Appendix 8.01 – Detailed return on debt proposal

1. Introduction and overview

The National Gas Rules (**NGR**) require that the return on debt for an access arrangement (**AA**) period be estimated such that it contributes to the achievement of the allowed rate of return objective. The NGR also require that, when estimating the allowed rate of return (and therefore, the return on debt), regard is to be had to, among other things, relevant estimation methods, financial models, market data and other evidence.

ActewAGL Distribution proposes estimating the return on debt for the 2016/17 to 2020/21 AA period using an approach that considers all relevant evidence, models and market data consistent with the rate of return objective.

ActewAGL Distribution's proposed approach is also designed to produce outcomes that help achieve the National Gas Objective (**NGO**). The central objective of ActewAGL Distribution's proposed approach is to produce estimates of the return on debt that are commensurate with the efficient financing costs of a benchmark entity facing a similar degree of risk as that which applies to ActewAGL Distribution. Thus, the proposed approach is designed to promote efficient investment in the network for the long-term interests of consumers.

This appendix addresses ActewAGL Distribution's proposed approach to estimating the return on debt. By way of summary, ActewAGL Distribution proposes the following:

- **Credit rating and term of debt.** ActewAGL Distribution proposes that a 10-year term-to-maturity and credit rating of BBB with 60 per cent gearing be adopted. Gas distribution businesses such as ActewAGL Distribution are more risk exposed than electricity network business and gas transmission pipelines. Further, empirical evidence of actual credit ratings shows that gas network businesses tend to have lower credit ratings than other energy networks businesses.
- **Estimating the return on debt using a hybrid approach.** Subject to the outcome regarding the current applications for merits review in the Australian Competition Tribunal and judicial review in the Federal Court of Australia of recent AER decisions regarding the estimation of the return on debt, ActewAGL Distribution considers that the return on debt should be estimated as the sum of the historical debt risk premium (**DRP**) for ten years, the average of one to ten year swap rates, and transaction costs. That is, ActewAGL Distribution proposes a 'hybrid' transition to the trailing average approach to estimating the return on debt. This is consistent with the AER's description of how a benchmark efficient entity would transition from the 'on-the-day' approach to the ten year trailing average. In other words:
  - the base component of the debt portfolio that the benchmark efficient entity would have hedged, using interest rate swaps, there should be a ten-year transition to a trailing average (plus transaction costs), which is consistent with the AER's position; and
  - for the DRP component of the debt portfolio, there should be an immediate move to a trailing average so that for 2016/17, the DRP should be estimated as a ten-year trailing average that would be updated in each subsequent year. ActewAGL Distribution also notes that there should be no transition for any unhedged base component of the the debt portfolio.
- **Selecting the averaging period**. ActewAGL Distribution proposes a specified averaging period for the 2016/17 financial year and a process for selecting the averaging periods for the 2017/18 to 2020/21 financial years (under which ActewAGL Distribution would nominate the averaging period by 30 April prior to the start of the financial year in which the averaging period occurs).
- **Selection of the data source provider and extrapolation methodology**. ActewAGL Distribution proposes that the data source provider and extrapolation methodology used to estimate the return on debt for each year of the AA period be reviewed annually. If the difference between the estimates produced by the fair value yield estimates from the available independent data sources, extrapolated using the methods proposed by both the AER and

SA Power Networks (**SAPN**) is 20 basis points or less[1], ActewAGL Distribution proposes to use a simple average of the fair value yield estimates from Bloomberg and RBA (extrapolated using the method proposed by the AER). If there is a difference of more than 20 basis points, ActewAGL Distribution proposes a method that selects the data source provider and extrapolation methodology (or combination thereof) that best fits reported bond yields at the time of estimation.

ActewAGL Distribution recognises that its proposal in respect of the cost of debt is being made against the background of significant and extensive debate between the AER and regulated businesses as to the approach to estimating the cost of debt that meets the requirements of the NGL and NGR (and the analogous provisions under the National Electricity Law and Rules), both in the context of the development of the rate of return guidelines published by the AER in December 2013 (**Rate of Return Guideline**) and recent decisions regarding the regulatory proposals and access arrangement information proposals of a number of New South Wales and ACT gas and electricity businesses. Further, the AER's approach to estimating the return on debt is currently the subject of merits and judicial review applications before the Australian Competition Tribunal[2] and Federal Court of Australia[3]. While the AER is obliged under the NGL and NGR to consider ActewAGL Distribution's proposal afresh, documents previously considered by the AER provide helpful background to the matters discussed in this proposal. These documents may be particularly relevant in the event of Tribunal or Federal Court findings that are applicable to ActewAGL Distribution's proposal. To the extent that these proceedings give rise to findings by the Tribunal or the Federal Court that are applicable to ActewAGL Distribution in the context of its AA proposal for the 2016-17 to 2020-21 AA period, ActewAGL Distribution considers the AER should apply those findings to it.

2. The NGL and NGR

The role of the return on debt in the building block framework is to provide businesses with an allowance that is sufficient to provide debt-holders with a return commensurate with the credit risks that they face.

Providing this allowance is necessary to ensure that the business:

- can attract necessary capital to undertake efficient investment, consistent with the NGO;[4] and
- has a reasonable opportunity to recover at least the efficient costs it incurs in providing reference services – including a return that is commensurate with the regulatory and commercial risks involved in providing those services, consistent with the Revenue and Pricing Principles (**RPP**).[5]

Overall, the design of the return on debt estimation method should be consistent with providing effective incentives to promote economic efficiency, consistent with the RPP.[6]
The key aspects of the NGL and NGR relating to the return on debt are outlined below.

National Gas Objective. The NGO (set out in section 23 of the NGL) is 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.

[1] Should the AER consider, contrary to the views expressed by ActewAGL Distribution in attachment 11 of this AA information, that it has the power to take into account revenue in the 2015/16 financial year in determining total revenue for the 2016/17 to 2020/21 AA period, due to the bias identified by CEG in appendix 8.29 of the Bloomberg BVAL curve, ActewAGL Distribution considers that the return on debt for 2015/16 should be based on only the RBA curve (and not Bloomberg). In setting out this position, ActewAGL Distribution should not be understood as accepting that the AER has power under the NGR to make an adjustment to total revenue for the 2016/17 to 2020/21 AA period by reference to the 2015/16 financial year. To the contrary, for the reasons discussed in attachment 11 of this AA information, ActewAGL Distribution maintains that the AER has no power to perform such an adjustment.
[2] ACT File Nos. 1-8 of 2015
[3] Federal Court of Australia proceedings VID277/2015, NSD609/2015, NSD610/2015, NSD611/2015 and QUD411/2015

[5] NGL, s. 24

Revenue and pricing principles. In estimating the return on debt, the AER must have regard to the RPP.[7] The RPP include the following:[8]

- a service provider should be provided with a reasonable opportunity to recover at least the efficient costs it incurs in providing reference services and that a reference tariff;
- a service provider should be provided with effective incentives in order to promote economic efficiency with respect to reference services the service provider provides. That economic efficiency includes efficient investment in the pipeline with which the service provider provides reference services, efficient provision of pipeline services and the efficient use of the pipeline;
- a reference tariff should allow for a return commensurate with the regulatory and commercial risks involved in providing the reference service to which it relates;
- regard should be had to the economic costs and risks of the potential for under and over investment by a service provider in a pipeline with which the service provider provides pipeline services; and
- regard should be had to the economic costs and risks of the potential for under and over utilisation of a pipeline with which a service provider provides pipeline services.

Rate of return objective. The NGR require the allowed rate of return to be determined such that it achieves the allowed rate of return objective.[9] Similarly, the NGR require that the return on debt for a regulatory year be estimated such that it contributes to the achievement of the rate of return objective.[10] That objective is that the rate of return for a service provider is to be commensurate with the efficient financing costs of a benchmark efficient entity with a similar degree of risk as that which applies to the service provider in respect of the provision of reference services.[11]

Relevant evidence and factors. In estimating the return on debt, the NGR require that regard be had to relevant estimation methods, financial models, market data and other evidence as well as the following:[12]

- the desirability of using an approach that leads to the consistent application of any estimates of financial parameters that are relevant to the estimates of, and that are common to, the return on equity and the return on debt and any interrelationships between estimates of financial parameters that are relevant to both estimates;
- the desirability of minimising any difference between the return on debt and the return on debt of a benchmark efficient entity referred to in the allowed rate of return objective;
- the interrelationship between the return on equity and the return on debt;
- the incentives that the return on debt may provide in relation to capital expenditure over the AA period, including the timing of any capital expenditure; and
- any impacts (including in relation to the costs of servicing debt across AA periods) on a benchmark efficient entity referred to in the allowed rate of return objective that could arise as a result of changing the method that is used to estimate the return on debt from one AA period to the next.

Methodology. The NGR provide that the return on debt may be estimated using a methodology which results in either the return on debt being the same for each regulatory year of the access arrangement period or the return on debt being different (or potentially different) for different regulatory years in the access arrangement period.[13]

The NGR provide that the methodology adopted to estimate the return on debt may, without limitation, be designed to result in the return on debt reflecting:[14]

- the return that would be required by debt investors in a benchmark efficient entity if it raised debt at the time or shortly before the time when the AER's decision on the AA for that AA period is made;

[7] NGL, s. 28(2). The cost of debt is a part of the AA 'relating to a reference tariff'.
[8] NGL, s. 24
[9] NGR, Rule 87(2)
[10] NGR, Rules 87(8)
[11] NGR, Rule 87(3)
[12] NGR, Rules 87(5) and (11)
[13] NGR, Rule 87(9)
[14] NGR, Rule 87(10)

- the average return that would have been required by debt investors in a benchmark efficient entity if it raised debt over an historical period prior to the commencement of a regulatory year in the AA period; or
- some combination of the above.

If a return on debt is estimated using a methodology which results in the return on debt being potentially different in different regulatory years, then the resulting change to the service provider's total revenue must be effected through the automatic application of a formula that is specified in the decision on the AA for that AA period.[15]

Rate of Return Guidelines. The NGR require the AER to publish rate of return guidelines that set out the methodologies that the AER proposes to use in estimating the allowed rate of return and the estimation methods, financial models, market data and other evidence the AER proposes to take into account in estimating the return on debt.[16] The guidelines are not mandatory (and so do not bind the AER or anyone else).[17]

It is in this context that ActewAGL Distribution presents its proposal to the AER in relation to the return on debt.

3. Rate of Return Guideline and proposed departures from that Guideline

The Rate of Return Guideline states that the AER proposes to estimate the allowed return on debt using a trailing average portfolio following the completion of a transitional arrangement period of 10 years.[18]

The trailing average portfolio approach proposed by the AER has the following characteristics:[19]

1. the length of the trailing average is ten years;
2. equal weights are to be applied to all elements of the trailing average; and
3. the trailing average is to be automatically updated every regulatory year within the AA period.

