Explanatory statement

Gas transmission and distribution network service providers

Proposed post-tax revenue models (version 1)

December 2019

AUSTRALIAN ENERGY REGULATOR

Inquiries about this publication should be addressed to:

Australian Energy Regulator
GPO Box 520
Melbourne Vic 3001

Tel: 1300 585 165

Email: ModelReviews@aer.gov.au
AER reference: 65293

Shortened forms

Shortened form	Extended form
AER	Australian Energy Regulator
ARS	ancillary reference services
CPI	Consumer price index
NEL	National Electricity Law
NEO	National Electricity Objective
NGL	National Gas Law
NGO	National Gas Objective
NGR	National Gas Rules
NPV	net present value
NSP	network service provider
opex	operating expenditure
PTRM	post-tax revenue model
RBA	Reserve Bank of Australia
RFM	roll forward model
WAPC	weighted average price cap

Invitation for submissions

The Australian Energy Regulator invites interested parties to make written submissions on the proposed amendments to the distribution and transmission post-tax revenue models by close of business, **20 January 2020**.

We prefer that all submissions sent in an electronic format are in Microsoft Word or other text readable document form. Submissions should be sent electronically to ModelReviews@aer.gov.au.

Alternatively, submissions can be sent to:

Mr Warwick Anderson
General Manager, Networks Finance and Reporting
Australian Energy Regulator
GPO Box 520
Melbourne Vic 3001

We prefer that all submissions be publicly available to facilitate an informed and transparent consultative process. Submissions will be treated as public documents unless otherwise requested. Parties wishing to submit confidential information are requested to:

- Clearly identify the information that is the subject of the confidentiality claim.
- Provide a non-confidential version of the submission in a form suitable for publication.

We will place all non-confidential submissions on our website. For further information regarding our use and disclosure of information provided to us, see the ACCC/AER Information Policy (June 2014), which is available on our website.

Please direct enquiries about this paper, or about lodging submissions to ModelReviews@aer.gov.au or to the Networks Finance and Reporting Branch of the AER on 1300 585 165.

Contents

About us

We, the Australian Energy Regulator (AER), work to make all Australian energy consumers better off, now and in the future. We are the independent regulator of energy network service providers (NSPs) in all jurisdictions in Australia except for Western Australia. We set the revenue requirements these NSPs can recover from customers using their networks.

The National Electricity Law and Rules (NEL and NER) and the National Gas Law and Rules (NGL and NGR) provide the regulatory framework which govern the NSPs. Our role is guided by the National Electricity and Gas Objectives (NEO and NGO).

NEO:[1]

> …to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:
>
> (a) price, quality, safety, reliability and security of supply of electricity; and
>
> (b) the reliability, safety and security of the national electricity system.

NGO:[2]

> …to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.

The decisions we make and the actions we take affect a wide range of individuals, businesses and organisations. Effective and meaningful engagement with stakeholders across all our functions is essential to fulfilling our role, and it provides stakeholders with an opportunity to inform and influence what we do. Engaging with those affected by our work helps us make better decisions, provides greater transparency and predictability, and builds trust and confidence in the regulatory regime. This is reflected in our *Stakeholder engagement framework* and in the consultation process we are following.[3]

1 NEL, s. 7.
2 NGL, s. 23.
3 AER, *Revised stakeholder engagement framework*, September 2017.

1 Introduction

This explanatory statement and associated handbooks describe the proposed gas transmission and distribution revenue models, and our reasons for preparing them, in accordance with the NGR.[4] These revenue models have been developed using our published electricity distribution and transmission revenue models. These revenue models also implement the relevant findings from our final report on the review of the regulatory tax framework (the tax review) and incorporate several amendments to account for gas specific requirements.[5] This section provides an overview of the purpose of the template gas revenue models and the reason for developing them. Section 2 outlines the key differences compared to the electricity models. Section 3 sets out the initial consultation we undertook in preparing the revenue models and the key issues for comment.

1.1 What does the revenue model do?

The revenue model is used to calculate the forecast revenues required to meet the efficient costs of providing haulage reference services to customers for a given access arrangement period.[6] This forecast revenue requirement is either smoothed over the period to set annual caps on the revenue to be recovered from customers, or combined with expected demand to set a limit on tariffs able to be charged for reference services. Reference service revenues for all gas NSPs we currently regulate are determined on a post-tax basis, which is consistent with the approach applied to electricity NSPs. This means that the forecast revenues include an estimate for the cost of corporate income tax incurred in providing reference services.[7] We have continued this approach in developing the template gas revenue models and therefore we refer to the proposed revenue model as the post-tax revenue model (PTRM).

