the NER. The issue of inflation indexation was discussed in section 4.3 of the explanatory statement, and section 5.2.2 of the final decision. We are satisfied that our approach to indexation of the RAB meets the relevant NER requirements [clauses 6.4.3(b)(1) and 6.5.1(a)-(e)]. We also consider that this approach implements the appropriate treatment of inflation across regulatory elements to minimise the distortions arising from the difference between inflation forecasts and actual inflation, even though this means different inflation treatment for different RFM components. Our recent decision on amendments to the transmission RFM template considered this matter in greater detail as set out in section 5.1 of the explanatory statement and section 5.2.1 of the final decision.*

17. JEN disagrees that the different treatment of inflation in rolling forward of the RAB and for the control mechanism is consistent with the requirements of the NER.

18. Clause 6.5.1(e)(3) provides that under the RFM:

> *the roll forward of the regulatory asset base from the immediately preceding regulatory control period to the beginning of the first regulatory year of a subsequent regulatory control period entails the value of the first mentioned regulatory asset base being adjusted for actual inflation, consistently with the method used for the indexation of the control mechanism (or control mechanisms) for standard control services during the preceding regulatory control period.*

19. JEN does not understand how the AER can maintain that its adjustment of the RAB for actual inflation using 'unlagged inflation' when the control mechanism for standard control services uses 'lagged inflation', can be consistent with the requirements of the NER. The control mechanism for standard control services in the 2011 regulatory period used a one year 'lagged inflation' to determine prices in each year of that period.

20. Clause 6.5.1(e)(3) requires the RAB to be adjusted for actual inflation consistently with the method used for the indexation of the control mechanism during the preceding regulatory control period. It is difficult to see how the use of 'un-lagged inflation' to roll forward the RAB could be considered to be consistent with the method used for indexation of the control mechanism. There are very few elements to the method used for the indexation of the control mechanism, relevantly:

- Inflation is measured by reference to CPI measures published by the RBA for the September to September quarter
- It is applied on a one year lagged basis.

21. Clause 6.5.1(e)(3) therefore requires that this method be applied consistently to the roll forward of the RAB. The incorrect application of inflation to the RAB by the AER is highlighted in blue (and circled) above—which shows that using 'un-lagged inflation' in the manner proposed by the AER results in one year of inflation being skipped. Not only is such an approach illogical, but the skipping of one year of inflation in rolling forward the RAB is also an aspect of inconsistency between the roll forward of the RAB and the method used for indexation of the control mechanism for standard control services.

22. As noted in the quote above, one justification given by the AER for applying different inflation treatment to different RFM components is because the AER considers that this approach minimises the distortions arising from the difference between inflation forecasts and actual inflation. In support of this proposition, the AER cites materials that it published in connection with amendments to the *transmission* RFM. However, the material referred to does not support the statement made by the AER.

23. The AER's final decision on the amendments to the transmission RFM notes:[10]

> *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 the circumstances.*

24. Therefore, even if the NER permitted the AER to apply inflation

- Inconsistently to the RFM components and
- Inconsistently as between the RAB and the control mechanism (which JEN submits the NER does not),

it is not correct that such inconsistent application is preferred because it results in a smaller departure from the revenue outcomes that would arise if inflation were forecast accurately.

25. It is also not clear what assumptions and method the AER used in its sensitivity testing and whether these are reasonable, or whether the results actually support the AER's conclusion.

1.1.4.1 RAB RFM modifications

26. In the preliminary decision, the AER has adopted inflation rates and inflation escalators for the years 2010 to 2015 in cells I17:N17 and I18:N18 of the 'Inputs' worksheet of its depreciation model, equivalent to those used in cells G177:L177 and G178:L178 in the 'Input' worksheet in the AER's RFM. Consequently, when the AER calculates the sum of depreciation for each asset class from 2016 to 2070, there is a resultant mismatch between the sum of depreciation for each asset class and the 2016 opening RAB value for that asset class. The AER's ad hoc solution to this mismatch is to implement a 'required' adjustment,[11] which serves to equate the sum of depreciation for each asset class with the corresponding closing RAB value of that asset class.[12]

27. The AER's published RFM embodies a manifest error in that the inflation measure used in indexing the RAB for inflation in year t is lagged by one year when it is used for real to nominal year t dollar conversions. This issue cannot be remedied by means of the selection of actual CPI inflation rates inputs to the RFM, as it is a product of the RFM's coding. Rather, it must be remedied by modifying the AER's published RFM and, accordingly, we propose a modification to render consistent the inflation measures used in the RFM for each of the indexation of the RAB for inflation and the real to nominal dollar conversions of net capital expenditure and depreciation.

