# DRAFT DECISION
# Australian Gas Networks Access Arrangement 2016 to 2021

# Attachment 5 – Regulatory depreciation

November 2015

AUSTRALIAN ENERGY REGULATOR

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# Note

This attachment forms part of the AER's draft decision on Australian Gas Networks' access arrangement for 2016–21. It should be read with all other parts of the draft decision.

The draft decision includes the following documents:

Overview

Attachment 1 - Services covered by the access arrangement

Attachment 2 - Capital base

Attachment 3 - Rate of return

Attachment 4 - Value of imputation credits

Attachment 5 - Regulatory depreciation

Attachment 6 - Capital expenditure

Attachment 7 - Operating expenditure

Attachment 8 - Corporate income tax

Attachment 9 - Efficiency carryover mechanism

Attachment 10 - Reference tariff setting

Attachment 11 - Reference tariff variation mechanism

Attachment 12 - Non-tariff components

Attachment 13 - Demand

Attachment 14 - Other incentive schemes

# Contents


Note ..... 5-2

Contents ..... 5-3

Shortened forms ..... 5-4

5 Regulatory depreciation ..... 5-6

5.1 Draft decision ..... 5-6

5.2 AGN's proposal ..... 5-7

5.3 AER's assessment approach ..... 5-9

5.3.1 Interrelationships ..... 5-11

5.4 Reasons for draft decision ..... 5-12

5.4.1 Regulatory depreciation method ..... 5-13

5.4.2 Asset lives ..... 5-17

5.5 Revisions ..... 5-19

# Shortened forms

| Shortened form | Extended form |
|---|---|
| AA | Access Arrangement |
| AAI | Access Arrangement Information |
| AER | Australian Energy Regulator |
| ATO | Australian Tax Office |
| capex | capital expenditure |
| CAPM | capital asset pricing model |
| CCP | Consumer Challenge Panel |
| CESS | Capital Expenditure Sharing Scheme |
| CPI | consumer price index |
| CSIS | Customer Service Incentive Scheme |
| DRP | debt risk premium |
| EBSS | Efficiency Benefit Sharing Scheme |
| ERP | equity risk premium |
| Expenditure Guideline | Expenditure Forecast Assessment Guideline |
| gamma | Value of Imputation Credits |
| GSL | Guaranteed Service Level |
| MRP | market risk premium |
| NECF | National Energy Customer Framework |
| NERL | National Energy Retail Law |
| NERR | National Energy Retail Rules |
| NGL | national gas law |
| NGO | national gas objective |
| NGR | national gas rules |
| NIS | Network Incentive Scheme |
| NPV | net present value |
| opex | operating expenditure |
| PFP | partial factor productivity |
| PPI | partial performance indicators |
| PTRM | post-tax revenue model |
| RBA | Reserve Bank of Australia |
| RFM | roll forward model |

| Shortened form | Extended form |
|---|---|
| RIN | regulatory information notice |
| RoLR | retailer of last resort |
| RPP | revenue and pricing principles |
| SLCAPM | Sharpe-Lintner capital asset pricing model |
| STPIS | Service Target Performance Incentive Scheme |
| TAB | Tax asset base |
| UAFG | Unaccounted for gas |
| WACC | weighted average cost of capital |
| WPI | Wage Price Index |

# 5 Regulatory depreciation

When determining the total revenue for AGN, we must decide on the depreciation for the projected capital base (otherwise referred to as 'return of capital').[1] Regulatory depreciation is used to model the nominal asset values over the 2016–21 access arrangement period and the depreciation allowance in the total revenue requirement. Our draft decision on AGN's annual regulatory depreciation allowance is outlined in this attachment.[2] Our consideration of specific matters that affect the estimate of regulatory depreciation over the 2016–21 access arrangement period is also outlined in this attachment. These include:

- the standard asset lives for depreciating new assets associated with forecast capex[3]
- the remaining asset lives for depreciating existing assets in the opening capital base.[4]

## 5.1 Draft decision

We approve AGN's proposal to use the real straight-line method to calculate the regulatory depreciation allowance. However, we do not approve AGN's proposed regulatory depreciation allowance of $93.0 million ($nominal) for the 2016–21 access arrangement period.[5] This is because of our updates to the proposed remaining asset lives as at 1 July 2016 and other components of AGN's proposal.

We accept AGN's proposed weighted average method to calculate the remaining asset lives as at 1 July 2016.[6] In accepting the weighted average method, we have updated AGN's remaining asset lives as at 1 July 2016 to reflect the revised capital base roll forward for the 2011–16 access arrangement period (attachment 2).

Our determinations on other components of AGN's proposal also affect the calculation of the regulatory depreciation allowance. Discussed in other attachments, these determinations include the projected opening capital base (attachment 2) and the forecast capex (attachment 6).

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1 NGR, r. 76(b).