During the transitional arrangement period, the Rate of Return Guideline states that the AER proposes that the allowed rate of return be determined as follows:[20]

1. in the first regulatory year of the transitional period, the allowed rate of return be based on the estimated prevailing rate of return on debt for that year (that is, the return on debt be estimated using the 'on the day' approach);
2. in the second regulatory year, the allowed rate of return be the weighted average of the prevailing rates in the first and second regulatory years of the transitional period (with weights of 0.9 and 0.1 respectively);
3. in the third regulatory year, the allowed rate of return be the weighted average of the prevailing rates in the first, second and third regulatory years of the transitional period (with weights of 0.8, 0.1 and 0.1),

and so on (**AER's Transition**).

In the tenth year of transition, the allowed return on debt would be an equally weighted sum of the prevailing rates in the ten years of transition (with weights of 0.1).[21]

In developing the Rate of Return Guideline, the AER stated that its conceptual approach to estimating the return on debt is as follows:

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[15] NGR, Rule 87(12)
[16] NGR, Rules 87(13) and (14)
[17] NGR, Rule 87(18)
[18] Rate of Return Guideline, p. 19
[19] Rate of Return Guideline, p. 19
[20] Rate of Return Guideline, p. 20; AER, *Explanatory Statement Rate of Return Guideline* (**Rate of Return Explanatory Statement**), Appendices, p. 131
[21] Rate of Return Explanatory Statement, Appendices, p. 131

1. For the purposes of applying the rate of return objective, the AER proposes to adopt a single definition of the benchmark efficient entity, namely 'a pure play, regulated energy network business operating within Australia'.[22]
2. As the AER proposes that the benchmark efficient entity should be a regulated business, it then follows that the efficient entity needs to be considered in the context of the adopted regulatory regime and, specifically, the adopted approach to estimating the return on debt.[23]
3. The AER interprets the 'efficient financing costs of a benchmark efficient entity' as financing costs resulting from the benchmark efficient entity minimising the expected present value of its financing costs over the life of its assets, taking into account the regulatory framework and associated financial risks it expects to face in future.[24]

The Rate of Return Guideline also states that the AER proposes to estimate the prevailing return on debt as follows:[25]

1. using a BBB+ benchmark credit rating and a benchmark term of debt of ten years;
2. using averaging periods for estimation of the return on debt for each year of the AA period specified prior to the commencement of the regulatory period (that is, as part of the decision on the AA, as opposed to the averaging periods being nominated during the AA period); and
3. using a simple average of estimates from independent third party data service providers to estimate the return on debt in each averaging period. The AER did not specify which third party data service provider it proposed to use or its proposed approach to extrapolation should this be required.

Further details set out in the Rate of Return Guideline are discussed in the sections that follow.

In each of its decisions subsequent to the Rate of Return Guideline, the AER has estimated the return on debt on the basis outlined in the Rate of Return Guideline, including by applying the AER's Transition.[26] As to the independent data service providers and extrapolation method to be used, the AER has determined in recent decisions that:[27]

1. the return on debt is to be estimated using a simple average of the data series published by the RBA (specifically, the broad-BBB rated 10 year curve, extrapolated to an effective term of 10 years) and Bloomberg (specifically, the Bloomberg Valuation Service broad-BBB rate curve, either the 10 year estimate or 7 year estimate extrapolated to a 10 year term using the 7-10 year margin from the RBA curve, depending on the maximum term published at the time); and
2. the required extrapolation occur in accordance with the method specified by the AER.

ActewAGL Distribution does not agree with the AER's proposed approach to estimating the cost of debt as set out in the Rate of Return Guideline and recent decisions. The AER's reasoning underpinning the steps outlined is based on a number of errors of fact and logic. As a consequence, the AER cannot reasonably be satisfied that the allowed return on debt for the forthcoming AA period will contribute to the achievement of the rate of return objective or provide a reasonable opportunity for ActewAGL Distribution to recover at least the efficient costs of providing reference services, consistent with the RPP. For the reasons discussed below, the return on debt derived from the AER's approach will not reflect what is required to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers. Accoridngly, ActewAGL Distribution proposes a number of departures from the Rate of Return Guideline, and does not propose to apply the AER's methodology as applied in its decisions since the publication of the Rate of Return Guideline.

[22] Rate of Return Explanatory Statement, p. 32
[23] Rate of Return Explanatory Statement, p. 103
[24] Rate of Return Explanatory Statement, pp. 103-104
[25] Rate of Return Guideline, pp. 21-22
[26] See most recently, AER, *Final decision Jemena Gas Networks (NSW) Ltd Access Arrangement 2015-20*, June 2015, Attachment 3
[27] See, for example, AER, *Final decision Jemena Gas Networks (NSW) Ltd Access Arrangement 2015-20*, June 2015, Attachment 3, p. 201

Pursuant to Rule 72(1)(g) of the NGR, ActewAGL Distribution observes that its proposed departures from the Rate of Return Guideline are as follows:

Table 3.1 Summary of departures from Rate of Return Guideline

Element	Guideline approach	ActewAGL Distribution's proposal
Credit rating	BBB+	BBB
Form of transition to trailing average return on debt	AER's Transition (being a transition of both the base rate and DRP components)	Transition of the base rate component only
Nominating averaging periods	Periods nominated in advance of the regulatory period	Only the first averaging period is nominated in advance of the AA period, with a process for specification of averaging periods set out in the proposed AA

The reasons for the proposed departures from the Rate of Return Guideline, as well as the reasons why ActewAGL Distribution has proposed a different approach to the selection of data source and extrapolation method than that adopted by the AER in its recent regulatory decisions, are set out in the sections that follow.

4. Credit rating and term

In its Rate of Return Guideline, the AER proposes to estimate the return on debt using a term to maturity of ten years.[28] ActewAGL Distribution agrees with the AER's proposed approach in this regard, noting that this is a short term when compared with the long term nature of gas network assets. In its Rate of Return Guideline and recent final decisions, the AER has determined (based on an industry median) a single benchmark credit rating for regulated energy businesses of BBB+.

ActewAGL Distribution does not consider that applying a single credit rating across all energy network businesses will result in a return on debt that will contribute to the achievement of the allowed rate of return objective for all such businesses. In particular, gas distribution network businesses such as ActewAGL Distribution are generally more risk-exposed than electricity network businesses and gas transmission pipeline owners. As a result, a lower benchmark credit rating is required such that the allowed return on debt provides ActewAGL Distribution with an opportunity to recover the efficient financing costs of 'a benchmark efficient entity with a **similar degree of risk** as that which applies to [it]' (emphasis added).

Further, even if the AER were to adopt a single benchmark credit rating across all regulated energy businesses, that rating should be no higher than BBB.

Each of these issues is discussed in turn below, after a preliminary comment regarding the significance of the AER's decision as to the benchmark efficient credit rating.

The AER indicated in its final decision regarding Jemena Gas Networks' AA for the 2015/16 to 2019/20 AA period that, given the AER only has access to a broad BBB curve for estimating the return on debt, its decision to apply a BBB+ credit rating makes no practical different to the AER's estimate of Jemena Gas Networks' allowed return on debt.[29] This comment fails to properly take into account the AER's stated contingency that if either Bloomberg or the RBA publishes a BBB+ or utilities specific yield curve, the AER would adopt that BBB+ curve in place of the provider's existing curve on the basis it is a closer fit to the benchmark efficient entity.[30] Further, the AER rejected Jemena Gas Networks' proposed transaction costs associated with the interest rate swaps required under its hybrid transition proposal on the basis that the AER was providing compensation to Jemena Gas Networks based on a broad BBB credit rating even though the benchmark credit rating was BBB+.[31] The AER's

[28] Rate of Return Guideline, p. 21
[29] AER, *Final decision Jemena Gas Networks (NSW) Ltd Access Arrangement 2015-20*, June 2015, Attachment 3, p. 531
[30] AER, *Final decision Jemena Gas Networks (NSW) Ltd Access Arrangement 2015-20*, June 2015, Attachment 3, p. 215
[31] AER, *Final decision Jemena Gas Networks (NSW) Ltd Access Arrangement 2015-20*, June 2015, Attachment 3, p. 512

selection of a BBB+ benchmark efficient entity thus has potentially implications for ActewAGL Distribution's allowed rate of return.

Gas distribution businesses are more risk-exposed than other energy network businesses
The key reasons why gas distribution network businesses are more risk-exposed than electricity network businesses and gas transmission pipline owners are set out below.

Demand risk. Gas distribution businesses are generally subject to price cap regulation and are therefore more exposed to demand risk, compared to electricity network businesses as many are subject to revenue cap regulation. Whereas under revenue cap regulation, businesses are guaranteed to recover the allowed revenue over the regulatory period, under a price cap approach, prices are not adjusted to correct for errors in demand.

In a discussion paper on risk and the form of regulation, the Queensland Competition Authority (**QCA**) noted that for regulated businesses the form of regulation that applies (including whether price or revenue cap applies) can significantly impact their exposure to risk. The QCA noted that theoretical and empirical research demonstrates that, under a variety of conditions, the form of regulation and ancillary mechanisms affect the regulated firm's revenues and costs, and exposure of revenues and costs to risk factors.[32] The QCA's discussion paper is included as appendix 8.37.

The Australian Energy Market Commission (**AEMC**) has also recognised that price and revenue caps give different risk allocations between consumers and networks and that the AER should take account of variations in the allocation of risk when setting the allowed rate of return.[33] The AEMC's submission is included as appendix 8.38.

While the AER stated in its final decision regarding Jemena Gas Networks that under price caps, service providers may mitigate the risk of forecast error by restructuring tariffs to offset demand volatility,[34] such tariff restructuring is not sufficient to result in the level of risk being faced by gas distribution businesses being the similar to the level of risk being faced by other energy network businesses.

Sensitivity to other risk factors. Demand for capacity on gas distribution networks is directly related to demand from end-users.which fluctuates depending on various factors, including weather, the final delivered price of gas, and availability and price of substitute fuels. This is unlike capacity on gas transmission pipelines which is often fully contracted and not subject to short-term fluctuations. Electricity businesses are also not subject to the same degree of fluctuation in demand given they are not subject to the same risk of consumers switching to substitute fuels and those businesses subject to revenue cap regulation can adjust pricing to mitigate fluctuations.