28. As a result of our proposed modification:

- **Consistency between control mechanism and RAB indexation**—the inflation value used in the control mechanism for a particular year should be entered in the same year in the RFM (in row 177 of the 'Input' worksheet). As a consequence of the coding in the RFM, for a particular year, the same inflation value used in the control mechanism is used to inflate the RAB; and
- **Consistency between RAB indexation and inflation of inputs**—those inflation values are also used to calculate the inflation escalators in the RFM (in row 178 of the 'Input' worksheet), which are used to convert net capital expenditure and depreciation between real 2010 dollars and nominal dollars. The internally inconsistent treatment of actual inflation inputs in the AER's current RFM (i.e. the misalignment between

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10 AER, *Electricity Transmission Network Service Providers – Roll Forward Model Amendment: Final Decision*, 23 October 2015, p 12

11 AER, *Preliminary decision Jemena – Depreciation (baseline method)* – October 2015, 'PTRM_comparison' worksheet, cells S24:T30

12 AER, *Preliminary decision Jemena – Depreciation (baseline method)* – October 2015, 'PTRM Inputs' worksheet, cells C23:H35

inflation rates in row 177 and inflation escalators in row 178 of the 'Input' worksheet respectively) can be fixed by amending the formula in row 178 such that the inflation escalator for year t is equal to the inflation escalator for year t-1 multiplied by one plus the inflation for year t (instead of for year t-1).

29. We also adjusted the formula within the AER's depreciation model[13] (embedded within our distribution services PTRM) to ensure the consistent treatment of actual inflation inputs between the RAB RFM and depreciation models.

30. We contend that, as the AER's published RFM embodies a manifest error, the AER has power to, and acting correctly and reasonably must, correct this error in making its final determination.

1.2 ADJUSTMENT FOR PREVIOUS PERIOD CAPEX

1.2.1 JEN'S APRIL 2015 PROPOSAL

31. The RFM includes a comment in cell F6 of the 'Adjustment for previous period' tab, stating that the required input (here the actual CPI inflation rate for 2009), should be '*consistent with the annual adjustments to the form of control'.*

32. To give effect to the RFM comment, JEN included an input of 4.98%, using the 'lagged inflation' index (i.e. annual CPI change from September quarter 2007 to September quarter 2008).

1.2.2 PRELIMINARY DECISION

33. The preliminary decision replaced JEN's actual inflation input of 4.98% (using the 'lagged inflation' index) with 1.26% (which is based on the 'unlagged inflation' index).

1.2.1 JEN'S RESPONSE AND THIS SUBMISSION

34. JEN disagrees with the preliminary decision and as noted above, to ensure consistent application of the 'lagged inflation' when rolling forward inputs to the RAB, we maintain our April 2015 proposal input of 4.98% in cell F6 of the 'Adjustment for previous period' tab to apply 'lagged inflation' to the difference between the 2009 actual and estimated capex.

1.3 PREVIOUS PERIOD RATE OF RETURN INPUT

1.3.1 JEN'S APRIL 2015 PROPOSAL

35. We included a nominal half-year weighted average cost of capital (**WACC**) and forecast inflation rate of 8.61% and 2.56% respectively in cells G182 and G179 of the RFM, which resulted in a nominal WACC (fixed real time varying) of 7.24% in cell G184.

36. This nominal WACC is used to convert actual 2010 net capex from real 2010 dollars, to nominal dollars [i.e. nominal 2010 net capex = real 2010 net capex x (1 + nominal WACC)^0.5], to give effect to the assumed half-year timing of the net capex spend (i.e. incurred in the middle of 2010).

[13] JEN, *Attachment 05.02 – JEN SCS Distribution – PTRM*, 'Inputs' worksheet, cells J18:S18.