2 Regulatory depreciation allowance is the net total of the straight-line depreciation (negative) and the annual inflation indexation (positive) on the projected capital base.

3 The term 'standard asset life' is also referred to as 'standard economic life', 'standard life', 'asset life' or (in the AGN proposal) 'economic asset life'.

4 The term 'remaining asset life' is also referred to as 'remaining economic life' or 'remaining life'.

5 Regulatory depreciation allowance is the net total of the straight-line depreciation (negative) and the annual inflation indexation (positive) on the projected capital base.

6 At the time of this draft decision, the remaining asset lives as at 1 July 2016 reflect estimated capex value for 2014–15 and 2015–16. We require AGN to provide actual capex value for 2014–15 in the revised proposal. AGN may also include an updated capex estimate for 2015–16 in its revised proposal. Therefore we will recalculate AGN's remaining asset lives as at 1 July 2016 using the method approved in this draft decision to reflect the actual capex for 2014–15 and updated capex estimate for 2015–16 for the final decision.

We approve AGN's proposed standard asset lives assigned to each of its asset classes for the 2016–21 access arrangement period. This is because they are consistent with the AER's approved standard asset lives for the 2011–16 access arrangement period. Also, they are comparable with the standard asset lives approved in our recent determinations for other gas distribution service providers.[7] AGN has proposed a standard asset life of 54 years for amortising the benchmark equity raising cost associated with the forecast capex in the 2016–21 access arrangement period. Our draft decision revenue modelling shows that no equity raising cost is required for the 2016–21 access arrangement period. Therefore, we did not assign a standard asset life for the 'Equity raising cost' asset class. Our draft decision on AGN's regulatory depreciation allowance is $82.7 million ($nominal) over the 2016–21 access arrangement period as set out in Table 5.1.

**Table 5.1 AER's draft decision on AGN's regulatory depreciation allowance for the 2016–21 access arrangement period ($million, nominal)**

| | 2016–17 | 2017–18 | 2018–19 | 2019–20 | 2020–21 | Total |
|---|---|---|---|---|---|---|
| Straight-line depreciation | 45.3 | 50.5 | 57.0 | 62.5 | 62.4 | 277.8 |
| *Less:* indexation on capital base | 35.4 | 37.2 | 39.1 | 40.9 | 42.5 | 195.1 |
| **Regulatory depreciation** | **9.9** | **13.3** | **17.9** | **21.6** | **19.9** | **82.7** |

Source: AER analysis.

## 5.2 AGN's proposal

AGN proposed to apply the straight-line depreciation method over the 2016–21 access arrangement period. It proposed to apply the same standard asset lives as those approved by the AER over the 2011–16 access arrangement period. It also proposed to use the weighted average approach to determine the remaining asset life of the capital base at the start of the 2016–21 access arrangement period.[8]

AGN's proposal accounted for inflation by indexing its capital base, and calculating its regulatory depreciation allowance as straight-line depreciation less this indexation adjustment.[9] However, it submitted that this proposal was contingent on an assessment of two financial ratios used by credit rating agencies, labelled 'credit metrics'.[10] AGN proposed that if this assessment indicated that it would not maintain the benchmark BBB+ credit rating,[11] the AER should vary the indexation to the extent

7 AER, *Draft decision: Envestra (Victoria) access arrangement proposal 2013–17 Part 2: Attachments*, September 2012, p. 158; AER, *Draft decision: AusNet (SP AusNet) arrangement proposal 2013–17 Part 2: Attachments*, September 2012, p. 134; AER, *Draft decision: Multinet Gas arrangement proposal 2013–17*, September 2012, p. 126.

8 AGN, *Access arrangement information*, July 2015, p. 162.

9 AGN, *Access arrangement information*, July 2015, p. 165.

10 AGN, *Access arrangement information*, July 2015, pp. 162–163.

11 That is, the benchmark BBB+ credit rating assumed by the AER in setting the rate of return on capital.

required to provide sufficient cash flow.[12] AGN submitted that its proposal allows it to maintain a BBB+ credit rating over the 2016–21 access arrangement period, so it was not necessary to vary the level of the indexation adjustment. However, AGN submitted that should the AER materially alter AGN's proposal, it was required to consider this contingent approach.[13] Specifically, AGN stated that if the AER did not accept its proposed rate of return on capital, it would require such a variation in the indexation component of its depreciation allowance.

AGN's proposed regulatory depreciation for the 2016–21 access arrangement period is set out in Table 5.2. Its proposed standard asset lives and remaining asset lives at 1 July 2016 is set out in Table 5.3.

