

Access Arrangement Information for the Goldfields Gas Pipeline

ERA APPROVED
19 December 2019

Economic Regulation Authority

WESTERN AUSTRALIA

D210180

Contents

| | |
|---|-----------|
| Access Arrangement Information | 1 |
| Overview..... | 1 |
| Interpretation..... | 1 |
| Structure and compliance..... | 2 |
| Financial information | 3 |
| Forecasts and estimates | 4 |
| Expenditure and Pipeline Usage – NGR 72(1)(a) | 5 |
| Opening Capital Base – NGR 72(1)(b)..... | 7 |
| Conforming capital expenditure..... | 8 |
| Amounts added under rules 82, 84 and 86 | 9 |
| Depreciation..... | 10 |
| Redundant and disposed assets | 10 |
| Opening capital base..... | 10 |
| Projected Capital Base – NGR 72(1)(c) | 12 |
| Forecast conforming capital expenditure (NGR 72(1)(c)(i)) | 13 |
| Forecast of depreciation (NGR 72(1)(c)(ii)) | 15 |
| Forecast Demand – NGR 72(1)(d)..... | 18 |
| Forecast Operating Expenditure – NGR 72(1)(e) | 19 |
| Key Performance Indicators – NGR 72(1)(f) | 21 |
| Rate of Return – NGR 72(1)(g) | 22 |
| Estimated Cost of Income Tax – NGR 72(1)(h)..... | 23 |
| Taxable income | 24 |
| Tax asset lives | 24 |
| Tax depreciation method | 25 |
| Tax asset base | 25 |
| Statutory income tax rate..... | 26 |
| Imputation credits | 26 |
| Efficiency Gains and/or Losses – NGR 72(1)(i)..... | 27 |
| Approach to Setting Tariffs – NGR 72(1)(j)..... | 28 |
| Reference Tariff Variation Mechanism – NGR 72(1)(k)..... | 30 |
| Scheduled tariff variation | 31 |
| Cost pass through tariff variation | 31 |
| Proposed Incentive Mechanism – NGR 72(1)(l) | 32 |
| Total Revenue – NGR 72(1)(m) | 33 |
| Allocation of total revenue | 33 |

List of appendices

| | |
|---------------------------------------|-----------|
| Appendix 1 List of Tables..... | 35 |
| Appendix 2 Abbreviations..... | 36 |

Access Arrangement Information

Overview

1. This document comprises the Access Arrangement Information (AAI) for the revised access arrangement for the Goldfields Gas Pipeline (GGP) that was proposed by the ERA and given effect on 20 December 2019, pursuant to rule 64(4) of the National Gas Rules (NGR).¹
2. The purpose of this document is to set out the information necessary to enable users and prospective users to understand the derivation of the elements of the access arrangement for the GGP for the fourth access arrangement period (AA4) – 1 January 2020 to 31 December 2024. The provision of AAI is also necessary for compliance with the NGR.
3. The GGP is a 1,378 kilometre transmission pipeline that receives natural gas from offshore fields in the north west of Western Australia. The receipt points of the GGP are located at Yarraloola, and the pipeline extends to Kalgoorlie in the Goldfields-Esperance region. The 47 kilometre Newman Lateral is also part of the GGP.
4. The GGP comprises two notional pipelines, which are the same physical pipeline. Only 54.5 per cent of the capacity of the GGP is classified as a scheme pipeline for the purposes of the access regulatory regime of the *National Gas Access (WA) Act 2009*. The GGP is required to have an access arrangement approved for this (fully regulated) capacity. The remaining 45.5 per cent of capacity is not regulated by the access regime and is a non-scheme pipeline.
5. The GGP is owned by an unincorporated joint venture. The owners comprise Southern Cross Pipelines Australia Pty Ltd, Southern Cross Pipelines (NPL) Australia Pty Ltd and Alinta Energy GGT Pty Ltd. Goldfields Gas Transmission Pty Ltd (GGT) controls and operates the GGP for and on behalf of each of the owners.