1.3.2 PRELIMINARY DECISION

37. The preliminary decision removed the half-year WACC allowance by setting the 2010 nominal (fixed real time varying) WACC cell to zero in the roll forward model.[14]

1.3.3 JEN'S RESPONSE AND THIS SUBMISSION

38. JEN agrees that this adjustment is appropriate and consistent with the approach applied to 2010 capex in the revenue modelling by the Essential Services Commission (**ESC**)[15] for the 2006 regulatory period.

1.4 CAPITALISED FINANCE CHARGES

1.4.1 JEN'S APRIL 2015 PROPOSAL

39. For 2011, JEN included an actual gross capex amount of $132.47m ($nominal), which is consistent with the amount reported within its 2011 annual RIN response to the AER.

1.4.2 PRELIMINARY DECISION

40. The preliminary decision noted that JEN's actual gross capex of $132.47m ($nominal) for 2011 included an amount of $2.67m ($nominal) in respect of capitalised finance charges[16], which the AER deducted off the 2011 actual gross capex on a pro-rata basis across the relevant RAB asset classes.

41. As set out in the preliminary decision, JEN confirmed, in response to an information request from the AER, that the inclusion of this amount was an oversight.[17]

1.4.3 JEN'S RESPONSE AND THIS SUBMISSION

42. We agree that the preliminary decision to remove the amount included in respect of capitalised finance charges on a pro-rata basis is appropriate.

43. In the response to the information request, we also noted that gross capex and tax additions—which roll into both the RAB and the TAB—should be consistent. We explained that in practice, the capitalised finance charges are included in JEN's statutory asset register (as per Australian accounting standards), but excluded from our statutory tax asset register (as per current Australian tax law), which is consistent with the exclusion of these charges from the tax asset base.

44. Therefore, in this submission, we adjust the roll forward model for both the RAB and the TAB accordingly.

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14 AER, *Preliminary Decision, Jemena distribution determination 2016 to 2020, Attachment 2*, p 2-14

15 AER, *JEN RFM – MR.xls*, 5 Oct 2012

16 AER, *Preliminary Decision, Jemena distribution determination 2016 to 2020, Attachment 2*, p 2-15

17 AER, *Preliminary Decision, Jemena distribution determination 2016 to 2020, Attachment 2*, p 2-15; JEN, *JEN AER IR#010 : Response to AER Questions*, 10 July 2015, p 6

1.5 FORECAST CLOSING RAB AS AT 31 DECEMBER 2020

45. Our primary concern with the preliminary decision on the forecast closing RAB as at 31 December 2020 is with the AER's approach to forecast inflation to index the RAB and the forecast net capex rolling into the RAB. We have otherwise incorporated the preliminary decision on standard asset lives and remaining asset lives in this submission.

46. We submit that a closing RAB value as at 31 December 2020 of $1,693.7m ($nominal) should be adopted in the final decision.

47. The key inputs roll forward the RAB to 31 December 2020, being:

- Forecast inflation
- Forecast net capex
- Forecast regulatory depreciation
- Standard asset lives
- Remaining asset lives.

48. Our position and any associated adjustments arising from the preliminary decision are described in detail in the sections below.

1.6 INPUTS REQUIRED TO ROLL FORWARD RAB TO 31 DECEMBER 2020

1.6.1 FORECAST INFLATION

1.6.1.1 JEN's April 2015 proposal

49. Since the AusNet Services transmission determination in 2009, the AER has established the expected inflation rate by taking a simple average of the RBA forecasts of short-term inflation extending out to two years and the mid-point of the RBA's target inflation band for the remaining years in the 10 year period.

50. In its April 2015 proposal, JEN included 2.52% as forecast inflation using the method adopted by the AER since the AusNet Services 2009 determination. JEN noted that there had not been a detailed examination of the way in which inflation is estimated since 2008 and that there were indications that the factual circumstances upon which the current approach is based may have changed. JEN noted that it would continue to monitor this issue during the course of the determination process and, if necessary, put forward further analysis on whether the approach adopted since the AusNet Services transmission determination continues to meet the requirements of the NER.[18]

1.6.1.2 Preliminary decision

51. The preliminary decision adopted the inflation forecasting method used by the AER since the AusNet services 2009 transmission determination. The preliminary decision replaced JEN's forecast inflation assumption of 2.52% with 2.50% to reflect the latest Reserve Bank of Australia (**RBA**)'s latest forecasts.