### Table 5.2 AGN's proposed regulatory depreciation for the 2016–21 access arrangement period ($million, nominal)

| | 2016–17 | 2017–18 | 2018–19 | 2019–20 | 2020–21 | Total |
|---|---|---|---|---|---|---|
| Straight-line depreciation | 47.1 | 53.9 | 62.9 | 69.7 | 72.9 | 306.5 |
| *Less:* indexation on capital base | 35.7 | 39.1 | 42.8 | 46.2 | 49.7 | 213.5 |
| **Regulatory depreciation** | **11.4** | **14.9** | **20.1** | **23.4** | **23.2** | **93.0** |

Source: AGN, *Access arrangement information*, July 2015, pp. 165 and 167.
AER analysis.

Note: Numbers may not add due to rounding differences.

### Table 5.3 AGN's proposed standard asset lives and remaining asset lives at 1 July 2016 (years)

| | Standard asset life | Remaining asset life |
|---|---|---|
| Mains | 60 | 49.1 |
| Inlets | 60 | 51.1 |
| Meters | 15 | 7.4 |
| Telemetry | 20 | 12.7 |
| Information technology systems | 5 | 3.7 |
| Other distribution equipment | 40 | 23.7 |
| Other | 10 | 7.2 |
| Equity raising costs | 54 | n/a |

Source: AGN, *Access arrangement information*, July 2015, Table 9-6, p. 162; AGN, *Proposed PTRM*, July 2015.

[12] AGN, *Access arrangement information*, July 2015, pp. 95–97, 163–164; and Incenta Economic Consulting, *Using the profile of prices during an access arrangement period and return of capital to improve financial metrics*, 17 June 2015, pp. 3–5–5 (attachment 5.1 to the AAI).

[13] AGN, *Access arrangement information*, July 2015, pp. 95–97, 162–165.

## 5.3 AER's assessment approach

In its access arrangement proposal, AGN must provide a forecast of depreciation for the 2016–21 access arrangement period, including a demonstration of how the forecast is derived on the basis of the proposed depreciation method.[14] The depreciation schedule sets out the basis on which the pipeline assets constituting the capital base are to be depreciated for the purpose of determining a reference tariff.[15] The depreciation schedule may consist of a number of separate schedules, each relating to a particular asset or class of asset.[16] In making a decision on the proposed depreciation schedule, we assess the compliance of the proposed depreciation schedule with the depreciation criteria set out in the NGR.[17] We must also take into account the NGO and the revenue and pricing principles.[18]

Our discretion under the depreciation criteria is limited.[19] The depreciation criteria state that the depreciation schedule should be designed:

- so that reference tariffs will vary, over time, in a way that promotes efficient growth in the market for reference services[20]
- so that each asset or group of assets is depreciated over the economic life of that asset or group of assets[21]
- so as to allow, as far as reasonably practicable, for adjustment reflecting changes in the expected economic life of a particular asset, or a particular group of assets[22]
- so that (subject to the rules about capital redundancy), an asset is depreciated only once[23]
- so as to allow for the service provider's reasonable needs for cash flow to meet financing, non-capital and other costs.[24]

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14 NGR, r. 72(1)(c)(ii).
15 NGR, r. 88(1).
16 NGR, r. 88(2).
17 NGR, r. 89.
18 NGL, s 28; NGR r. 100(1). The NGO is set out in NGL, s. 23. The revenue and pricing principles are set out in NGL, s. 24.
19 NGR, rr. 89(3) and 40(2). The example provided in r. 40(2) states: The AER has limited discretion under r. 89. Rule 89 governs the design of a depreciation schedule. In dealing with a full access arrangement submitted for its approval, the AER cannot, in its draft decision, insist on change to an aspect of a depreciation schedule governed by r. 89 unless the AER considers the change is necessary to correct non-compliance with a provision of the Law or an inconsistency between the depreciation schedule and the applicable criteria. Even though the AER might consider change desirable to achieve more complete conformity between the depreciation schedule and the principles and objectives of the Law, it would not be entitled to give effect to that view in the decision making process.
20 NGR, r. 89(1)(a).
21 NGR, r. 89(1)(b).
22 NGR, r. 89(1)(c).
23 NGR, r. 89(1)(d).
24 NGR, r. 89(1)(e).

The depreciation criteria also state that to comply with the rule regarding efficient growth in the market for reference services, a substantial amount of depreciation may be deferred.[25]

The regulatory depreciation allowance is the net total of the real straight-line depreciation (negative) and the annual inflation indexation (positive) on the projected capital base. Our standard approach is to employ a straight-line method for calculating depreciation. We consider that the straight-line method satisfies the NGR's depreciation criteria.[26] This is because the straight-line method smooths changes in the reference tariffs, promotes efficient growth of the market, allows assets to be depreciated only once and over its economic life, and allows for a service provider's reasonable needs for cash flow.