Fuel of choice risk. Gas in the ACT and NSW, unlike electricity, is a 'fuel of choice' (rather than a 'fuel of necessity'), which means that consumers can (and do) switch away from using gas if wholesale prices are too high. Practically all Australian households (99.9%) use electricity[35] and can therefore choose to switch from gas to electricity. Further, rising gas costs mean that competitive pressures on ActewAGL Distribution in the supply of gas will increase. The AER has recognised this in considering electricity consumption in the ACT. The AER stated regarding ActewAGL Distribution's proposed electricity consumption forecasts for the 2015-16 to 2018-19 regulatory control period:[36]

> *[ActewAGL Distribution's consumption] forecasts do not account for trends in customers switching from entirely electricity-based consumption to electricity and gas-based consumption. By excluding this from the analysis, ActewAGL are implicitly assuming that the historical trend will continue over the forecast period. However, with developments in the gas market, and recent gas price rises, we would not expect this to be the case.*

This issue is considered further by HoustonKemp in a report for Jemena Gas Networks in February 2015 included as appendix 8.39 to this AA information.

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[32] QCA, *Discussion Paper: Risk and the Form of Regulation*, November 2012, p vi
[33] AEMC, *AEMC submission to the Senate inquiry into electricity network companies*, 18 December 2014, (Submission number 41), pp. 5-6
[34] AER, *Final decision Jemena Gas Networks (NSW) Ltd Access Arrangement 2015-20*, June 2015, Attachment 3, p. 532
[35] ABS, *Energy Use in Australian Homes*, March 2010 (http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4614.0.55.001Main+Features2Mar+2010, accessed on 5 June 2015)
[36] AER, *Draft decision ActewAGL distribution determination 2015-16 to 2018-19,* November 2014, Attachment 6*,* p. 6-91

Wholesale price risk. Gas wholesale prices are expected to rise over the near and medium term, raising demand (and therefore cash flow) uncertainty for gas network businesses. This is principally due to the linking of domestic and international markets, and the associated alignment of domestic prices with international market prices. The potential for significant increases in wholesale gas prices further increases the degree of uncertainty around future demand on gas distribution networks. As gas is considered a fuel of choice, these wholesale price increases are likely to lead to further substitution away from gas to alternative fuels in many applications, thus reducing demand on gas distribution networks. There is therefore considerable uncertainty around future returns for investors, both debt and equity holders, in gas distribution network infrastructure.

Supply shortfall risk. There is potential for gas supply shortfalls in ACT/NSW over the next AA period, particularly if production in Queensland and South Australia is prioritised for export.[37] The potential gas supply shortfalls similarly increases the degree of uncertainty around future demand on gas distribution networks.

Asset stranding and depreciation risk. There is a greater exposure to asset stranding and depreciation risk for gas distribution businesses compared to electricity distribution businesses. The risk of asset stranding is greater for gas businesses due to greater competition from alternative fuels, and more scope under the NGR for removal of assets from the capital base where they become redundant.[38] The scope for removal of redundant assets is much more limited under the National Electricity Rules.

The AEMC's submission to the Senate Standing Committee inquiry into the performance and management of electricity network companies notes that any asset write downs, without compensation (a risk under the NGR), would increase the long term required rate of return for future investors. The AEMC noted that this risk should be taken into account when setting allowed returns.[39]

The empirical evidence of actual credit ratings shows that gas distribution networks tend to have lower credit ratings than electricity and mixed electricity and gas businesses. This reflects greater risk associated with the supply of gas network services. This is demonstrated in Table 4.1below, which was submitted to the AER by Jemena Gas Networks.[40] Over the period 2005 to 2014, while the median credit rating for electricity and mixed businesses was BBB+, for gas businesses it was BBB-.

Table 4.1 Credit ratings for energy network businesses

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014*	Median
Gas only businesses											
APT Pipelines Ltd	N/A	N/A	N/A	N/A	BBB	BBB	BBB	BBB	BBB	BBB	BBB
ATCO Gas	N/A	N/A	N/A	N/A	N/A	N/A	BBB	BBB	A-	A-	BBB+
DBNGP Trust	BBB	BBB	BBB	BBB	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-
Energy Partnership (gas)	BBB	BBB	BBB	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-
Envestra Ltd	BBB	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB+	BBB-
Median for gas businesses	**BBB**	**BBB**	**BBB**	**BBB-**	**BBB-**	**BBB-**	**BBB-**	**BBB-**	**BBB**	**BBB**	**BBB-**
Electricity and mixed businesses											
ElectraNet Pty Ltd	BBB+	BBB+	BBB+	BBB+	BBB	BBB	BBB	BBB	BBB	BBB+	BBB+/BBB
SAPN	A-	A-	A-	A-	A-	A-	A-	A-	A-	A-	A-
Powercor Australia LLC	A-	A-	A-	A-	A-	A-	A-	A-	BBB+	BBB+	A-
CitiPower	A-	A-	A-	A-	A-	A-	A-	A-	BBB+	BBB+	A-

[37] The potential for gas supply shortages has been noted by the Australian Energy Market Operator (**AEMO**). See: AEMO, *Gas Statement of Opportunities for eastern and south-eastern Australia* 2013, p. iv. See also: P Simshauser, T Nelson, *Solving for 'x' – the New South Wales Gas Supply Cliff*, Working Paper No. 40, February 2014.
[38] NGR, Rule 85
[39] AEMC, *AEMC submission to the Senate inquiry into electricity network companies*, 18 December 2014, (Submission number 41), p. 6.
[40] Jemena Gas Networks, *2015-20 Access Arrangement, Response to the AER's draft decision and revised proposal, Appendix 7.10 - Return on debt response*, 27 February 2015, pp. 9-10 (source: Bloomberg)

United Energy Distribution	BBB	BBB	BBB	BBB	BBB	BBB	BBB	BBB	N/A	N/A	BBB
DUET Group	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	N/A	N/A	BBB-
SP AusNet	A	A	A	A-	A-	A-	A-	A-	A-	A-	A-
SGSP	N/A	N/A	N/A	A-	A-	A-	A-	A-	BBB+	BBB+	A-
Median for electricity and mixed	**A-**	**A-**	**A-**	**A-**	**A-**	**A-**	**A-**	**A-**	**BBB+**	**BBB+**	**BBB+**

*The credit ratings in June 2015 were the same as in this column according to sourced information from Bloomberg.

The above analysis does not support the view that all regulated energy businesses are likely to face a similar degree of risk. On the contrary, this analysis suggests that gas businesses have, on average, lower credit ratings reflecting greater risk associated with the supply of gas network services.

For these reasons, ActewAGL Distribution expects that gas distribution businesses would be relatively more risk-exposed over the next regulatory period than other energy network businesses. This is why the benchmark credit rating for gas distribution businesses should be lower.

Conclusion credit rating and term to maturity
For the reasons set out above, ActewAGL Distribution proposes estimating the return on debt for the next AA period by reference to the yield on corporate bonds with:

- a 10-year term to maturity; and
- a BBB credit rating.

5. Estimating the return on debt using a hybrid transition approach

As a result of changing the approach to estimating the return on debt from 'on-the-day' to a trailing average, the AER concluded in developing the Rate of Return Guideline that:[41]

1. Under the 'on-the day' approach to estimating the return on debt, the benchmark efficient entity would hold a debt portfolio with staggered maturity dates and use swap transactions to hedge interest rate exposure (that is, 'lock in' the base rate component) for the duration of a regulatory period). Only the base rate could be locked in in this way because it was impossible to hedge the DRP component of the cost of debt.[42]
2. Under the trailing average approach to estimating the return on debt, the benchmark efficient entity would hold a (fixed rate) debt portfolio with staggered maturity dates.
3. Thus the benchmark efficient entity would need to unwind its hedging contracts if the AER changes from estimating the return on debt using the 'on-the-day' approach to the trailing average approach.

The AER proposed to apply the AER's Transition. However, ActewAGL Distribution does not consider that the AER's Transition meets the requirements of the NGL and NGR. The reasons for this are outlined below.

Under the strategy that the AER concluded was efficient under the 'on-the-day' approach to estimating the cost of debt, the base risk-free rate component of the benchmark efficient entity's actual return on debt is essentially matched with the 'on-the-day' rate, while the DRP component each year would reflect the historical (or trailing) average of the DRPs over the previous 10 years.

[41] Rate of Return Explanatory Statement, pp. 107-109, 121-123
[42] Rate of Return Explanatory Statement, p. 105. The AER observes that the benchmark efficient entity would not be able to alleviate all potential mismatch in relation to the DRP component, unless it issues all of its debt during the averaging period.

Having made the finding that it was efficient under the 'on-the-day' methodology for service providers to raise debt on a staggered basis and hedge the base rate component, the AER would fall into error if it did not provide for a return on debt that enables service providers to recover the costs associated with doing so.

A 'hybrid' transitional arrangement results in a return on debt estimate aligned with the costs that would be incurred by a benchmark efficient firm (as defined by the AER) and thus better contribute to the achievement of the NGO. Such an arrangement (and the transitional arrangement proposed by ActewAGL Distribution) has two elements:

- **Base risk-free rate component.** As it is assumed that the benchmark efficient entity would have hedged the base risk-free rate component, there should be a ten year transition to a trailing average of the base risk-free rate component, plus transaction costs associated with interest rate swaps.
- **DRP component.** As it is assumed that the benchmark efficient entity would not (and could not) have hedged the DRP component, the DRP component each year would reflect the historical (or trailing) average of the DRP over the prior ten years such that no transition is required.

This issue is discussed by Professor Stephen Gray in appendix 8.23 and Dr Tom Hird in appendices 8.25 and 8.27. Dr Hird also concludes that it is unreasonable and contrary to the NGO and NGR to estimate the return on debt in a manner which cannot be (or alternatively, cannot practically be) adopted by any regulated business.

ActewAGL Distribution observes that its proposed hybrid transition is consistent with the view expressed by the AER's own consultant, Chairmont, in a report of April 2015:[43]

> *A BEE [Benchmark Efficient Entity] will already have a staggered DRP in its portfolio, but not evenly distributed, i.e. not smooth. Therefore, to match this situation the AER should not transition the DRP, but instead move immediately to a 'trailing average' for this element.*

Moreover, ActewAGL notes that it is unlikely that, even if a business could use interest rate swaps to manage interest rate risk in the manner assumed by the AER, it is unlikely that hedging 100% of the debt portfolio in this way would have minimised interest rate risk. This is because of the presence of a natural hedge provided by the inverse relationship between risk free rates and DRP which is set out in appendix 8.28.[44] Further, the AER's transition should be applied to only that portion of the base rate that it can be shown to have been efficient to hedge using interest rate swaps. ActewAGL Distribution has, for the purpose of this initial proposal, calculated the return on debt based on the extreme assumption of 100% hedging of the base rate. However, based on the evidence referred to above something less than 100% hedging using interest rate swaps would have been expected to have best minimised interest rate risk.

The transaction costs proposed by ActewAGL Distribution (23 basis points) are based on CEG's estimate of entering into swap contracts, described in appendix 8.26 and a report in March 2015 by UBS titled in appendix 8.24.