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[18] JEN, *2016-20 Electricity Distribution Price Review Regulatory Proposal,* Attachment 9-2 Rate of return proposal, p 110

1.6.1.3 JEN's response and this submission

52. JEN does not agree with the preliminary decision on forecast inflation.

53. As noted above, in JEN's April 2015 proposal, we stated that we would continue monitoring the appropriateness of the AER's current approach to forecast inflation. We noted that if there is a mismatch between market expectations and the results of applying the AER's current approach, then we would propose an alternative approach that better matches those expectations is used—such as the implied inflation from comparing nominal and real CGS yields.[19]

54. Since our April 2015 proposal, we have reviewed the AER's current approach. This submission adopts an inflation forecast of 2.19%. The issue of forecast inflation is dealt with in detail in section 5 of attachment 6-1 on the rate of return, gamma and forecast inflation.

1.6.2 FORECAST NET CAPITAL EXPENDITURE

55. As set out in Attachment 7-1, we submit forecast net capex for the 2016 regulatory period is $709.1m ($2015, including equity raising costs) and, therefore, adopt this forecast in rolling forward the RAB.

1.6.3 FORECAST REGULATORY DEPRECIATION

1.6.3.1 JEN's April 2015 proposal

In its April 2015 proposal, JEN proposed that:

- For existing assets, regulatory depreciation to be calculated as the opening RAB value divided by the weighted average remaining lives (subject to a constraint where the latter is less than five years)
- For new assets, regulatory depreciation is calculated using a real straight line depreciation method based on forecast net capex and standard asset lives assumptions.

1.6.3.2 Preliminary decision

56. The preliminary decision considered and agreed that a real straight line depreciation approach based on forecast net capex and opening RAB values (and associated weighted average remaining lives) for existing assets should be used.[20]

1.6.3.3 JEN's response and this submission

57. JEN agrees that it is appropriate to adopt a depreciation approach based on forecast net capex in circumstances where the CESS will apply to JEN in the 2016 regulatory period. We agree that the application of the CESS, together with the other incentives in the NER, provides sufficient incentives for JEN to achieve capex efficiency gains over the 2016 regulatory period.

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19 JEN, *2016-20 Electricity Distribution Price Review Regulatory Proposal,* Attachment 9-2 Rate of return proposal, p 110

20 AER, *Preliminary Decision, Jemena distribution determination 2016 to 2020, Attachment 2*, p 2-16

1.6.4 STANDARD ASSET LIVES

1.6.4.1 JEN's April 2015 proposal

58. In its April 2015 proposal, JEN proposed updates to the standard asset lives for each asset class to reflect:

- The mix of capex (by component asset) proposed for the 2016 regulatory period, and
- Revised economic lives for component assets.

59. Attachment 7-4 of JEN's regulatory proposal calculates these standard asset lives. JEN considers that standard lives for depreciating assets should reflect the best estimate of the expected economic lives of the component assets that aggregate into the RAB asset classes.

1.6.4.2 Preliminary decision

60. The preliminary decision was to accept JEN's proposed approach to determining standard asset lives for existing asset classes, except for the SCADA/Network control asset class (where the AER replaced the standard asset life with 10 years).[21] In addition, the preliminary decision included an additional 'Land' asset class.[22]

1.6.4.3 JEN's response and this submission

61. JEN's submission maintains the approach used in its April 2015 proposal to estimate standard asset lives and updates the standard asset lives for the RAB asset classes sub transmission, distribution system assets, non-network IT and non-network other, but has adopted the standard asset life of 10 years for SCADA/Network control (as per the preliminary decision).

62. In relation to adding a new land asset class, consistent with the preliminary decision, we submit that it is appropriate for the forecast capex on land to be allocated to a separate 'land' asset class and not assigned with a standard asset life.

63. JEN further agrees that land should be retained as a separate asset class in the TAB to be consistent with the treatment in the RAB.