In assessing AGN's proposed regulatory depreciation allowance, we have analysed AGN's proposed inputs to the PTRM for calculating depreciation. These inputs include:

- the opening capital base as at 1 July 2016
- the forecast net capex in the 2016–21 access arrangement period
- the forecast inflation rate for the 2016–21 access arrangement period
- the standard asset life for each asset class—used for calculating the depreciation of new assets associated with forecast net capex in the 2016–21 access arrangement period
- the remaining asset life for each asset class—used for calculating the depreciation of existing assets associated with the opening capital base as at 1 July 2016.

Our determinations affecting the first three inputs in the above list are discussed elsewhere: opening capital base (attachment 2), forecast net capex (attachment 6) and forecast inflation (attachment 3). Our decision on the required amendments to AGN's proposed regulatory depreciation allowance reflects our determinations on these building block components. Our assessment approach on the remaining two inputs in the above list is set out below.

In general, we consider that consistency in the standard asset life for each asset class across access arrangement periods will allow reference tariffs to vary smoothly over time. This will promote efficient growth in the market for reference services.[27] Our standard method for determining the remaining asset lives is the weighted average method.[28] The weighted average method rolls forward the remaining asset life for an asset class from the beginning of the earlier access arrangement period. This

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[25] NGR, r. 89(2).

[26] NGR, r. 89.

[27] NGR, r. 89(1)(a).

[28] We consider this depreciation method to be a generally superior approach. The reasons are outlined in our decision on the roll forward model for electricity transmission network service providers. See AER, *Explanatory statement, Proposed amendment, Electricity transmission network service providers, Roll forward model*, August 2010, pp. 5–6.

approach reflects the mix of assets within that asset class, when they were acquired over that period (or if they were existing assets at the beginning), and the remaining value of those assets (used as a weight) at the end of the period.[29] A submission by Jemena expressed concerns with the AER's weighted average approach used to calculate the remaining asset lives.[30] We acknowledge that there may be other approaches for calculating remaining asset lives. We will assess the outcomes of other proposed approaches against the outcomes of this standard approach.

### 5.3.1 Interrelationships

The regulatory depreciation allowance is a building block component of the annual building block revenue requirement.[31] Higher (or quicker) depreciation leads to higher revenues over the access arrangement period. It also causes the capital base to reduce more quickly (assuming no further capex). This reduces the return on capital allowance, although this impact is usually secondary to the increased depreciation allowance.

Ultimately, however, a service provider can only recover the capex it has incurred on assets once. The depreciation allowance therefore reflects how quickly the capital base is being recovered and is based on the remaining and standard asset lives used in the depreciation calculation.

The depreciation allowance also depends on the level of the opening capital base and the forecast capex. Any increase in these factors also increases the depreciation allowance.

To prevent double counting of inflation through the rate of return and capital base, the regulatory depreciation allowance also has an offsetting reduction for indexation of the capital base.[32] Factors that affect forecast inflation and/or the size of the capital base will therefore affect the size of this indexation adjustment. Further, any change to the indexation component included in the regulatory depreciation allowance will affect the consistent treatment of inflation across the return on capital and return of capital building blocks. AGN suggested such an adjustment as an alternative to its proposed depreciation approach, contingent on the assessment of financial ratios used by credit rating agencies. Underlying AGN's contingent proposal is a specific interrelationship where the return of capital building block should be adjusted to offset any changes in the return on capital building block. We address AGN's contingent proposal and the

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29 See AER, *Final decision - amended transmission roll forward model*, December 2010, pp. 5–6 for further explanation.

30 Jemena Electricity Networks (Vic) Ltd, *Submission on recent proposals made by SAPN, AGN, AAD, Energex and Ergon Energy*, July 2015.

31 Under our standard approach, the distinction is made between straight-line depreciation and regulatory depreciation. The difference being that regulatory depreciation is the straight-line depreciation minus the indexation adjustment.

32 If the economic lives are extremely long, such that the straight-line depreciation rate is lower than the inflation rate, then negative regulatory depreciation can emerge. The indexation adjustment is greater than the straight-line depreciation in such circumstances.

validity of its proposed interrelationship in section 5.4.1, and in attachment 3 (rate of return).

The relative size of the inflation and straight-line depreciation and their impact on the capital base using AGN's proposal is shown in attachment 2. A ten per cent increase in the straight-line depreciation causes revenues to increase by about 3 per cent.

## 5.4 Reasons for draft decision

We approve AGN's proposed method to calculate the regulatory depreciation allowance which is the straight-line depreciation less the annual inflation indexation on the projected capital base. However, we do not approve AGN's proposed regulatory depreciation allowance of $93.0 million ($nominal) for the 2016–21 access arrangement period. Our draft decision on AGN's regulatory depreciation allowance is $82.7 million ($nominal) over the 2016–21 access arrangement period, a reduction of $10.3 million ($nominal) or 11.1 per cent compared to the proposed amount. This reduction is made because of our required updates to the proposed remaining asset lives as at 1 July 2016 and other components of the proposal.