The PTRM performs iterative calculations to derive the total (unsmoothed) revenue required to provide the relevant haulage reference services for an access arrangement. It also determines the forecast (smoothed) revenue for each regulatory year of the access arrangement period from a given set of inputs. The PTRM incorporates a mechanism to allow for revenue equalisation (net present value neutrality) over the course of an access arrangement period as required in the NGR by allowing the user to enter the relevant inputs, and then calculates and displays the relevant revenue/tariff outcomes.[8]

We adopt a building block approach when determining an NSP's regulated revenue for each year of an access arrangement period. Under this approach we determine the value of the building block costs that make up the total revenue requirement for each regulatory year. The building block costs include:

- a return on capital

4 NGR, r. 75A(4).
5 AER, *Final report: Review of regulatory tax approach*, December 2018, p. 20.
6 NGR, rr. 75B(2) and 76 set out the contents of the revenue model.
7 NGR, rr. 75B(2)(e) and 75(c) require the revenue model to include an estimated cost of corporate income tax in determining total revenue.
8 NGR, r. 75B.

- an indexation of the capital base
- a return of capital (depreciation)[9]
- forecast operating expenditure (opex)
- the estimated cost of corporate income tax
- revenue increments or decrements arising from applicable incentive schemes.[10]

The PTRM brings together the various building block costs and calculates the total revenue for each year of an access arrangement period.[11] In the case of distribution businesses, the PTRM also calculates X factors which, under the CPI–X methodology, are used to escalate the forecast revenue and/or tariffs for each year (other than the first year) of the access arrangement period.[12] The X factors serve to function as a revenue equalisation mechanism, ensuring the present value of total and forecast revenues are equal over the access arrangement period.[13] All gas distribution NSPs we regulate currently use the weighted average price cap (WAPC) mechanism to vary reference tariffs. However, as the NGR allows for other mechanisms, the distribution PTRM is constructed to calculate X factors for revenue cap, WAPC, and revenue yield mechanisms.[14]

The gas transmission PTRM has been developed to include a calculation of forecast revenues using a revenue cap mechanism, under a CPI–X methodology. However, it also provides for smoothed forecast revenues to be derived from an external tariff model and subsequently entered into the PTRM as inputs. This approach is necessary as gas transmission tariff setting typically spans many different zones and classes. It is not practical to standardise the different transmission tariff calculations within the PTRM. Instead, the PTRM will perform the function of checking the forecast revenues from the tariff model against the required building block revenues for net present value (NPV) neutrality (revenue equalisation) and ensuring the revenues are updated for the appropriate benchmark equity raising costs.

1.2 Why are we preparing template gas models?

On 14 March 2019 the Australian Energy Market Commission made a final determination to implement a range of improvements to the regulation of covered transmission and distribution gas pipelines across Australia.[15] Part of this determination included an amendment to the NGR, to allow us to prepare and publish revenue and capital base roll forward models (financial models).[16] When published, these models must subsequently be

9 The net outcome of the addition of the indexation of the capital base and depreciation building block costs is referred to as 'regulatory depreciation'.
10 Being any efficiency carryover mechanisms or capital expenditure sharing schemes.
11 NGR, r. 76.
12 NGR, r. 97.
13 NGR, r. 92.
14 NGR, r. 97(2).
15 AEMC, *Rule determination—Regulation of covered pipelines*, 14 March 2019. A covered pipeline is a pipeline regulated by the AER or Economic Regulation Authority in Western Australia.
16 NGR, r. 75A.

used by NSPs as part of their access arrangement proposals.[17] The provisions for these rules relating to the publishing of financial models came into effect on 21 March 2019.

Historically, the NGR has not required gas businesses to use models published by us—NSPs instead submitted business-specific financial models or made ad-hoc adjustments to our published template electricity models. The absence of a standard structure and approach for all businesses in the way they calculate and present their access arrangement information results in additional regulatory burden on us to assess and compare proposals. It also impacts the ability of stakeholders to fully engage in the determination process where resources must be devoted to comprehend the specific workings of bespoke financial models.

In line with the recently amended NGR we propose to publish two models—one for the purposes of rolling forward the capital base, known as the roll forward model (RFM), and another for determining forecast revenues for an upcoming access arrangement period, known as the PTRM. These models have been developed from the latest versions of the electricity RFMs and PTRMs, with adjustments allowing for gas business-specific details and requirements.[18] As with the electricity models, we have developed models for distribution and transmission NSPs due to the differences in approaches to capital expenditure recognition, tariff variation mechanism and revenue equalisation.