1.6.5 REMAINING ASSET LIVES

1.6.5.1 JEN's April 2015 proposal

64. In its April 2015 proposal, JEN proposed the average depreciation method to calculate the weighted average remaining asset lives as at 1 January 2016.

1.6.5.2 Preliminary decision

65. The preliminary decision was not to accept JEN's proposed average depreciation method to calculate remaining asset lives at 1 January 2016.[23] Instead, the preliminary decision applied a new approach to determine the depreciation of existing assets whereby the capex for each year of a regulatory control period will be

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21 AER, *Preliminary Decision, Jemena distribution determination 2016 to 2020, Attachment 5*, pp 5-10 to 5-11

22 AER, *Preliminary Decision, Jemena distribution determination 2016 to 2020, Attachment 5*, p 5-10

23 AER, *Preliminary Decision, Jemena distribution determination 2016 to 2020, Attachment 5*, p 5-12

depreciated separately.[24] The preliminary decision referred to this approach as the 'year-by-year tracking approach'.

1.6.5.3 JEN's response and this submission

66. Following the AER's final decision in relation to SA Power Networks and JEN's review of that decision and the material submitted in respect of that decision,[25] JEN has incorporated the year-by-year tracking approach in this submission.

Difficulty with the weighted average remaining life method

67. Along with CitiPower and Powercor, JEN commissioned a report from Incenta Economic Consulting (**Incenta**) to review various depreciation methods.[26] Incenta explained that the primary difficulty with the weighted average remaining life (**WARL**) method is that it results in an understatement of the required depreciation in the earlier years of the life of the assets and an overstatement of the required depreciation in later years (in fact after the individual assets have been fully depreciated).[27] As identified by Houston Kemp, this issue gives rise to intergenerational equity issues with customers paying substantially more or less than what would be warranted if assets were more accurately depreciated.[28]

68. The preliminary decision also identifies this difficulty.[29]

> *Like the average depreciation approach [under the WARL approach], there will be some years where depreciation is received earlier than the underlying economic life of the assets. However, there will also be some years where depreciation is received later than the underlying economic life of the assets.*

69. The year-by-year tracking approach produces depreciation schedules that more accurately reflect, relative to the WARL approach, the actual remaining asset lives of individual assets.[30] This is because the year-by-year tracking approach reduces the impact of mixing old and new assets in the same class and the resulting distortion in average remaining lives, relative to the actual remaining lives of the assets in each class. As such, the year-by-year tracking approach has the advantage that prices will more closely reflect costs associated with assets that are actually in use, which may also smooth out cost-based prices over time.

70. As noted in the Incenta report on depreciation:[31]

> *I note that a desirable outcome for regulatory purposes of depreciating assets individually is that as replacement capital expenditure takes place and so enters the regulatory asset base, the asset being replaced is fully depreciated and so no longer reflected in the regulatory asset base. The*

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24 AER, *Preliminary Decision, Jemena distribution determination 2016 to 2020, Attachment 5*, p 5-12

25 AER, *SA Power Networks Determination 2015-16 to 2019-20: Final Decision*, October 2015, Attachment 5, Regulatory Depreciation; SA Power Networks, *Revised Regulatory Proposal 2015-20*, July 2015, pp 403–412; Houston Kemp, *Analysis of Different Approaches to Calculating Remaining Lives: Report for SA Power Networks*, June 2015; Incenta, *Calculation of Straight Line Depreciation – Review of the AER's Approximate Calculation: CitiPower, Powercor and Jemena Electricity Networks*, July 2015 (submitted by CitiPower / Powercor in the SA Power Networks regulatory process)

26 Incenta, *Calculation of Straight Line Depreciation – Review of the AER's Approximate Calculation: CitiPower, Powercor and Jemena Electricity Networks*, July 2015

27 Incenta, *Calculation of Straight Line Depreciation – Review of the AER's Approximate Calculation: CitiPower, Powercor and Jemena Electricity Networks*, July 2015, [42]

28 Houston Kemp, *Analysis of Different Approaches to Calculating Remaining Lives: Report for SA Power Networks*, June 2015, p 13

29 AER, *Preliminary Decision, Jemena distribution determination 2016 to 2020, Attachment 5*, pp 5-15 to 5-16

30 Houston Kemp, *Analysis of Different Approaches to Calculating Remaining Lives: Report for SA Power Networks*, June 2015, pp 7–8.