ActewAGL Distribution observes that its estimate of transaction costs does not include any allowance for a new issue premium. There is evidence before the AER that an upward adjustment should be added to the cost of debt based on sources that reflect trade in the secondary market (such as Bloomberg and the RBA) to reflect the transaction costs associated with issuing new debt (occurring in the primary market), which are not reflected in the secondary market.[45] Given this, the estimate of transaction costs proposed by ActewAGL Distribution is likely to be conservative.

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[43] Chairmont, *Cost of Debt: Transitional Analysis*, April 2015, p. 47

[44] See also appendix 8.26 section 4.5.

[45] CEG, *The new issue premium*, October 2014; Ronn, E.I. and Goldberg, R.S., *Quantifying and Explaining the New-Issue Premium in the Post-Glass-Steagall Corporate Bond Market*, The Journal of Fixed Income, Vol. 23, No. 1, 2013; Ronn, E.I. and Goldberg R.S, *Research into the New Issue Premium, and the Applicability of that Research to the Australian Corporate Bond Market: A submission prepared for United Energy and Multinet Gas in response to the draft rate of return guideline of the Australian Energy Regulator,* October 2013

ActewAGL Distribution responds to the AER's reasons for rejecting a 'hybrid' transition in favour of the AER's Transition in recent decisions below. Before doing so, however, ActewAGL Distribution observes that in identifying what is assessed to be the efficient financing costs of a benchmark efficient entity, the AER considered that the entity must be a regulated entity (such that the identification of the efficient financing practices depend on and change with the regulatory regime adopted). It is not obvious that such a construction of the allowed rate of return objective is correct. In particular, it is not clear that the pre-existing regulatory approach to the estimation of the return on debt is of any relevance to the 'efficient financing costs' referred to in the allowed rate of return objective.[46]

ActewAGL Distribution also does not agree with the AER's position that there is a single benchmark efficient entity that hedges 100% of its debt portfolio using interest rate swaps. There is evidence before the AER that suggests that an efficient financing strategy (irrespective of whether businesses are regulated under the 'on-the-day' or trailing average approach to estimating the return on debt) involved simply issuing fixed rate debt on a staggered maturity cycle in order to hedge against interest rate movements such that there would be no impact on the benchmark efficient entity (in the sense of the 'impact' referred to in Rule 87(11)(d)). For example, CEG considers that a trailing average debt issuance programs both with and without an interest swap overlay were efficient responses to the 'on-the-day' approach to regulation.[47]

Further, ActewAGL Distribution notes that it may not have been possible or practical, or commercially sensible, for all businesses to use swaps to manage base interest rate risk across their entire debt portfolio.[48] In the case of these businesses, an efficient financing strategy is likely to have involved simply issuing fixed rate debt on a staggered maturity cycle in order to hedge against interest rate movements.

Given the above, in circumstances where ActewAGL Distribution is currently (and was in and prior to the 2009-10 to 2014-15 AA period) 100% financed by equity (that is, given ActewAGL Distribution has no debt financing), it is not reasonable for the AER to determine a cost of debt allowance on the basis of its unique (regulated) benchmark efficient entity. This point was made by CEG in respect of ActewAGL Distribution's recent regulatory proposal for its electricity distribution network.[49] This would suggest there is no principled basis for applying the AER's Transition to ActewAGL Distribution (or, indeed, any transitional arrangement).

Response to reasoning in recent AER decisions

In recent decisions, the AER has stated that the downsides of a 'hybrid' transition of the kind described above (which cause it to conclude that its 'preferred option' is the AER's Transition) are as follows:[50]

- *Transitioning from the on-the-day approach using the hybrid transition can create a mismatch between the allowed return on debt and the efficient financing costs of a benchmark efficient entity over the life of its assets. The change in the regulatory regime can therefore create windfall gains or losses to service providers or consumers. Windfall gains or losses do not result from a service provider's efficient or inefficient decisions. In effect, they are a side effect of changing the methodology for estimating the return on debt at a particular point in time. They should be avoided, so that economic regulatory decisions deliver outcomes based on efficiency considerations, rather than timing or chance.*

[46] This issue has been further explained by ActewAGL Distribution in its *Revised Regulatory Proposal 2015-19*, January 2015 for its electricity distribution network at pages 473-479.

[47] CEG, *Critique of the AER's JGN draft decision on the cost of debt*, April 2015; CEG, *Efficient debt financing costs*, 19 January 2015; CEG, *Debt transition consistent with the NER and NEL* (prepared for Ausgrid, Endeavour Energy and Essential Energy), 19 January 2015

[48] See, for example, UBS, *UBS response to the TransGrid request for interest rate risk analysis following the AER Draft Decision of November 2014*, undated; UBS, *UBS response to the Networks NSW request for financeability analysis following the AER Draft Decision of November 2014*, undated

[49] CEG, *Debt transition consistent with the NER and NEL* (prepared for ActewAGL Distribution), May 2014, Appendix C. ActewAGL Distribution notes that the relevant provisions in the National Electricity Law and Rules relating to the cost of debt are the same in all relevant respects to those in the NGL and NGR described above.

[50] See. for example, AER, *Final decision Jemena Gas Networks (NSW) Ltd Access Arrangement 2015-20*, June 2015, Attachment 3, p 160

- *A gradual transition to the trailing average approach (option 2) was the approach we proposed in the Guideline and service providers may have already commenced changing their financing practices in expectation that approach would be applied. Accordingly, we have not had a full opportunity to consult on this proposal, and as Chairmont advised, switching now to the hybrid transition may be disruptive to the industry.*[51]
- *It has the potential to create a bias in regulatory decision making by choosing an approach that uses historical data after the results of that historical data is already known.*
- *It does not avoid the practical difficulties with the use of historical data for the component of the return on debt where these difficulties arise (the DRP component).*

Each of these issues are addressed in turn below.

As a result of the AER's stated endeavour of providing a benchmark efficient entity with the opportunity to recover the efficient financing costs over the life of its assets, the AER's Transition creates a deliberate or engineered mismatch between the allowed return on debt and the required return on debt for the benchmark efficient entity in the next access arrangement period. The AER considers this is required to offset perceived windfall gains from prior periods and thus allow for the recovery of efficient financing costs over the life of its assets. The mismatch created by the AER's Transition is demonstrated in appendix 8.26.[52]

The material before the AER did not establish the existence of a windfall gain, but rather, established that there was no such gain. ActewAGL Distribution also notes that in its final decision regarding ActewAGL Distribution's electricity distribution business, the AER disagrees with CEG's calculation because CEG's averaging period is different from Lally's.[53] However, ActewAGL Distribution understands that Lally's analysis builds on prevailing DRP figures rather than actual allowed DRP. Further, all DRPs should be measured relative to the swap rate. When adjusting for this, CEG's analysis holds. It therefore appears that the AER has, in effect, argued that an analysis of overcompensation must ignore the actual return on debt allowance that was set and instead assume the return on debt allowance was set at another date and at a difference level (which is what Lally's analysis does). ActewAGL Distribution considers that this is a hypothetical concept of 'overcompensation' and therefore not relevant.

Professor Stephen Gray also makes findings of relevance on this point, including the following:[54]

- it is not appropriate for a regulator to keep a mental accounting of what it considers to be any windfall gains or losses from past regulatory determinations and to then seek to 'square the ledger'; and
- if the AER immediately implements the trailing average approach (with no transition) for the DRP component, there will be no windfall gain for service providers, and only in that case would there be a match between the allowed return on debt and the cost of debt finance incurred by the efficient entity pursuing what the AER considers to be the efficient debt management strategy.

In relation to the second point raised by the AER, while it is true that a gradual transition to the trailing average was proposed by the AER in its Rate of Return Guideline, businesses have raised concerns with the AER's proposed approach from the outset (in particular, given that, in practice, businesses have different debt portfolios).[55] The AER's assumption that businesses would have already commenced changing their financing practices is therefore not supported by the debt positions of these businesses. The AER's reasoning would also lead to the perverse result whereby the AER's

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[52] CEG, *Efficient debt financing costs* (prepared for ActewAGL Distribution), 19 January 2015 at [7.b.i] and [61]-[66]. ActewAGL Distribution notes that the relevant provisions in the National Electricity Law and Rules relating to the cost of debt are the same in all relevant respects to those in the NGL and NGR described above.
[53] AER, *Final decision ActewAGL distribution determination 2015-16 to 2018-19*, , April 2015, Attachment 3, pp 517.
[54] SFG Consulting, *Return on debt transition arrangements under the NGR and NER, Report for Jemena Gas Networks, Jemena Electricity Networks, CitiPower, Powercor and United Energy*, 27 February 2015.
[55] See, for example, AER, *Explanatory statement, Draft rate of return guideline*, August 2013, pp. 93-95; Rate of Return Explanatory Statement, pp. 124-125

position as outlined in the AER's Rate of Return Guideline shaped the AER's decision in respect of businesses' proposals. This is inconsistent with the non-binding nature of the Rate of Return Guideline under the NGR and contrary to the intention of the AEMC in giving the guidelines this status under the NGR.[56]

Regarding the AER's third point, ActewAGL Distribution disagrees that there could be a potential bias in regulatory decision making by choosing historical data. Firstly, the base interest rate would not rely on historical observations, only the smaller DRP component would rely on historical observations. Secondly and as noted by CEG in appendix 8.25, in a real sense it is easier/less fraught to estimate the cost of debt historically than it is to determine the cost of debt prospectively in a narrow window. Historically, any unbiased inaccuracy in estimation techniques will tend to cancel out, with each measurement receiving only a small weight. In contrast, under the AER's Transition, the first measurement period actually receives more weight in the return on debt calculation than under the previous 'on the day' approach.[57]

Finally, in relation to practical difficulties with the use of historical data for the DRP component, ActewAGL Distribution considers the AER's asserted difficulties are ill-founded. As noted by CEG:[58]

- the AER/ACCC and other regulators have been estimating the cost of debt over this entire period and all of the data that was available then is available now such that there is no greater difficulty in estimating the historical cost of debt now than there was when the AER did so at the relevant time; and
- while the available data series do have variations over some historical periods, the same will almost certainly be true propspectively.

CEG also concludes that any problems associated with differences between data providers is more severe under the AER Transition because it gives 100% weight to yields estimated during the initial, short averaging period and this estimate dominates the AER's estimate of the cost of debt over the forthcoming AA period (it still has 60% weight in the last year of the next AA period).[59]

Further, the AER's own consultant, Chairmont, does not note any particular difficulty with the use of historical data to estimate a return on debt using the trailing average approach and states that it is likely that a reasonable estimate could be determined.[60]

ActewAGL Distribution provides in appendix 8.05 an estimate of the historical DRP, estimated consistently with the AER's approach to determine the DRP throughout that ten year period.