Interpretation

6. Unless the contrary intention is expressed, words or phrases in this document have the same meaning as those defined in Schedule C (Definitions and Interpretation) of the revised access arrangement for the GGP.
7. A reference in this document to:
 - “access arrangement period” means the fourth access arrangement period or AA4 (1 January 2020 to 31 December 2024).
 - “earlier access arrangement period” or “previous access arrangement period” means the third access arrangement period or AA3 (1 January 2015 to 31 December 2019) which preceded the access arrangement period.
8. Where a word or phrase has not been defined in this document then, unless the contrary intention is expressed, the word or phrase is to be given the meaning prescribed in the

¹ ERA, *Final Decision on Proposed Revisions to the Goldfields Gas Pipeline Access Arrangement for 2020 to 2024*, 20 December 2019.

National Gas Law, Rules or Regulations (as relevant and applicable in Western Australia).

Structure and compliance

9. This document follows the structure of rule 72(1) of the NGR, which sets out specific requirements for AAI relevant to revenue and price regulation (Table 1).
10. In March 2019, the Australian Energy Market Commission (AEMC) made a final determination to make changes to the regulatory framework for covered transmission and distribution natural gas pipelines in Australia.² The specific changes to the NGR are set out in *National Gas Amendment (Regulation of covered pipelines) Rule 2019 No.1*.³ One such change was the removal of rule 72(1)(f), which required AAI to include information on the key performance indicators to be used by the service provider to support the expenditure to be incurred over the access arrangement period.

Table 1: Requirements for access arrangement information relevant to price and revenue regulation

| National Gas Rule | Requirement for Access Arrangement Information (AAI) ⁴ |
|-------------------|--|
| 72(1)(a) | If the access arrangement period commences at the end of an earlier access arrangement, AAI must include: <ul style="list-style-type: none"> • Capital expenditure (by asset class) and operating expenditure (by category) over the earlier access arrangement period. • Usage of the pipeline over the earlier access arrangement period showing: <ul style="list-style-type: none"> – For a distribution pipeline: minimum, maximum and average demand and customer numbers in total and by tariff class. – For a transmission pipeline: minimum, maximum and average demand for each receipt or delivery point and user numbers for each receipt or delivery point. |
| 72(1)(b) | AAI must include information on how the capital base is arrived at, and if the access arrangement period commences at the end of an earlier access arrangement, a demonstration of how the capital base increased or diminished over the previous period. |
| 72(1)(c) | AAI must include the projected capital base over the access arrangement period, including: <ul style="list-style-type: none"> • A forecast of conforming capital expenditure for the period and the basis for the forecast. • A forecast of depreciation for the period, including a demonstration of how the forecast is derived on the basis of the proposed depreciation method. |
| 72(1)(d) | To the extent it is practicable to forecast capacity and utilisation over the access arrangement period, AAI must include a forecast of pipeline capacity and utilisation of |

² Australian Energy Market Commission, *Regulation of covered pipelines, Rule determination*, 14 March 2019 ([online](#)) (accessed September 2019).

³ Australian Energy Market Commission, *National Gas Amendment (Regulation of covered pipelines) Rule 2019 No.1* ([online](#)) (accessed September 2019).

⁴ On 8 April 2019, the binding rate of return instrument came into operation in Western Australia. There were several consequential changes to the NGR. Rules 72(1)(g) and 72(1)(h) were amended and rule 72(1)(ga) was deleted. The summary in this table reflects the current wording of the rules.