31 Incenta, *Calculation of Straight Line Depreciation – Review of the AER's Approximate Calculation: CitiPower, Powercor and Jemena Electricity Networks*, July 2015, [31].

matching of expenditure being included in the regulatory asset base with assets becoming fully depreciated would be expected to smooth out cost-based prices over time. Indeed, under idealised circumstances, this matching under straight line depreciation would generate a time path for the capital component in prices that follows the growth in capital input prices. For this matching to occur, depreciation needs to reflect the circumstances of the individual assets.

Compliance with the rules

71. The preliminary decision concludes that the year-by-year tracking approach and the WARL approach comply with the requirement in NER clause 6.5.5(b)(2).[32] This clause provides that depreciation schedules must conform to the requirement that the sum of the real value of the depreciation that is attributable to any asset or category of assets over the economic life of that asset or category of asset must be equivalent to the value at which that asset or category of assets was first included in the RAB for the relevant distribution system.

72. The preliminary decision also concludes that the year-by-year tracking approach and the WARL approach both comply with the requirement in NER clause 6.5.5(b)(1).[33] This clause provides that the depreciation schedules must conform to the requirement that the schedules depreciate using a profile that reflects the nature of the assets or category of assets over the economic life of that asset or category of assets.

73. However, JEN submits that the year-by-year tracking approach is to be preferred to the WARL approach insofar as the WARL approach results in some years where depreciation is received earlier than the underlying economic life of the assets, and some years where depreciation is received later than the underlying economic life of the assets. The year-on-year tracking approach significantly lessens the distortion of remaining asset lives when compared to the WARL approach.

74. As such, JEN submits that the year-on-year tracking is to be preferred insofar as that approach results in depreciation profiles that reflect (or alternatively, better reflect) the nature of the assets or category of assets over the economic life of the assets or category of assets.

Contribute to the national electricity objective and revenue and pricing principles

75. In light of the above, and as discussed below, the year-on-year tracking approach also contributes to the achievement of the national electricity objective and relevant revenue and pricing principles. Relative to the WARL method, the year-on-year tracking method contributes to the achievement of the national electricity objective to a greater degree.

76. As a general proposition, prices that reflect costs will promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity, particularly with respect to price. Prices that reflect costs also provide consumers with appropriate signals as to consumption—which is captured in revenue and pricing principle (7). This principle requires that regard is had to the economic costs and risks of the potential for under and over utilisation of a distribution system with which a regulated network service provider provides direct control network services.

77. In light of the above, JEN submits that the year-on-year tracking approach is consistent with the requirements of the NER and the NEL. To the extent the AER considers that the year-on-year tracking approach is more complex and costly to administer,[34] these considerations are not outweighed by the benefits of the year-on-year tracking approach set out above. The year-on-year tracking approach strikes an appropriate balance of complexity and burden by grouping together the annual capex of a particular expenditure class and tracking depreciation of these groups year-on-year, as opposed to tracking individual assets.

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32 AER, *Preliminary Decision, Jemena distribution determination 2016 to 2020, Attachment 5*, p 5-15.

33 AER, *Preliminary Decision, Jemena distribution determination 2016 to 2020, Attachment 5*, p 5-16.

34 AER, *Preliminary Decision, Jemena distribution determination 2016 to 2020, Attachment 5*, p 5-17.

78. The Incenta report also notes that of the options it considers for employing more information in the calculation of regulatory depreciation—which includes year-on-year tracking—they are all feasible, and none would be particularly difficult to implement.[35]

[35] Incenta, *Calculation of Straight Line Depreciation – Review of the AER's Approximate Calculation: CitiPower, Powercor and Jemena Electricity Networks*, July 2015, [49]-[50].

2. TAX ASSET BASE

2.1 TAX DEPRECIATION

2.1.1 JEN'S APRIL 2015 PROPOSAL

79. We proposed to transition from a diminishing value method used over the 2011 regulatory period to a nominal straight-line method for calculating tax depreciation over the 2016 regulatory period.