We accept AGN's proposed weighted average method to calculate the remaining asset lives as at 1 July 2016. In accepting the weighted average method, we have updated AGN's remaining asset lives as at 1 July 2016 to reflect the revised capital base roll forward for the 2011–16 access arrangement period (attachment 2).

Our determinations on other components of AGN's proposal also affect the calculation of the regulatory depreciation allowance.[33] These include:

- a reduction to AGN's forecast net capex of $310.3 million ($2015–16) or 43.8 per cent. Our detailed assessment of the proposed forecast capex allowance is set out in attachment 6.
- a reduction to the opening capital base as at 1 July 2016 of $14.6 million ($nominal) or 1.0 per cent. Our detailed assessment of the proposed opening capital base is set out in attachment 2.

We approve AGN's proposed standard asset lives assigned to each of its asset classes for the 2016–21 access arrangement period. This is because they are consistent with the AER's approved standard economic lives for the 2011–16 access arrangement period. Also, they are comparable with the standard asset lives approved in our recent determinations for other gas distribution service providers.[34] AGN has proposed a standard asset life of 54 years for amortising the benchmark equity raising cost associated with the forecast capex in the 2016–21 access arrangement period. Our draft decision revenue modelling shows that no equity raising cost is required for

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[33] NGR, rr. 88–90.

[34] AER, *Draft decision: Envestra (Victoria) access arrangement proposal 2013–17 Part2: Attachments*, September 2012, p. 158; AER, *Draft decision: AusNet (SP AusNet) arrangement proposal 2013–17 Part2: Attachments*, September 2012, p. 134; AER, *Draft decision: Multinet Gas arrangement proposal 2013–17*, September 2012, p. 126.

the 2016–21 access arrangement period. Therefore, we did not assign a standard asset life for the equity raising cost asset class.

Table 5.4 sets out our draft decision on the standard and remaining asset lives as at 1 July 2016 for AGN.

**Table 5.4 AER's draft decision on AGN's standard and remaining asset lives as at 1 July 2016 (years)**

| | Standard asset life | Remaining asset life |
|---|---|---|
| Mains | 60 | 49.3 |
| Inlets | 60 | 52.2 |
| Meters | 15 | 8.0 |
| Telemetry | 20 | 12.9 |
| Information technology systems | 5 | 4.2 |
| Other distribution equipment | 40 | 23.5 |
| Other | 10 | 9.3 |

Source: AER analysis.

### 5.4.1 Regulatory depreciation method

We are required to assess AGN's proposed depreciation schedule against the depreciation criteria as set out in rule 89 of the NGR. We accept AGN's proposed method to calculate the regulatory depreciation allowance which is the straight-line depreciation amount less the annual inflation indexation on the projected capital base. AGN's proposal adopted our post-tax revenue model (PTRM) for calculating the total revenue requirement and is therefore consistent with our standard approach for calculating regulatory depreciation as discussed in section 5.3. We therefore accept AGN's proposal because we are satisfied that the proposed depreciation method complies with the depreciation criteria.[35]

In proposing the regulatory depreciation method, AGN stated that straight-line depreciation may not allow it to efficiently recover the value of the capital base in an environment of declining network usage. It noted that continuing to apply straight-line depreciation may not be consistent with the NGL and NGR requirements relating to depreciation.[36] Nonetheless, AGN proposed to use the straight-line depreciation approach as set out in the PTRM for the 2016–21 access arrangement period, and we have accepted this aspect of the proposal accordingly.

[35] NGR, r. 89.

[36] AGN, *Access arrangement information*, July 2015, pp. 160–161.

AGN submitted that its proposed approach to depreciation was contingent on meeting certain credit metric thresholds, which it considered to be necessary in order to achieve a BBB+ credit rating.[37] The specific credit metrics were two financial ratios used by credit rating agencies, *Funds From Operations (FFO) to debt* and *FFO to interest*. AGN also commissioned a review of its assessed credit metrics by Incenta Economic Consulting (Incenta).[38] AGN submitted that it must be allowed sufficient cash flow to maintain the benchmark BBB+ credit rating that is assumed by the AER when setting the rate of return.[39] AGN submitted that if those credit metrics thresholds for a BBB+ credit rating were not met due to a lower rate of return, a different depreciation approach should apply.[40] This alternative approach would produce higher depreciation by adjusting the indexation component of the regulatory depreciation allowance. Hence, the key outcome of AGN's contingent proposal is that if the AER reduces the return *on* capital building block, it should make an offsetting increase to the return *of* capital building block.