1.3 How can stakeholders contribute?

We invite stakeholders to consider our proposed template PTRMs and make written submissions to us. As such, we are publishing this explanatory statement, which:[19]

- describes the proposed PTRMs and the reasons for them
- includes as appendices the proposed template PTRMs and associated handbooks.

We discuss in detail the development of the proposed template PTRMs in section 2. We welcome submissions from stakeholders on any aspects of the PTRMs, particularly the key issues outlined in section 3.2 by 20 January 2020.[20]

We will consider submissions on the proposed PTRMs before we decide on the final template PTRMs. By the end of March 2020, we will publish:[21]

- a final decision that sets out the terms and reasons for our decision and our response to issues raised in submissions
- the final template PTRMs and associated handbooks.

The timeline and milestones for this PTRM development process are shown in Table 1.

---

17 NGR, rr. 72(3) and 75A(2). This applies to access arrangement information provided for a full access arrangement proposal.

18 The RFM templates for gas NSPs are being developed in parallel with revisions to the RFM templates for electricity NSPs.

19 NGR, r. 75A(4)(a).

20 Interested parties must be allowed at least 30 business days to make submissions to the AER; NGR, r. 75A(4)(b).

21 The period between publication of the proposed amended models and final amended models will be no more than 80 business days. NGR, r. 75A(6)–(7).

Table 1 Proposed project timeline and milestones

Date	Milestone
5 December 2019	AER issues explanatory statement on proposed template PTRMs for consultation
20 January 2020	Stakeholder submissions on proposed PTRMs close
End of March 2020	AER issues final decision and PTRMs

2 Preparing the PTRMs

In preparing the template gas PTRMs, we have amended the latest version (version 4) of the electricity PTRMs to allow for gas business-specific details and requirements. We have done this because most gas NSPs already use these published models as the basis for the models provided as part of their access arrangement proposals, making ad-hoc adjustments to fit their needs. The proposed template PTRMs also include the relevant findings from our final report of the tax review.[22] As with the electricity PTRMs, we have prepared separate versions of the gas PTRMs for distribution and transmission NSPs, due to the differences in approaches to capital expenditure recognition, tariff variation mechanism and revenue equalisation.

2.1 Key differences between gas and electricity PTRMs

The key changes we have made to the electricity PTRMs to cater for gas businesses relate to tariff components and ancillary reference services for distribution NSPs, and revenue equalisation calculations for transmission NSPs.

Ancillary reference services

Gas distribution NSPs may provide services that are ancillary to the haulage reference services for an access arrangement. These are services ancillary to the provision of a service provided by means of a pipeline, relating to particular activities that are provided only when users or customers request them. This may include services such as special meter reads, disconnection at street level, and meter investigation. The cost associated with providing these services are recovered from the customers who request them Historically, where a gas NSP has adopted the electricity template PTRM for use in its access arrangement proposal, the forecast costs from providing these ancillary reference services (ARS) has typically been included in the opex section of the **PTRM input** worksheet. As a result, ad-hoc adjustments to the template in the **Forecast revenues**, **X factors** and **Equity raising costs** sheets were required to account for this treatment of ARS.

In the proposed gas template PTRM for distribution NSPs we have maintained this approach to treat ARS as an opex line item, and included the necessary adjustments to the relevant sheets. This ensures that distribution NSPs do not need to modify the template formulae to account for ARS costs. The relevant changes to the electricity template include:

- adding a permanent entry in the opex section of the **PTRM input** worksheet to account for ARS costs (including an additional entry cell for the final year of the current access arrangement period (year t–1) where required)[23]
- additional calculations for total revenue (including and excluding ARS) in the **Forecast revenues** and **X factors** worksheets

22 Amendments to the electricity PTRM templates to implement the findings of the 2018 tax review (as well as other amendments) were finalised in April 2019. Refer to: https://www.aer.gov.au/node/62656.

23 Where the base year for tariffs are year 1 of the access arrangement period (instead of t–1), then no input for ARS is required.

- modifying the revenue value used for benchmark equity raising cost calculations to be inclusive of ARS in the **Equity raising costs** sheet.[24]

Issue 1 – Distribution PTRM: Ancillary reference services

In developing the proposed distribution PTRM for gas NSPs, we have treated ARS costs as an opex line item and made subsequent adjustments to other formulae to remove ARS costs from the total building block costs for revenue equalisation purposes. We consider this approach to be consistent with those applied in previous gas access arrangements to account for ARS costs. These changes were consulted on and assessed as part of the access arrangement process for the affected NSPs. We consider that this approach should be maintained in the template gas PTRM to minimise changes to the treatment of ARS across access arrangement periods, however, we are interested in comments from stakeholders on including ARS costs in the opex building block, or whether they should be treated separately.