In its April/June 2015 final decisions, the AER also assessed the four different financing practices, as shown in Table 5.1.

Table 5.1 AER's assessment of financing practices

	On-the-day approach	Gradual transition to trailing average	Hybrid transition	Trailing average
Efficient financing practices consistent with the principles of incentive based regulation	Yes	Yes	Yes	No
Provides a benchmark efficient entity with a reasonable opportunity to recover efficient financing costs over the life of its assets	Yes	Yes	Base rate: Yes DRP: No	No
Matches allowed return on debt with efficient financing cash flows regulatory period-by-period	Base rate: Yes DRP: Depends	Yes	Yes	Yes
Avoids potential bias in regulatory	Yes	Yes	Base rate: Yes	No

[56] AEMC, *Economic Regulation of Network Service Providers, and Price and Revenue Regulation of Gas Services, Final Position Paper*, 29 November 2012, p. 71
[57] CEG, *Debt transition consistent with the NER and NEL* (prepared for ActewAGL Distribution), May 2014, p. 28
[58] CEG, *Efficient debt financing costs* (prepared for ActewAGL Distribution), 19 January 2015, p. 48
[59] CEG, *Efficient debt financing costs* (prepared for ActewAGL Distribution), 19 January 2015, p. 48
[60] Chairmont, *Cost of Debt: Transitional Analysis*, April 2015, p. 47

decision making that can arise from choosing an approach that uses historical data after the results of that historical data is already known	DRP: No

The issues raised in Table 5.1 in relation to the hybrid approach proposed by ActewAGL Distribution have been addressed in detail in a memo by CEG included in appendix 8.29.

Hybrid approach calculation of the return on debt
ActewAGL Distribution has estimated the return on debt estimate for the 2016/17 regulatory year period to reflect its proposed hybrid approach to transitioning to the trailing average. The estimate reflects the sample averaging period of 2 January 2015 to 30 January 2015 for year one and is the sum of:

- the historical average DRP for ten years prior to 2015–16 (2.35 per cent);
- the average of one to 10 year swap rates during the period 2 January 2015 to 30 January (2.69 per cent); and
- swap transaction costs (23 basis points).

The details of this estimate is included in appendix 8.05. This results in a semi-annual yield estimate of 5.27 per cent, which is equivalent to an annualised estimate of 5.34 per cent. ActewAGL Distribution believes that even the swap transaction costs should be annualised as discussed in an expert report by CEG submitted by Jemena Gas Networks and included in appendix 8.27 of this proposal[61].

The estimate for 2016/17 will be updated once data for ActewAGL Distribution's actual averaging period (proposed on a confidential basis below) becomes available and included in clause 6.1 of the AA.

For the 2017/18 to 2020/21 regulatory years, clause 6.1 of the proposed AA includes a formula for updating the annual return on debt observation. The process for updating the annual return on debt observation is included in clauses 6.18 to 6.24 of the proposed AA and is as follows:

1. Within 20 business days of a financial year for which an annual return on debt observation is to be calculated, ActewAGL Distribution must notify the AER of its calculation.
2. Wtihin 40 business days of ActewAGL Distribution notifying the AER of its calculation, the AER must notify ActewAGL Distribution of its determination whether it considers the calculation is consistent with the AA. The period for notifying ActewAGL Distribution may be extended in certain circumstances.
3. If the AER does not make a determination within the relevant time period, the AER is taken to have approved ActewAGL Distribution's calculation of the annual return on debt calculation.

The proposed AA then also includes a process for updating the X factors by reference to the approved annual return on debt observation (clauses 6.25 to 6.28). The updated X factors are used for the purposes of varying reference tariffs for the relevant financial year (clauses 6.28 and 7.4 of the proposed AA).

6. Averaging periods

In its Rate of Return Guideline, the AER stated that it proposed to estimate the prevailing return on debt using a simple average of the prevailing rates observed over a period of 10 or more consecutive business days up to a maximum of 12 months.[62] The AER proposed that the averaging period would be subject to the following principles:[63]

- The period must be specified prior to the commencement of the regulatory period.

[61] The estimate is based on the simple average of RBA and Bloomberg, which is consistent with CEG's testing of the curves for the period 2-31 January 2015, included in appendix 8.27
[62] Rate of Return Guideline, p. 130
[63] Rate of Return Guideline, pp. 130-131

- At the time the period is nominated, all dates in the averaging period must take place in the future.
- The averaging period should be as close as practical to the commencement of each regulatory year in a regulatory period.
- A period needs to be specified for each regulatory year within a regulatory period.
- The specified periods for different regulatory years are not required to be identical, but should not overlap.
- Each agreed averaging period is to be confidential.

For the 2016/17 financial year, ActewAGL Distribution proposes the confidential averaging period shown below. For each of the 2017/18 to 2020/21 financial years, ActewAGL Distribution proposes that the averaging period for use in estimating the prevailing rate of return on debt be nominated on or before 30 April in the year prior to financial year in which the nominated averaging period occurs, pursuant to a process set out in the proposed AA.[64] ActewAGL Distribution notes that its proposed approach for the 2017/18 to 2020/21 financial years meets the principles set out in the Rate of Return Guideline, except the principle which states that the period must be specified prior to the commencement of the regulatory period. The reasons for this divergence from the Rate of Return Guideline are set out below.

ActewAGL Distribution proposed the same mechanism for determining the averaging period used to determine the return on debt in respect of its electricity distribution network for the 2014/15 to 2018/19 regulatory control period. ActewAGL Distribution also responds to the AER's reasons for rejecting the proposal in its final decision regarding its electricity distribution network below.

Reasoning in recent AER decisions

The AER rejected ActewAGL Distribution's proposed mechanism for determining the average period used to determine the return on debt in respect of its electricity network, stating that it considers that averaging periods should be determined before the commencement of a regulatory period on the basis that this:

- allows the AER to substantively assess the proposal and avoids the practical difficulties with either:
    - creating a new process for approving averaging period proposals, or
    - assessing averaging periods during the annual tariff variation process which is meant to be a compliance check that takes place over a short time frame;[65] and
- is consistent with the rate of return objective on the basis that it:[66]
    - provides service providers with flexibility to nominate the length of their averaging periods within 10 consecutive business days and 12 months;
    - provides sufficient certainty for service providers to organise their financing arrangements in that no matter how interest rates change service providers will be compensated for the return on debt during the averaging period by reflecting those interest rates;
    - results in an unbiased outcome through advance nomination; and
    - assists in updating service providers' return on debt by automatic application of a formula.

The AER has noted that adding an additional process each year to determine the applicable averaging periods adds further complexity and costs to the administration of regulation. The AER also questioned whether the benefits of ActewAGL Distribution's proposed period nomination process (for its electricity distribution network) would outweigh the additional complexity and administrative costs. In addition, the AER referred to its experience that agreeing on averaging periods is not necessarily a straightforward exercise and that the risks with nominating the averaging period before the final decision have been overstated.[67]

[64] Following a request from the AER, ActewAGL Distribution has, in a letter dated 10 April 2015, provided an averaging period for the 2015/16 financial year. However, ActewAGL Distribution is of the view that the AA will commence on 1 July 2016 and therefore does not consider that the averaging period for 2015/16 should be used.
[65] AER, *Final decision ActewAGL distribution determination 2015-16 to 2018-19*, April 2015, Attachment 3, p. 307
[66] AER, *Final decision ActewAGL distribution determination 2015-16 to 2018-19*, April 2015, Attachment 3, pp. 210-211
[67] AER, *Final decision ActewAGL distribution determination 2015-16 to 2018-19*, April 2015, pp. 212-213

The AER also maintained that it is 'not clear' that adding another process which requires judgement and assessment is consistent with the rule requirement for the change in revenue from the annual update to result from the automatic application of a formula specified in the determination.[68]

As set out below, ActewAGL Distribution considers that the propositions which the AER relies on to conclude that its approach is consistent with the rate of return objective are either incorrect or actually lead to outcomes which are inconsistent with that objective. By not allowing ActewAGL Distribution to nominate the averaging period before the commencement of the respective financial year the AER's approach could lead to a greater risk of mismatch between the efficient financing costs of the benchmark efficient entity and the allowed return on debt.

Reasons for departure from the Rate of Return Guideline and response to reasoning in recent AER decisions

ActewAGL Distribution notes that its proposal – to nominate the averaging period for use in calculating the prevailing rate of return on debt for the 2017/18 to 2020/21 regulatory years – is a departure from the method set out in the guideline. As such, ActewAGL Distribution is required to provide reasons for that departure under Rule 72 of the NGR.

While the AER has indicated its preference that averaging periods be specified prior to the commencement of a regulatory period (here, the AA period), the NGR do not require this. ActewAGL Distribution considers that its approach is consistent with the rate of return objective, the RPP and the NGO. It is also far superior in terms of promoting efficient debt management practices. ActewAGL Distribution considers that its proposal provides real flexibility for service providers to align the averaging period with efficient refinancing requirements.

It also provides greater certainty and reduced risk of mismatch between efficient financing costs and the allowed return on debt. The greater the timing gap, the less information the service provider has available to it when nominating the averaging period over which it is supposed to finance or refinance its debt. For instance, the service provider will have less information/certainty about relevant market conditions, debt instruments available, its spending requirements, etc. This increases the risk of mismatch between the allowed return on debt and the return on debt of a benchmark efficient entity referred to in the allowed rate of return objective, and does not facilitate efficient financing practices. A likely outcome is that the service provider either ends up raising the required debt at a greater than efficient cost and/or not raising debt during the averaging period, thus giving rise to a risk of mis-match. ActewAGL Distribution therefore does not consider that it has overstated the risk of nominating the averaging period up to five years in advance.

Further, ActewAGL Distribution considers that the efficiently financed benchmark entity would not commit to the raising of debt in a particular period of days several years in advance of debt raising. Such decisions on the timing of debt raising are made closer to the raising date and may depend on the liquidity and depth of the bond market at that time, and feedback from the market closer to the time when the debt may be issued, as market conditions constantly change. It follows that, in order for the specification of the averaging period for 2017/18 to 2020/21 to contribute to the achievement of the rate of return objective, the nomination of that averaging period should not occur at this time, but rather, closer to the time of decision-making on the timing of the raising of debt.

A closer matching of the timing of debt raising and the averaging period used to estimate the return on debt allows the service provider to nominate an averaging period when it is better informed about its debt requirement, and able to take into account a more up-to-date cash position, prevailing and forecast market conditions, and prevailing debt portfolio position at the time. By contrast, where averaging periods for all years of the AA are specified prior to the commencement of that period, the service provider may have an incentive to raise debt during the specified averaging period to mitigate risk, notwithstanding prevailing market conditions at that time.