We do not accept AGN's contingent proposal to adjust the indexation component of the regulatory depreciation allowance for the following reasons:

- AGN's contingent proposal appears to be incomplete and not fully specified. Therefore, we consider AGN's proposal is incapable of being accepted even if we were persuaded that some adjustment to indexation was necessary (which we do not).
- We are not persuaded by either AGN's or Incenta's analysis of credit metrics for the reasons set out in attachment 3. Therefore, we are not satisfied that there is evidence that a benchmark business in the circumstances of AGN faces a credit rating downgrade or a financeability problem more generally.
- Even if we accepted that there was evidence of a financeability problem, neither AGN nor Incenta has demonstrated why its accelerated depreciation would achieve the depreciation criteria in the rules and be in the long term interests of consumers. Therefore, we are not persuaded that an adjustment to indexation would be an effective response to evidence of a financeability problem.

On the first point, AGN's proposal did not adequately specify the relevant credit metric thresholds that should trigger an adjustment to the indexation component of the depreciation allowance. AGN stated that the key credit metric is a FFO to debt ratio of 9 per cent or more.[41] It also stated that its proposal (with a higher rate of return) passes

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37 AGN, *Access arrangement information*, July 2015, p. 163; see also Incenta, *Using the profile of prices during an access arrangement period and return of capital to improve financial metrics*, 17 June 2015, pp. 14–16.

38 Incenta Economic Consulting, *Using the profile of prices during an access arrangement period and return of capital to improve financial metrics*, 17 June 2015 (attachment 5.1 to the AAI).

39 AGN, *Access arrangement information*, July 2015, pp. 95–97, 162–165.

40 AGN, *Access arrangement information*, July 2015, pp. 164–165.

41 The other explicit credit metric threshold, FFO interest cover of 2.5 times, is met in every year even under the 'low rate of return' scenario. Finally, the third relevant credit metric, debt gearing below 80 per cent, is met in every year under each scenario and not even presented in the AGN AAI. AGN, *Access arrangement information*, July 2015,

the credit metric assessment and so no indexation adjustment is required. However, in AGN's proposal, the FFO to debt ratio was below 9 per cent in every year of the access arrangement period.[42] Accordingly, it is unclear precisely what the threshold is that AGN suggested should trigger an adjustment to indexation.

Further, AGN did not specify any explicit alternative depreciation schedule, other than suggesting that the AER should vary the indexation component of the depreciation allowance to offset the possible reduction to cash flows due to a lower rate of return. Hence, it is unclear precisely how AGN proposed the indexation method should be adjusted in the event that its (unclear) threshold is met. AGN has not set out the relevant details for any alternative depreciation schedule that might apply if there were to be some adjustment to indexation.

It is not possible for us and other stakeholders to undertake a full assessment of this incomplete contingent proposal. We note that a number of stakeholders do not agree with AGN's proposal to increase its depreciation and change the indexation on the capital base if the AER determines a lower rate of return.[43]

The second point above is addressed in detail the rate of return attachment (attachment 3). Overall, we consider that the approach to evaluating credit metrics, as documented in AGN's proposal and Incenta's report, gives undue weight to the metrics as an indicator of creditworthiness, and is based on assumptions which are not satisfactorily tested or substantiated.

On the third point, we consider that AGN has not demonstrated why accelerated depreciation (via an indexation adjustment in the regulatory depreciation allowance) is the appropriate response to financeability concerns (if they were established). AGN's proposal submitted that it is the rate of return that is its core concern.[44] However, it is unclear why the depreciation building block, which is estimated accurately according to AGN's own proposal, should be adjusted in response.

AGN focuses on rule 89(1)(e) of the NGR, which states that the depreciation schedule should be designed 'so as to so as to allow for the service provider's reasonable needs for cash flow to meet financing, non-capital and other costs'.[45] However, AGN appears to interpret 'reasonable needs for cash flow' only with regard to the 2016–21 access arrangement period. Using depreciation to accelerate cash flows in the short-term will necessarily result in relatively lower cash flows available for regulatory depreciation in

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p. 163; Incenta, *Using the profile of prices during an access arrangement period and return of capital to improve financial metrics*, 17 June 2015, pp. 15.

42 AGN, *Access arrangement information*, July 2015, p. 163.

43 Alternative Technology Association, *Australian Gas Network (SA) access arrangement proposal*, August 2015, pp. 10–11; Energy Consumers Coalition of SA, *AER review of AGN proposal 2015*, August 2015, p. 32; Origin Energy LPG, *Australian Gas Networks 2016–21 access arrangement proposal for its south Australian gas distribution network*, August 2015, pp. 4–5.

44 AGN, *Access arrangement information*, July 2015, pp. 95–97.

45 NGR, r. 89(1)(e).

the future.[46] The long term interests of consumers will not be served by adopting accelerated depreciation if this bolsters short-term financing cash flows, but exacerbates financing problems in the medium or longer term.[47] Nor does it address the remaining criteria in rule 89.