Question 1: Should ARS costs be included in the opex building block or should they be treated separately? If treated separately, how should the distribution template PTRM account for ARS costs in determining forecast revenues?

Reference tariff base year

In determining the reference tariffs for the access arrangement period, gas distribution NSPs may elect to use either the final year of the current access arrangement period (year t–1) or the first year of the next access arrangement period (year t) as the base year for tariff calculations. The proposed PTRM includes a switch allowing distribution NSPs the option to designate which base year to adopt for their tariff calculations. This will subsequently specify the tariff inputs required in the **PTRM input** worksheet and the calculations in the **Forecast revenues** worksheet. We note that the electricity PTRM already allows for modification of the tariff input sections (and flow on calculations) to suit the individual NSP's needs—such as adding tariff classes and components. We have implemented this base year option switch in the gas PTRM to facilitate this common modification required by gas distribution NSPs. The tariff related areas of the PTRM are still able to be modified where required to suit the specific needs of the NSP.

Issue 2 – Distribution PTRM: Reference tariffs

Question 2: Besides the base year for tariff calculations, are there any other gas specific tariff setting requirements that you consider should be included in the distribution template PTRM?

[24] This is required to ensure the correct comparison between underlying building block costs and smoothed (forecast) revenues.

Transmission revenue smoothing

Gas transmission NSPs have historically used their own tariff model in conjunction with the PTRM to determine forecast (smoothed) revenues for the access arrangement period. These tariff models involve a large number of calculations which are unique to each business and therefore not practical to standardise as a template calculation within the PTRM. For example, the Victorian gas transmission business' tariff setting spans many different zones and involve multiple classes, which are calculated in the tariff model. We expect this tariff approach will continue and be assessed as part of new access arrangement reviews. Therefore, in developing the proposed transmission PTRM for gas NSPs, we have included the smoothing function for forecast revenue to be an input to the PTRM, sourced from the NSP's individual tariff model. As a result, we have modified the **X factors** sheet, and associated smoothing function (via macros) to account for this treatment of revenues. The smoothing macros are still required to be initiated to ensure the NPV of total (unsmoothed) revenue and forecast (smoothed) revenue are equal.[25] They also perform the function of updating the building block revenues for the required benchmark equity raising cost updates. However, transmission NSPs have the option of using the X factors to perform these functions and update revenues, or only change a specific year's revenue—calculated in an external tariff model—for any updates required.

For completeness we have also included a 'default smoothing' option in the transmission PTRM that determines a profile of forecast revenues that meets the revenue equalisation requirements of the NGR without the need for an external tariff model.[26] The default smoothing option operates in the same fashion as the existing default smoothing option in the electricity transmission PTRM. It sets first year forecast revenue equal to the building block requirement for that year, and escalates forecast revenues at a constant real rate that ensures NPV neutrality over the access arrangement period. This default profile of revenues can be modified by changing the X factor value in any year and using any the annual smoothing buttons to check and update the revenue equalisation process.

Issue 3 – Transmission PTRM: Revenue equalisation

Our proposed gas transmission PTRM includes the ability to treat forecast (smoothed) revenues—calculated in a separate tariff model—as inputs to the PTRM. The PTRM then updates the forecast revenues for benchmark equity raising costs where required and ensures NPV neutrality with the unsmoothed building block requirement (revenue equalisation). We are seeking stakeholder comments on whether this approach accommodates the smoothing/tariff setting requirements of gas transmission NSPs.

Question 3: Does the approach to revenue equalisation/revenue smoothing in the proposed transmission template PTRM appropriately account for the requirements of gas transmission NSPs?

25 NGR, r. 92(2); The macros also ensure that the correct benchmark equity raising cost is included in the building block revenues as required.

26 The default smoothing macro operates by setting first year forecast revenue (smoothed) equal to the total revenue (unsmoothed). Forecast revenue for year 2 and onwards are then set such that it increases (decreases) by the CPI–X formula, while ensuring the NPV of smoothed and unsmoothed revenues are equal within the access arrangement period.

Other minor changes

We have also made a number of minor changes from the electricity PTRMs for both gas distribution and transmission businesses. These primarily relate to labelling issues and NGR references. For a complete list of modifications, please see the respective detailed change logs in each PTRM.

3 Consultation

This section summarises the initial consultation process already undertaken, and identifies the key issues for comment on our proposed PTRMs for gas NSPs.