The contribution to the achievement of the rate of return objective made, and incentives for the adoption of efficient financing practices created by ActewAGL Distribution's proposal for specification of the averaging periods for 2017/18 to 2020/21, does not give rise to any risk of gaming. This is because, pursuant to that proposal, the averaging period is nominated before the occurrence of any date within that period, and must be approved by the AER. In relation to the AER's experience that

[68] AER, *Final decision ActewAGL distribution determination 2015-16 to 2018-19*, April 2015, Attachment 3, pp. 211-212

agreeing on an averaging period is not necessarily a straightforward process, ActewAGL Distribution notes that its proposed process of nominating the averaging period is set up so as to facilitate an automated process with a fall-back position should ActewAGL Distribution not nominate an averaging period consistent with the process. ActewAGL Distribution refers to clause 6.10 of the AA and below for further details.

To ensure that the return on debt is updated mechanistically, and to give the AER adequate powers of oversight and approval, a detailed process for annual nomination of the averaging periods for the 2017/18 to 2020/21 regulatory years is set out in the proposed AA, and described further below.

Process for annual nomination of averaging periods for 2017/18 to 2020/21
ActewAGL Distribution's proposal is not biased, nor is it overly complex. ActewAGL Distribution's proposed AA sets out a clear and simple process for approval of future averaging periods for 2017/18 to 2020/21 financial years, and to calculate the updated annual return on debt calculation and resulting total revenue (through the updating of the X factors). Specifically, ActewAGL Distribution's proposed AA provides for the following see clauses 6.10 to 6.17 of the proposed AA):

1. The nominated and agreed averaging period for use in calculating the prevailing rate of return on debt in regulatory year (t) must satisfy the following conditions:
    a. the averaging period must be a period of 10 or more business days;
    b. it must occur within the period 30 June in financial year (t-2) and 30 April in financial year (t-1) inclusive; and
    c. it must be confidential.
2. By 30 April in financial year (t-2), ActewAGL Distribution shall provide an averaging period notice to the AER nominating the averaging period to be used in the calculation of the prevailing rate of return on debtin financial year (t).
3. Within 20 business days of ActewAGL Distribution submitting an averaging period notice in regulatory year (t-2), the AER shall determine whether it agrees to the nominated averaging period by applying the conditions for the averaging period set out in (1) above and notify ActewAGL Distribution of its determination. If ActewAGL Distribution does not submit an averaging period notice, then the averaging period will be the first 10 business days of the financial year (t-1).

As described above in section 5, the proposed AA then includes a process for updating the annual return on debt observation (which calculation is to reflect the averaging periods determined in accordance with the the above process (clause 6.6)) and a process for updating the X factors by reference to the approved annual return on debt observation. In updating the X factors, ActewAGL Distribution must use the annual return on debt observation that is approved or specified by the AER (clause 6.25 of the proposed AA).

In accordance with part 7 of its proposed AA, on or before 15 March (or next closest business day) in financial year t-1, ActewAGL Distribution shall provide notice to the AER if it proposes to vary one or more reference tariffs for financial year (t). This reference tariff proposal shall be based on the updated annual return on debt observation approved by the AER and resulting updated X factors for regulatory year (t).

The AER's approval of the proposed reference tariff variation for a financial year is conditioned on the calculation by ActewAGL Distribution of X factors updated for the return on debt in accordance with 6.25 to 6.28 of the proposed AA. It follows that, if the AER determines that ActewAGL Distribution has not updated the return on debt and resultant X factors by reference to approved annual debt observation (including with respect to the agreed averaging period), the AER can exercise its powers to rectify this in assessing the variation notice pursuant to part 7 of the proposed AA.

Proposed averaging period for 2016/17 and alternative proposed averaging periods for 2017/18 to 2020/21
In a letter to ActewAGL Distribution dated 30 March 2015, the AER requested ActewAGL Distribtuion to propose an averaging period for the return on debt for the financial year 2015/16. In a response to the AER on 10 April 2015, ActewAGL Distribution proposed an averaging period of 15 business days commencing on 4 June 2015 (inclusive) for use in the estimation of the return on debt for the period 1 July 2015 to 30 June 2016 inclusive. However, ActewAGL Distribution reserved its right to propose

how the return on debt should be measured in this proposal. In light of that, ActewAGL Distribution refers to the discussion in attachment 11 in which it is noted that 2015/16 is not an interval of delay for the purposes of Rule 92(3) of the NGR. Consistent with this, the return on debt does not need to be estimated for 2015/16. The nominated averaging period for 2015/16 provided in ActewAGL Distribution's letter of 10 April 2015 does therefore not have any relevance to this proposal.

As part of this proposal, ActewAGL Distribution nominates an averaging period to apply for the 2016/17 financial year as shown below. ActewAGL Distribution also provides (on a confidential basis) indicative averaging periods for 2017/18 and beyond, noting that these are only set down in the eventuality that the AER does not agree with ActewAGL Distribution's proposal to select the annual averaging periods throughout the AA as discussed above:

Consistent with the Rate of Return Guideline principle that the averaging period is to be confidential,[69] ActewAGL Distribution proposes the above averaging periods on a confidential basis.

7. Selection of the data source provider and extrapolation methodology

In its Rate of Return Guideline, the AER stated that it proposed to estimate the return on debt using published yields from an independent third party data service provider but did not specify which data series it proposed to use.[70] In its recent final decisions in April/June 2015, the AER's approach has been to specify the use of a simple arithmetic average of fair value yield estimates from Bloomberg and the RBA (extrapolated using the AER's method) for each regulatory year in the relevant period.

ActewAGL Distribution agrees that independent third party data should be used to estimate the return on debt and that these curves should be extrapolated, where necessary, to the benchmark term to maturity of 10 years. However, ActewAGL Distribution does not agree that the AER should, without testing the available sources and extrapolation methods against relevant market evidence, apply an arithmetic average of the fair value yield estimates from Bloomberg and the RBA to determine the return on debt for each regulatory year in the forthcoming AA period. Rather than assuming that a simple arithmetic average of the Bloomberg and RBA estimates extrapolated using the AER's methodology will produce an estimate of the return on debt that contributes to the achievement of the allowed rate of return objective in each of the regulatory years in the next AA period, ActewAGL Distribution considers it is important to test the accuracy of the yields from all available sources (using each of the two extrapolation methodologies) when estimating the return on debt each year. If there is a material divergence between the estimates, applying a method that selects the data source and extrapolation method (or combination thereof) that fits the reported bond yields at the time of estimation will better achieve the allowed rate of return objective.

As discussed below, ActewAGL Distribution proposes to use the simple average of the relevant data service providers' estimates extrapolated using the AER and SAPN methodologies (that is, on the currently available data series, the simple average of the four data points being each of the RBA and Bloomberg curves extrapolated using each of the AER and SAPN methods) only where the highest and lowest of the four data points are within 20 basis points[71] of each other. In the event there is a material divergence (of more than 20 basis points), ActewAGL Distribution's proposed approach provides a pre-defined mechanistic process for selecting the data source that provides the best estimate of the return on debt at the time the return on debt needs to be estimated. The proposed

[69] Rate of Return Guideline, p. 22
[70] Rate of Return Guideline, p. 21
[71] ActewAGL Distribution notes that its proposed threshold is 40 basis points lower than other network services provider have proposed (e.g. Jemena Gas Network's revised proposal in February 2015). This is driven by the observation in appendix 8.29 that the Bloomberg curve is biased as also shown in Figure 7.1 below.

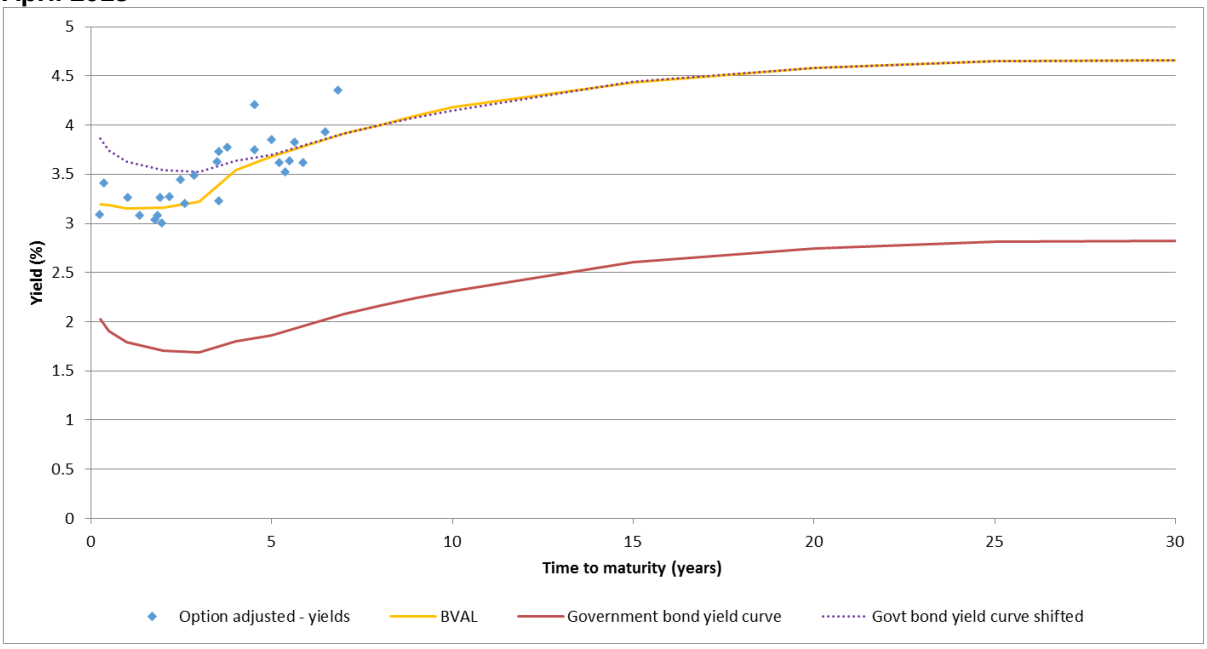
approach better contributes to the NGO than the approach adopted by the AER in recent regulatory decisions and is consistent with the intention of the AEMC in amending the rate of return provisions to allow the AER to consider a range of relevant information in order to adopt the method of determining the return on debt likely to provide the best estimate.

Data source provider

In recent months, and particularly in light of the AER's approach in recent decisions, the issue of which independent data source should be used to estimate the return on debt has become even more important. There are currently two relevant independent data sources: the Bloomberg BBB BVAL curve and the RBA's aggregate measure of 10 year Australian BBB corporate debt. ActewAGL Distribution draws the AER's attention to a memo attached in appendix 8.29. In this memo, CEG demonstrates that the Bloomberg BBB BVAL curve (beyond 5-7 years) is likely to underestimate the return on debt required by the benchmark efficient entity, which means that using it to estimate the return on debt will not contribute to the achievement of the rate of return objective or promote the NGO or RPPs.