| National Gas Rule | Requirement for Access Arrangement Information (AAI) ⁴ |
|-------------------|---|
| | pipeline capacity over the period and the basis on which the forecast has been derived. |
| 72(1)(e) | AAI must include a forecast of operating expenditure over the access arrangement period and the basis on which the forecast has been derived. |
| 72(1)(f) | [Deleted] |
| 72(1)(g) | AAI must include the allowed rate of return for each regulatory year of the access arrangement period. |
| 72(1)(h) | AAI must include the estimated cost of corporate income tax, calculated in accordance with rule 87A, including the allowed imputation credits referred to in that rule. |
| 72(1)(i) | If an incentive mechanism operated in the previous access arrangement period, the AAI must include the proposed carry over of increments or decrements for efficiency gains or losses, and a demonstration of how an allowance is to be made for any such increments or decrements. |
| 72(1)(j) | AAI must include the proposed approach to setting tariffs including: <ul style="list-style-type: none"> • The suggested basis of reference tariffs, including the method used to allocate costs and a demonstration of the relationship between costs and tariffs. • A description of any pricing principles employed, but not otherwise disclosed. |
| 72(1)(k) | AAI must include the service provider's rationale for any proposed reference tariff variation mechanism. |
| 72(1)(l) | AAI must include the service provider's rational for any proposed incentive mechanism. |
| 72(1)(m) | AAI must include the total revenue to be derived from pipeline services for each regulatory year of the access arrangement period. |

Financial information

11. Rule 73 of the NGR specifies the basis on which financial information is to be provided.⁵

- 73 Basis on which financial information is to be provided**
- (1) Financial information must be provided on:
- (a) a nominal basis; or
 - (b) a real basis; or
 - (c) some other recognised basis for dealing with the effects of inflation.
- (2) The basis on which financial information is provided must be stated in the access arrangement information.

⁵ Rule 73 of the NGR falls within Part 9 of the NGR. Hence, the requirements specified are the requirements that applied at the time revisions to the access arrangement for the GDS were assessed and approved by the ERA.

- (3) All financial information must be provided, and all calculations made, consistently on the same basis.
12. Financial information in this document is provided on both a nominal and real basis. All real financial information is expressed in constant prices as at 31 December 2018.
13. Where necessary, to express financial values in dollar values of 31 December 2018, financial values prior to this date were escalated at the rate of inflation as measured by the *Consumer Price Index (All Groups, Weighted Average of Eight Capital Cities)* as published by the Australian Bureau of Statistics.
14. Financial values after 31 December 2018 are de-escalated using the forecast rate of inflation from the weighted average cost of capital (or WACC) parameter estimates shown in Table 15 (see paragraph 55).
15. Table 2 shows actual consumer price index and forecast inflation values used to provide financial information in this document.

Table 2 Actual and forecast consumer price index and inflation rates

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|----------------|--------|--------|--------|--------|----------|----------|----------|----------|----------|----------|
| | Actual | Actual | Actual | Actual | Forecast | Forecast | Forecast | Forecast | Forecast | Forecast |
| December CPI | 108.40 | 110.00 | 112.10 | 114.10 | 115.40 | 116.72 | 118.05 | 119.39 | 120.75 | 122.13 |
| Inflation rate | | | | | 1.14% | 1.14% | 1.14% | 1.14% | 1.14% | 1.14% |

Forecasts and estimates

16. Rule 74 of the NGR contains specific requirements for the provision of forecasts and estimates.

74 Forecasts and estimates

- (1) Information in the nature of a forecast or estimate must be supported by a statement of the basis of the forecast or estimate.
- (2) A forecast or estimate:
- (a) must be arrived at on a reasonable basis; and
 - (b) must represent the best forecast or estimate possible in the circumstances.

Expenditure and Pipeline Usage – NGR 72(1)(a)

17. If the access arrangement period commences at the end of an earlier access arrangement period, AAI must include:
- Capital expenditure (by asset class) over the earlier access arrangement period (rule 72(1)(a)(i) of the NGR).
 - Operating expenditure (by category) over the earlier access arrangement period (rule 72(1)(a)(ii) of the NGR).
 - Usage of the pipeline over the earlier access arrangement period showing, for a distribution pipeline:
 - minimum, maximum and average demand (rule 72(1)(a)(iii)A of the NGR); and
 - customer numbers in total and by tariff class (rule 72(1)(a)(iii)B of the NGR).
18. The above information is shown in the following tables.
19. The end users, or customers, of the GGP are primarily companies with mining and mineral processing operations in the Pilbara, Mid-West and Goldfields-Esperance regions of Western Australia, producing iron ore, gold and nickel for sale in international markets. The number of users, and user numbers at receipt and delivery points, is aggregated to avoid disclosure of information pertaining to the operations of individual pipeline users (Table 6).