3.1 Initial consultation

In the lead up to preparing the proposed PTRMs, we conducted initial consultation with parties interested in the development of the gas financial models. These included all regulated gas NSPs and other individuals that registered their interest in our development process. All stakeholders we engaged with were provided with preliminary draft models and asked to provide feedback on the proposed contents and workings.

Jemena, AusNet Services, and ATCO Gas responded with feedback specific to the preliminary draft PTRMs. The majority of comments consisted of clarification of the workings of the model and cosmetic changes to aid in the use of the model. No major issues were raised with the underlying calculations in the PTRM. Jemena also suggested increasing the number of tariff classes to 70 in the gas template PTRM to allow for all their tariffs to be modelled without modification, while AusNet Services requested increasing the default tariff components. In response to this feedback we have expanded the relevant inputs and calculations in the proposed PTRM to accommodate 70 tariff classes and 12 tariff components.

In its submission to the preliminary draft models, Jemena requested that this PTRM development process should include consultation on the treatment of expected inflation in modelling total revenues. It noted that the difference between the AER's estimate of expected inflation—based on the Reserve Bank of Australia's (RBA's) short-term forecasts and target band—and the actual inflation in the current market conditions results in NSPs being under compensated relative to the forecast nominal return used in the PTRM. This occurs when the actual inflation applied to the capital base in the RFM is significantly lower than the expected inflation removed from the building blocks in the PTRM. Jemena submitted that we should target delivery of a nominal return on debt, and requested that the AER consider updating the PTRM annually to ensure that the inflation risk on debt payments is mitigated.

Our current inflation approach targets the delivery of a real rate of return on capital plus outturn inflation. The real rate of return is derived from the nominal return on capital less expected inflation. We currently use what we refer to as the 'RBA approach' to estimate expected inflation, combining the RBA's short term inflation forecasts (for years 1 and 2) and the mid-point of the RBA target band (i.e. 2.5 per cent) for years 3 to 10, taking a geometric average across the 10 yearly figures.

We most recently concluded that we should maintain this inflation compensation approach in December 2017, after a comprehensive review.[27] We examined whether the AER should target the delivery of a real return on capital, a nominal return on capital, or a hybrid

[27] AER, *Final position paper – Regulatory treatment of inflation*, December 2017.

approach that targets a nominal return on debt and real return on equity. This was 'Issue 2' in that review.[28] We decided to maintain the existing target—that is, the delivery of a real return on capital plus outturn inflation. There was broad stakeholder agreement that the regulatory models delivered this rate of return target.

We do not agree that there is under compensation when using an approach that targets the real (not nominal) rate of return on capital. Nominal revenue will be lower in a low inflation environment (and higher in a high inflation environment), but this preserves real revenue outcomes and investors receive a revenue allowance with the same purchasing power as initially targeted. Furthermore, the treatment of inflation is not a gas specific issue. As noted in our 2017 review, we consider it is important to preserve a consistent inflation approach across gas and electricity in order to prevent investment distortions across the sectors.

In our view, this model preparation process is not the appropriate forum to explore broad framework changes such as this and our proposed model incorporates the approach which has been taken to date. We will continue engagement with a broad set of network, investor, retailer and consumer representatives through working groups outside of this process to explore these matters.[29]

3.2 Key issues for consultation

Our positions on the proposed PTRMs reflect our consideration of the issues raised during initial consultation and our previous experience with assessment of gas access arrangement proposals. However, we would welcome receiving submissions on any aspects of the proposed gas PTRM.

In particular, we seek comment on the three issues noted in section 2:

1. Should ARS costs be included the opex building block or should they be treated separately? If treated separately, how should the distribution template PTRM account for ARS costs in determining forecast revenues?
2. Besides the base year for tariff calculations, are there any other gas specific tariff setting requirements that you consider should be included in the distribution template PTRM?
3. Does the approach to revenue equalisation/revenue smoothing in the proposed transmission template PTRM appropriately account for the requirements of gas transmission NSPs?

We also welcome comments on any gas specific circumstances that have not been properly accounted for in the proposed RFM.

28 AER, *Final position paper – Regulatory treatment of inflation*, December 2017, pp. 14–16.

29 The working group on expected inflation and low CGS yields is currently considering these issues.

Appendices

The appendices include the proposed template PTRMs (transmission and distribution) and associated handbooks. The proposed PTRMs include a **Change log** worksheet that summarises the changes made from the current (version 4) electricity PTRMs. This will be removed from the final versions.

Appendix A: Proposed transmission post-tax revenue model

Appendix B: Proposed distribution post-tax revenue model

Appendix C: Proposed transmission post-tax revenue model handbook

Appendix D: Proposed distribution post-tax revenue model handbook