Specifically, CEG finds that Bloomberg uses the shape of the Government yield curve to extrapolate the cost of debt for time to maturity beyond around 5 years to 30 years, showing that the Bloomberg BBB BVAL curve has essentially the same shape as the Bloomberg bond yield curve. This is evident in **Error! Reference source not found.** which is reproduced from CEG's memo included in appendix 8.29.

Figure 7.1 BVAL curve BVAL constituents and Bloomberg government bond yield curve on 14 April 2015



In the context of estimating the return on debt for the benchmark efficient entity, ActewAGL Distribution has significant concerns with this extrapolation method as it will most likely underestimate the return on debt. As noted by CEG:[72]

> Indeed, this approach results in the minimum conceivable increase in costs associated with issuing longer term debt (the increase in costs associated with a risk free government issuing longer term debt). In our view this is a biased estimate and the cost of debt for a BBB issuer would increase by more than this as they increased the maturity of their debt issue.

These concerns underline the importance of testing the available data sources against relevant market evidence.

[72] CEG, *Extrapolation of the Bloomberg curve to 10 years*, 19 June 2015, pp. 7-8

Due to this, ActewAGL Distribution considers that if the AER considers (contrary to the views expressed by ActewAGL Distribution in attachment 11) that it has power under the NGR to take into account revenue for the 2015/16 financial year in determining total revenue for the 2016/17 to 2020/21 AA period, given CEG's analysis, ActewAGL Distribution considers that the return on debt for the 2015/16 financial year should be estimated by reference to the extrapolated RBA curve only. In setting out this position, ActewAGL Distribution should not be understood as accepting that the AER has power under the NGR to make an adjustment to total revenue for the 2016/17 to 2020/21 AA period by reference to the 2015/16 financial year. To the contrary, for the reasons discussed in attachment 11 of this AA information, ActewAGL Distribution maintains that the AER has no power to perform such an adjustment.

Finally, due to the bias that CEG has identified, ActewAGL Distribution considers that when reviewing which data source to select, a threshold of 20 basis points should be the trigger for selecting the best fit data source and extrapolation methodology (or combination thereof), rather than the trigger of 60 basis previously proposed by other network service providers. Given Bloomberg's BBB BVAL curve is likely to underestimate the return on debt required by the benchmark efficient entity, failing to test the data sources against traded bond data in cases where there is a divergence between the estimates would likely deny ActewAGL Distribution the opportunity to recover the efficient costs of the benchmark efficient entity, contrary to the rate of return objective, NGO and RPP.

Extrapolation

ActewAGL Distribution agrees with the AER that whether the RBA, Bloomberg or an average of the two curves is used, it is likely that the third party estimates will need to be extrapolated to obtain an estimate of the ten year return on debt.

However, in contrast to the AER's final decision for the ACT/NSW businesses in April/June 2015, ActewAGL Distribution does not agree that the AER's proposed extrapolation method is necessarily likely to result in a return on debt that achieves the rate of return objective without any further testing of the accuracy of that method in the relevant averaging periods.

Analysis by CEG for Jemena Gas Networks, based on the sample period 2 January 2015 to 30 January 2015, shows that the extrapolation proposed by the AER in its decisions will not necessarily provide a best fit to the data during the AA period. CEG tested the performance of the RBA curve, the Bloomberg curve and a simple average of the two curves, using two alternative extrapolation methods:

- the method proposed by the AER in its draft decision regarding Jemena Gas Networks (which was maintained by the AER in its final decision); and
- the method recently proposed by SA Power Networks.

CEG sought to determine which curve and extrapolation method best reflected the observed bond data by performing goodness of fit tests based on the methodology proposed by Jemena Gas Networks, Nelson-Siegel analysis and bondpair analysis. The sample of bonds used was also consistent with the criteria for bonds proposed in Jemena Gas Networks' original proposal. CEG concludes that over the period from 2 January 2015 to 30 January 2015, the best third party estimate of the ten year spread to swap is the average of the RBA and BVAL curves extrapolated according to the SAPN methodology.[73] CEG's report is included in appendix 8.27.

By contrast, CEG has found that the AER extrapolation method is the best extrapolation method applied to the RBA curve from 14 April 2014 to 29 May 2015 as illustrated in appendix 8.29[74]. This illustrates that the choice of extrapolation technique is context dependent. ActewAGL Distribution notes that the AER has dismissed this extrapolation methodology in its final decision for Jemena Gas Network in June 2015. In appendix 8.30, CEG has critiqued the final decision and concludes that the AER's rejection is not justified. ActewAGL endorses CEG's analysis and conclusions.

In light of CEG's analysis, ActewAGL Distribution does not consider that it would be appropriate to lock in the use of the AER's extrapolation approach for each averaging period in the 2016/17 to

[73] CEG, *Critique of the AER's JGN draft decision on the cost of debt*, April 2015
[74] CEG, Extrapolation of the Boomberg curve to 10 years, June 2015, p. 10

2020/21 AA period in which the prevailing return on debt needs to be estimated. Instead, as described above, ActewAGL Distribution proposes that the results of the two extrapolation methods should both be calculated and, where the results from the SAPN and AER extrapolation methods materially differ, each one should be tested against the available bond data to identify the best fit extrapolation methodology. The extrapolation methodologies are set out in Schedule 9 of the proposed AA.

ActewAGL Distribution's proposed method for selecting data sources and extrapolation methodology

ActewAGL Distribution's proposed method for selecting data sources is set out in clauses 6.2 to 6.5 of the proposed AA.

ActewAGL Distribution proposes that the data source and extrapolation methodology (or combination thereof) used to estimate the return on debt be selected using the following steps:

1. Identify all relevant independent return on debt data series (e.g. Bloomberg FVC or BVAL, the RBA or CBA Spectrum).
2. Estimate the return on debt for each data series, and an average of the available data series, for that averaging period using both the AER and SAPN extrapolation methodologies.
3. Calculate the difference between the highest and lowest ten year BBB estimates from the available relevant data sources (extrapolated using both the AER and SAPN methodology).
    a. If the difference between the highest and the lowest estimates is 20 basis points or less, the estimate produced by the simple arithmetic average of the estimates (extrapolated in accordance with the AER method) is used.
    b. If the difference is 20 basis points or greater, move to step 4.
4. Identify relevant bonds to compare each estimate against and their yields over the averaging period that meet the predetermined objective criteria.
5. Select the return on debt estimate (or combination of estimates) that best fits the sample of bonds identified in step 4.

The proposed AA defines the relevant sample of bonds for the purposes of step 4, as discussed further below.

The provisions in the AA deal only with the second and subsequent regulatory years in the 2020/21 AA period. However, ActewAGL Distribution proposes that the same method be applied for determining the data source and extrapolation method for the regulatory year 2016/17.[75]

ActewAGL Distribution's proposed approach contributes to the achievement of the allowed rate of return objective

ActewAGL Distribution's proposed approach involves using the data source that transparently and objectively provides the best estimate of the return on debt for the benchmark efficient entity at any point in time. The available data sources and methods are tested against relevant market evidence—yields for reported bonds with characteristics that are similar to the benchmark form of debt—which can be sourced from data providers such as Bloomberg and UBS.

ActewAGL Distribution's proposed approach draws on Jemena Gas Networks' proposed method submitted to the AER in February 2015.[76] In its June 2015 final decision regarding Jemena Gas Networks, the AER did not agree with this approach on the basis that the AER:[77]

[75] As noted above, if the AER considers (contrary to the views expressed by ActewAGL Distribution in attachment 11) that it has power under the NGR to take into account revenue for the 2015/16 financial year in determining total revenue for the 2016/17 to 2020/21 AA period, given CEG's analysis, ActewAGL Distribution considers that the return on debt for the 2015/16 financial year should be estimated by reference to the extrapolated RBA curve only. In setting out this position, ActewAGL Distribution should not be understood as accepting that the AER has power under the NGR to make an adjustment to total revenue for the 2016/17 to 2020/21 AA period by reference to the 2015/16 financial year. To the contrary, for the reasons discussed in attachment 11 of this AA information, ActewAGL Distribution maintains that the AER has no power to perform such an adjustment.

[76] Jemena Gas Networks, *2015-20 Access Arrangement, Response to the AER's draft decision and revised proposal, Appendix 7.10 - Return on debt response*, 27 February 2015. The approach is also proposed by Jemena Electricity Networks (Vic) Ltd, *2016-20 Electricity Distribution Price Review Regulatory Proposal*, Attachment 9-2, Rate of return proposal, 30 April 2015, pp. 95-101.

[77] AER, *Final decision Jemena Gas Networks (NSW) Ltd Access Arrangement 2015-20*, June 2015, Attachment 3, pp. 204-207

- does not agree that, at a particular point in time, it is meaningful to choose between the curves based on a statistical method that involves an alternative bond selection criteria;
- considers that the effect of averaging the curves is important where the curves produce materially different results and no curve is demonstrably superior (i.e. there is no reason to expect bias);
- considers that, in circumstances where there is a fair degree of available information on the bond selection criteria of both curves, a fair degree of available information on the curve fitting methodology used by the RBA and some available information on Bloomberg's curve fitting methodology, a 'direct' assessment of the methodologies is the best means to evaluate which curve or combination of curves is likely to produce estimates that contribute to the achievement of the rate of return objective (and not an 'indirect' assessment of the curves against the proposed bond criteria);
- is not satisfied that testing the curves against data that is filtered by the proposed bond selection criteria is a robust way to determine which of the curves is more accurate at a point in time (but rather, selects curves based on which is closest to the proposed bond selection criteria); and
- is not satisfied that the approach could be formulaically applied as required by Rule 87(12) of the NGR, but rather requires extensive use of judgement and subjective and contentious analysis, and leaves many questions unanswered.

ActewAGL Distribution disagrees with the AER. By not having a process to objectively select the independent data sources and extrapolation methodology (or combination thereof) to determine the return on debt in the event something unexpected should happen to any of the curves or there is a material divergence between the curves, the AER would lock in a return on debt that significantly differs from the efficient financing costs of a benchmark efficient entity. The potential issues associated with using independent third party data sources have recently been demonstrated by CBA ceasing to publish its CBASpectrum series in 2010, citing a lack of data, problems with reliability and confusion as to how the curves can be used.[78] In such a situation, ActewAGL Distribution considers that a process that is based on an objective (statistical) method must be superior to ensure that the most precise estimate of the return on debt be used rather than a simple average of two estimate.

Whereas the AER has elected to estimate the return on debt using the simple average of yields from both Bloomberg and the RBA on the basis that neither curve is demonstrably superior and the curves produce materially different results, this is inconsistent with the NGR and Tribunal guidance on the selection of data sources for the estimation of the cost of debt.