In its report on financeability to the Office of Gas and Electricity Markets (Ofgem), Cambridge Economic Policy Associates (CEPA) stated that:[48]

> Even when NPV neutral approaches are adopted there may be unintended consequences – for example, the most recent electricity distribution determination saw an increase in the proportion of assets that are subject to accelerated depreciation in part because the previous acceleration exacerbated the perceived cash-flow constraints as the capex programme grows. Further, when long lived assets are affected, as is the case with accelerated depreciation, there is a real possibility of significant inter-generational equity issues arising. Existing consumers are paying higher prices and future consumers, in say 20 to 40 years, are paying lower prices than would otherwise have been the case. While these sort of price adjustments over a five or 10 year period may be expected to have a relatively small inter-generational impact, over this longer period a more significant impact can be expected.

We do not consider that there has been a robust assessment of the impact of accelerated depreciation across the economic life of the assets, which generally extends across multiple access arrangement periods, by AGN (or its consultant, Incenta). Hence, we are not persuaded that it would be appropriate to accelerate depreciation via an indexation adjustment in response to financing concerns (if they were established).

For these reasons, we do not accept AGN's contingent proposal to assess credit metrics and then make an unspecified adjustment to the indexation component of the depreciation allowance.

Also, we note under this draft decision, the reduced tariffs in 2016–17 are a result of lower costs (including lower cost of capital and lower capital base). For the remaining years of the 2016–21 access arrangement the draft decision provides for a stable tariff path as shown in figure 6 of the overview. Therefore, we are satisfied that the proposed regulatory depreciation approach allows reference tariffs to vary, over time, in a way that promotes efficient growth in the market for reference services.[49]

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[46] There is a fixed amount of capital to be returned to investors, and so the choice of depreciation profile (return of capital) only affects how quickly or slowly this occurs. The choice between depreciation profiles is NPV neutral because while the capital remains invested it earns a return that equals the time value of money (return on capital) so the investor is indifferent to the delay.

[47] NGL, s. 23; NGR, r. 89(1)(e).

[48] CEPA, *RPI-X@20: Providing financeability in a future regulatory framework*, May 2010, p. i–ii.

[49] NGR, r. 89(1)(a).

For the reasons discussed above, we are satisfied that the proposed regulatory depreciation approach complies with the NGR's depreciation criteria.[50] We will use the same regulatory depreciation approach as accepted in this draft decision for the final decision, but with updated inputs for calculating the regulatory depreciation allowance such as the opening capital base (attachment 2) and remaining asset lives (section 5.4.2).

## 5.4.2 Asset lives

The straight-line depreciation component of regulatory depreciation is calculated by dividing the asset value for each asset class by its standard asset life (for new assets) or remaining asset life (for existing assets). Our draft decision on AGN's standard and remaining asset lives follows.

### 5.4.2.1 Standard asset life

We accept AGN's proposed standard asset lives for its existing asset classes, because they are:

- consistent with our approved standard asset lives for the 2011–16 access arrangement period
- comparable with the standard asset lives approved in our recent determinations for other gas distribution service providers.[51]

AGN has proposed a standard asset life of 54 years for amortising the benchmark equity raising cost associated with the forecast capex in the 2016–21 access arrangement period. Our draft decision revenue modelling shows that no equity raising cost is required for the 2016–21 access arrangement period. Therefore, we did not assign a standard asset life for the 'Equity raising cost' asset class.

ECCSA submitted that '[T]he AER needs to review the asset lives proposed by AGN to ensure that asset lives are reflective of a general view form existing gas networks and independent assessments.' We have compared AGN's proposed standard asset lives with those approved for other gas distribution business in recent decisions. As shown in Table 5.5, AGN's standard asset lives are comparable with those of other gas distribution service providers for similar asset classes.

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50 NGR, r. 89.

51 AER, *Draft decision: Envestra (Victoria) access arrangement proposal 2013–17 Part 2: Attachments*, September 2012, p. 158; AER, *Final decision: Jemena Gas Networks (NSW) Ltd: Access arrangement 2015–20, Attachment 5–Regulatory depreciation*, June 2015, p. 10; AER, *Final decision: SPI Networks (Gas) Pty Ltd 2013–17 (AusNet Services), Part 2: Attachments*, March 2013, p. 179; AER, *Final decision: Multinet access arrangement 2013–17, Part 2: Attachments*, March 2013, p. 210; AER, *Final decision: Envestra Ltd (AGN Vic) access arrangement 2013–17, Part 2 Attachments*, March 2013, p. 229; AER, *Final decision: ActewAGL (ACT, Queanbeyan and Palerang) access arrangement 2010–15*, March 2010, p. 35

## Table 5.5 Comparison of AGN's standard asset lives with that of other gas distribution service providers (years)

| | AGN (SA) | AusNet Services | Multinet | JGN | AGN (Vic) | ActewAGL |
|---|---|---|---|---|---|---|
| Mains | 60 | 60 | 50 | 80 (HP)<br>50 (MP) | 60 | 80 (HP)<br>50 (MP) |
| Meters | 15 | 20 | 30 | 20 | 15 | 15 |
| Telemetry/SCADA | 20 | 15 | 15 | n/a | 10 | n/a |
| IT systems | 5 | 5 | 5 | 5 | 5 | 5 |