2.1.2 PRELIMINARY DECISION

80. The preliminary decision accepted our proposed method[36], which is consistent with the standard approach set out in the AER's PTRM.

2.1.3 JEN'S RESPONSE AND THIS SUBMISSION

81. JEN maintains its position from the April 2015 proposal for the reasons set out in that proposal.

2.2 OPENING TAB AS AT 1 JANUARY 2016

2.2.1 JEN'S APRIL 2015 PROPOSAL

82. JEN's April 2015 proposal included an opening TAB value of $767.6m ($nominal), which was calculated using the ESV's established method in accordance with clause11.17.2 (Transitional provisions of specific application to Victoria) of the NER.

83. JEN used actual information—from the annual submitted RINs—up to 2014 and an estimate for 2015 (which will be subject to a true-up for the next TAB roll forward exercise).

2.2.2 PRELIMINARY DECISION

84. The preliminary decision accepted our proposed method to establishing the opening TAB, but:

- Removed capitalised finance charges from the 2011 capex
- Included a new 'land' asset class, which is non-depreciable for tax purposes.

85. The preliminary decision included an opening TAB value of $766.1m ($nominal).

2.2.3 JEN'S RESPONSE AND THIS SUBMISSION

86. JEN agrees with the preliminary decision adjustments and aligns its opening TAB value as at 1 January 2016 to the preliminary decision.

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36 AER, *Preliminary Decision, Jemena distribution determination 2016 to 2020, Attachment 8*, p 8-10

2.3 TAX STANDARD ASSET LIVES

2.3.1 JEN'S APRIL 2015 PROPOSAL

87. In its April 2015 proposal, JEN proposed updates to the tax standard asset lives for each asset class to reflect:

- The mix of capex (by component asset) proposed for the 2016 regulatory period, and
- Most recent prescribed tax standard asset lives for component assets from the Australian Tax Office.

88. Attachment 7-4 of JEN's April 2015 proposal calculates these tax standard asset lives.

2.3.2 PRELIMINARY DECISION

89. The preliminary decision accepted JEN's proposed method to estimating the tax standard asset lives, except:

- Setting the tax standard life for the 'SCADA/Network control' asset class to 10 years on the basis that it did not account for the specialised nature of SCADA related IT assets[37]
- Setting the tax standard life for the 'Land' asset class to 'n/a', i.e. non-depreciable[38].

2.3.3 JEN'S RESPONSE AND THIS SUBMISSION

90. JEN agrees with the preliminary decision adjustments, but updates the tax standard asset lives for the other asset classes, based on the revised forecast net capex over the 2016 regulatory period—a key input to the calculation.

2.4 TAX REMAINING ASSET LIVES

2.4.1 JEN'S APRIL 2015 PROPOSAL

91. JEN proposed a method of estimating the tax weighted average remaining asset lives as at 1 January 2016, by multiplying the tax standard asset life by the ratio of the 'RAB remaining life' to the 'RAB standard asset life'.

2.4.2 PRELIMINARY DECISION

92. The preliminary decision accepted JEN's proposed method to estimating the tax weighted average remaining asset lives as being reasonable.[39]

2.4.3 JEN'S RESPONSE AND THIS SUBMISSION

93. JEN maintains its position from the April 2015 proposal for the reasons set out in that proposal.

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37 AER, *Preliminary Decision, Jemena distribution determination 2016 to 2020, Attachment 8*, p 8-12.

38 AER, *Preliminary Decision, Jemena distribution determination 2016 to 2020, Attachment 8*, p 8-11

39 AER, *Preliminary Decision, Jemena distribution determination 2016 to 2020, Attachment 8*, p 8-13

2.5 FORECAST CLOSING TAB AS AT 31 DECEMBER 2020

2.5.1 JEN'S APRIL 2015 PROPOSAL

94. JEN used the AER's PTRM to estimate the closing TAB as at 31 December 2020.

2.5.2 PRELIMINARY DECISION

95. The preliminary decision accepted JEN's proposed method.

2.5.3 JEN'S RESPONSE AND THIS SUBMISSION

96. JEN maintains its position from the April 2015 proposal for the reasons set out in that proposal.