In *ActewAGL* and *Jemena Gas Networks (NSW) Ltd (No 5)*, the Tribunal identified three ways for the AER to distinguish between competing curves:[79]

1. If there is sufficient available information, the AER could examine and compare the merits of the methodologies and data sources.
2. The AER could determine which curve has performed better in the past (subject to consideration of any changes in the bond market or methodolgoies or data sources used).
3. The AER could compare relevant observed yields against the published fair value curves and an average of these curves. The Tribunal has stated that this would require the AER to assemble a representative population of observed yields of sufficient number and term to maturity (only excluding bonds where there are sufficient qualitative reasons to consider that they are not correctly classed as being part of the relevant population), select the fair value curve that most closely correspondends to the relevant set and use any other available information to check that the selected fair value curve remains likely to provide the best estimate.

In drawing its conclusions in its final decision regarding Jemena Gas Networks, the AER has concluded that neither the curves from Bloomberg nor the RBA are clearly superior on the basis of options 1 and 2 above. The AER did not undertake the analysis in the third option identified by the Tribunal for concluding which data set is likely to produce the best estimate of the cost of debt. This is

[78] See *Application by Jemena Gas Networks (NSW) Ltd (No 5)* [2011] ACompT 10 at [21], [64]
[79] *Application by ActewAGL Distribution* [2010] ACompT 4 at [77]; *Application by Jemena Gas Networks (NSW) Ltd (No 5)* [2011] ACompT 10 at [53]

the analysis that would be undertaken under the approach proposed by ActewAGL Distribution where there is significant divergence between the estimates and is the consideration that ActewAGL Distribution considers is the most critical.

If this consideration is ignored, then it gives rise to the possibility that the return on debt determined for future periods may not reflect the best estimate of the efficient financing costs of a benchmark efficient entity. ActewAGL's proposed approach of within period selection of the independent data used to estimate the return on debt is designed to address the risk that market conditions (and therefore the fit of the curve to relevant data) or other relevant factors (such as the construction of the curve) may change during the AA period. The proposed approach allows the data sources to be tested against the observed bond data each time the data is to be sourced (i.e. yearly) rather than locking in a particular data series prior to the commencement of the AA period. This is consistent with the Tribunal's decision in *Jemena Gas Networks (NSW) Ltd (No 5)* in which the Tribunal pointed to an acknowledgement by the AER's advisor that there is no one unambiguously correct way to determine the best curve on a priori gounds and stated that 'curves must be subjected to the ultimate test - that of the relevant data'.[80] The data most likely to lead to the best estimate (i.e. an estimate of the return on debt that contributes to the achievement of the allowed rate of return objective) may change (and in the past has changed) over time with changes in the construction of the relevant curves, economic events affecting bond activity and data availability. It is also consistent with the Tribunal's decision in *ActewAGL* in which the Tribunal stated that divergences in curves may signify that one curve may provide a significantly better estimate compared to the other.[81]

While the AER appears to consider that the proposed approach is an 'indirect' way of assessing which curve is preferable, and that this is inferior to the AER's 'direct' approach of examining curve fitting methodologies, its conclusions in this regard are incorrect. Neither the NGR nor the Tribunal draw a distinction between 'direct' and 'indirect' means of assessing data sources. The AER's characterisation of both its and the proposed methodologies is misleading.

Whereas ActewAGL Distribution's proposed approach provides for a contemporaneous comparison of the observed yields against the observed curve using a broad sample (that is, a direct and objective test of the performance of the available published fair value curves), the AER's approach is to rely on indirect evidence as to the likely future performance. Specifically, the AER has sought to assess the likely future performance of the curves by reference to curve fitting methodologies and past performance. By relying on an examination of the methodology used by Bloomberg, the AER has also erred in failing to have regard to the deficiencies in the transparency in respect of this methodology. Such concerns have been previously identified by the Tribunal[82] and CEG[83]. ActewAGL Distribution also notes that the memo from CEG included as appendix 8.29 highlights the deficiencies in Bloomberg's methodology that mean it currently is likely to underestimate the return on debt for the benchmark efficient entity, as discussed above.

It is difficult to reconcile the AER's conclusion that an assessment of the methodologies used by data source providers is the best means to evaluate which curve or combination of curves is likely to produce estimates that contribute to the achievement of the rate of return objective with its conclusion that if either Bloomberg or the RBA substitutes its current methodology for a revised or updated methodology, the AER will adopt that revised or updated methodology without any consideration of that methodology.[84] While the AER does so on the basis that it is satisfied that both the RBA and Bloomberg are credible and independent data providers, this fails to take proper account of the fact that a change in methodology may mean that one or other is more relevant than the other for estimating the cost of debt.[85]

Contrary to the AER's conclusion, in circumstances where there is a material divergence in the relevant independent data sources, the approach proposed by ActewAGL Distribution includes a mechanism to allow for the selection of the data source and method (or combination thereof) that best fits the underlying market data.

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[80] *Application by Jemena Gas Networks (NSW) Ltd (No 5)* [2011] ACompT 10 at [88]
[81] *Application by Jemena Gas Networks (NSW) Ltd (No 5)* [2011] ACompT 10 at [62]-[63]
[82] *Application by ActewAGL Distribution* [2010] ACompT 4 at [23]
[83] CEG, *WACC estimates - A Report for NSW DNSPs,* May 2014, p. 43
[84] AER, *Final decision Jemena Gas Networks (NSW) Ltd Access Arrangement 2015-20*, June 2015, Attachment 3, pp. 215-216
[85] See the Tribunal's comments in *Application by Jemena Gas Networks (NSW) Ltd (No 5)* [2011] ACompT 10 at [63]

The approach proposed by ActewAGL Distribution is to define the relevant sample of bonds in a broad way, so as to ensure an adequate sample size for testing the available methods and data sources. This means:

- including bonds in a credit rating band, from BBB+ to BBB-;
- including bonds denominated in AUD, USD, EUR or GBP; and
- including fixed and floating rate bonds, bonds that may have yields from only one data source (or multiple data sources) and bonds with embedded options or other 'non-standard features'.

ActewAGL Distribution considers that this is consistent with the approach taken by the Tribunal in *ActewAGL* and *Jemena Gas Networks (No 5)*.[86] In those cases, the Tribunal sought to ensure that the sample of bonds used to test available methods and data sources was sufficiently large. In ActewAGL Distribution's case in particular, the Tribunal was critical of the approach taken by the AER, which relied on too small a sample of bonds around the relevant term to maturity.

To ensure a large enough sample was used, the Tribunal considered evidence of yields on bonds within a broad credit rating band, including both fixed and floating rate bonds, bonds that may have yields from only one data source (or multiple data sources) and bonds with 'non-standard features'.

ActewAGL Distribution considers that this proposed transparent and objective approach is more likely to produce the best estimate of the prevailing return on debt at each relevant point in time than the simple average currently being used by the AER. In particular, where the curves diverge significantly and one curve is providing better estimates than the other, ActewAGL Distribution's approach will necessarily lead to a better estimate.[87] It is ActewAGL Distribution's view that this must be in the long-term interest of customers and to which will promote the rate of return objective to a greater degree than the AER's approach.

Annual updating process

As noted above, the AER raised concerns in its final decision regarding Jemena Gas Networks that the proposed method for selecting data sources and the method of extrapolation could not be applied mechanistically as required by Rule 87(12) of the NGR.

ActewAGL Distribution observes that the NGR requirement is that a resulting change to the service provider's *total revenue* must be effected through the automatic application of a formula that is specified in the decision. That is, the requirement does not extend to every element of the return on debt calculation.

Under ActewAGL Distribution's proposal, the change in total revenue from any updated return on debt calculation is given automatic effect through inputting the approved updated return on debt calculation into the post-tax revenue model (**PTRM**) as approved in the AER's final decision for the AA period. The PTRM updates the X factors automatically using the formulae embedded within it.

Further, while the NGR do not require it, ActewAGL Distribution's proposed AA includes a codified method which can be applied mechanistically to calculate updated return on debt observations that will be used to update the return on debt for later years of the AA period. This includes (as discussed above):

- a formula and process for updating the return on debt observations (clauses 6.1 and 6.18-24);
- criteria and a process for selecting the independent data source and extrapolation method for estimating the return on debt (clauses 6.2-6.5, 6.7-6.9);
- criteria and a process for nominating the averaging period (clauses 6.6, 6.10-6.17); and
- a requirement to update the X factors by reference to the approved updated reurn on debt calculation, which X factors are used for the purposes of tariff variation (clauses 6.25-6.28).

[86] *Application by ActewAGL Distribution* [2010] ACompT 4; *Application by Jemena Gas Networks (NSW) Ltd (No 5)* [2011] ACompT 10

[87] This is consistent with the Tribunal finding that where published fair value curves differ significantly it may be necessary for the AER to choose which one of them provides the best fit: *Application by ActewAGL Distribution* [2010] ACompT 4 at [76]

It is not necessary for all inputs to the updating process to be pre-determined in order to facilitate automatic updating of the trailing average return on debt.

While the AER raised concerns around the limited scope for consultation and analysis within the annual debt update process,88 ActewAGL Distribution observes that there will have been adequate opportunity for consultation in respect of its proposed determination of the return on debt in the course of the AER making a final decision in respect of its AA for the 2016-17 to 2020-21 AA period. In particular, the bond selection criteria have been pre-specified and will be the subject of consultation in the current review process.

8. Conclusion

ActewAGL Distribution's proposes that the return on debt be estimated in the forthcoming AA period as follows:

Credit rating and term of debt – using a 10-year term-to-maturity and a BBB credit rating for estimating the return on debt as discussed in section **Error! Reference source not found.**.
Estimating the return on debt using hybrid approach – ActewAGL Distribution proposes that the return on debt in the forthcoming AA period be determined using a hybrid transition approach described in section 5, under which the risk-free rate is transitioned over a ten year period from the 'on-the-day' rate to a trailing averaging, while the DRP is determined as a ten year trailing average, plus transaction costs.
Averaging periods – using the proposed (specified) averaging period for 2016/17 and averaging periods for the 2017/18 financial year and beyond selected pursuant to the process set out in section 6 and detailed in the proposed AA.
Selection of the data source provider and extrapolation – where there is significant divergence between the yields, using the method for selecting the appropriate data source and extrapolation method in each future measurement period discussed in section 7. An arithmetic average of the relevant available data sources (currently RBA and Bloomberg), extrapolated using the AER's methodology, will be used if the difference in estimates produced by the estimates from all relevant available data sources extrapolated using both the AER and SAPN methodologies is less than 20 basis points.

[88] AER, *Final decision Jemena Gas Networks (NSW) Ltd Access Arrangement 2015-20*, June 2015, Attachment 3, p. 207