Source: AGN, *Proposed PTRM*, July 2015; AER, *Final decision: Jemena Gas Networks (NSW) Ltd: Access arrangement 2015–20, Attachment 5–Regulatory depreciation*, June 2015, p. 10; AER, *Final decision: SPI Networks (Gas) Pty Ltd 2013–17 (AusNet Services), Part 2: Attachments*, March 2013, p. 179; AER, *Final decision: Multinet access arrangement 2013–17, Part 2: Attachments*, March 2013, p. 210; AER, *Final decision: Envestra Ltd (AGN Vic) access arrangement 2013–17*, Part 2 Attachments, March 2013, p. 229; AER, *Final decision: ActewAGL (ACT, Queanbeyan and Palerang) access arrangement 2010–15*, March 2010, p. 35.

Note: HP: High pressure mains; MP: Medium Pressure mains; n/a: Not applicable.

Therefore, we are satisfied the proposed standard asset lives remain appropriate and reflect the requirements of rule 89(1) of the NGR. Table 5.4 sets out our draft decision on the standard asset lives for AGN over the 2016–21 access arrangement period.

### 5.4.2.2 Remaining asset lives

We accept AGN's proposed weighted average method to calculate the remaining asset lives as at 1 July 2016.[52] The proposed method is consistent with our preferred approach. In accepting the weighted average method, we have updated AGN's remaining asset lives to reflect our adjustments to the proposed RFM. As discussed in attachment 2, we corrected input and modelling errors in AGN's proposed RFM and accordingly updated the remaining economic lives as at 1 July 2016. This is because these values are inputs for calculating the weighted average remaining life of assets at 1 July 2016 in the RFM. Table 5.4 sets out our draft decision on the remaining asset lives as at 1 July 2016 for AGN.

ECCSA submitted that the AER should investigate AGN's proposed remaining asset lives as at 1 July 2016. It submitted that the remaining asset lives should not show a deterioration of 5 years from 1 July 2011 to 1 July 2016 because there was significant investment during the 2011–16 access arrangement period. We note AGN's proposed

[52] At the time of this draft decision, the remaining asset lives as at 1 July 2016 reflect estimated capex value for 2014–15 and 2015–16. We require AGN to provide actual capex value for 2014–15 in the revised proposal. AGN may also include an updated capex estimate for 2015–16 in its revised proposal. Therefore we will recalculate AGN's remaining asset lives as at 1 July 2016 using the method approved in this draft decision to reflect the actual capex for 2014–15 and updated capex estimate for 2015–16 for the final decision.

remaining asset lives was calculated using our preferred weighted average approach as discussed in section 5.3. This approach rolls forward the average remaining asset lives by combining together the associated asset lives for new assets acquired over an access arrangement period and existing assets at the beginning of that period, and using the remaining values of those assets as weights.

Although new assets are being added to the capital base, the remaining asset lives at the end of the period may still be less than the remaining asset lives at the beginning of the period. This is because the existing assets may have higher weight than the new assets if the remaining value of existing assets is proportionally higher than that of the new assets. This may result in a decrease in the weighted average remaining lives over the access arrangement period. However, if the remaining value for existing assets is proportionally less than the value of new assets, then the weighted average remaining lives will likely increase over the period.

As shown in Table 5.6, the remaining asset lives have decreased for three of the asset classes and increased for the rest of the asset classes over the 2011–16 access arrangement period. The detailed calculation of the roll forward of the remaining asset life for each asset class is demonstrated in our draft decision RFM for AGN.

### Table 5.6 Comparison of AGN's remaining asset lives across the access arrangement period (years)

| | Remaining asset life as at 1 July 2011 | Remaining asset life as at 1 July 2016 | Change |
|---|---|---|---|
| Mains | 49.8 | 49.3 | –0.6 |
| Inlets | 48.3 | 52.2 | 3.9 |
| Meters | 7.1 | 8.0 | 0.9 |
| Telemetry | 14.8 | 12.9 | –1.9 |
| IT system | 0.9 | 4.2 | 3.3 |
| Other distribution system equipment | 27.2 | 23.5 | –3.7 |
| Other | 4.0 | 9.3 | 5.3 |

Source: AER, *Draft decision RFM for AGN*, November 2015.

## 5.5 Revisions

We require the following revisions to make the access arrangement proposal acceptable:

**Revision 5.1** Make all necessary amendments to reflect this draft decision on the proposed forecast regulatory depreciation allowance for the 2016–21 access arrangement period, as set out in Table 5.1.

**Revision 5.2** Make all necessary amendments to reflect this draft decision on the standard and remaining asset lives as at 1 July 2016, as set out in Table 5.4.