Table 3: Conforming capital expenditure by asset class for AA3 (\$ million nominal)

| Project | 2015 | 2016 | 2017 | 2018 | 2019 | AA3 total |
|--|--------------|--------------|--------------|--------------|--------------|--------------|
| Pipeline and laterals | 1.766 | 0.492 | 0.276 | 0.001 | - | 2.535 |
| MLV and scraper stations | 0.110 | 0.001 | - | - | - | 0.111 |
| Compressor stations | -0.016 | - | 0.966 | 0.327 | 0.910 | 2.187 |
| Receipt and delivery points | 0.412 | -0.395 | 0.001 | 0.188 | 0.124 | 0.330 |
| SCADA, communications and electronic equipment | 0.892 | 0.990 | 0.065 | 0.110 | - | 2.056 |
| Cathodic protection | - | - | - | - | 0.074 | 0.074 |
| Maintenance bases and depots | 0.025 | - | - | 0.019 | 0.309 | 0.353 |
| Other depreciable assets | 0.067 | 0.321 | 0.124 | 0.122 | 0.222 | 0.856 |
| Non-depreciable assets | 0 | 0 | 0 | 0 | 0 | 0 |
| Total conforming AA3 capital expenditure - All asset classes* | 3.255 | 1.409 | 1.432 | 0.766 | 1.640 | 8.502 |

Table 4: Operating expenditure by category for AA3 (\$ million as at 31 December 2018)

| | 2015 (Actual) | 2016 (Actual) | 2017 (Actual) | 2018 (Actual) | 2019 (Forecast) | Total |
|------------------------|------------------|------------------|------------------|------------------|--------------------|--------|
| Pipeline operation | 12.529 | 12.331 | 11.870 | 12.294 | 11.603 | 60.627 |
| Major expenditure jobs | 0.528 | 0.044 | 0.322 | 0.049 | 0.488 | 1.431 |
| Commercial operation | 1.034 | 0.755 | 0.597 | 0.777 | 0.584 | 3.747 |
| Regulatory | 0.526 | 0.697 | 0.313 | 0.445 | 0.684 | 2.665 |
| Corporate costs | 6.466 | 4.458 | 2.883 | 4.117 | 4.170 | 22.094 |
| Total | 21.083 | 18.285 | 15.985 | 17.682 | 17.529 | 90.564 |

Source: GGT, 11 September 2019, *Proposed Revised Access Arrangement Information Amended in response to ERA Draft Decision dated 31 July 2019, Table 2, p. 8.*

Table 5: Minimum, maximum and average demand for AA3 (TJ / day)

| | 2015 actual | 2016 actual | 2017 actual | 2018 actual | 2019 forecast |
|-------------------|----------------|----------------|----------------|----------------|------------------|
| Reserved capacity | | | | | |
| Minimum | 102.32 | 97.49 | 98.51 | 100.68 | 107.28 |
| Maximum | 103.30 | 105.22 | 99.26 | 102.78 | 110.53 |
| Average | 102.79 | 102.59 | 98.88 | 102.2 | 110.26 |
| Throughput | | | | | |
| Minimum | 62.13 | 73.31 | 84.05 | 85.74 | 88.25 |
| Maximum | 68.59 | 91.04 | 92.53 | 93.06 | 96.67 |
| Average | 65.69 | 84.07 | 89.47 | 90.17 | 92.97 |

Source: GGT, *Access Arrangement Information 2020-2024, 1 January 2019, Table 3, p. 8.* GGT, 28 November 2019, *Response to information request 10.*

Table 6: Number of receipt points, delivery points and users (customers) for AA3

| | 2015 Actual | 2016 Actual | 2017 Actual | 2018 Actual | 2019 Forecast |
|-----------------|----------------|----------------|----------------|----------------|------------------|
| Receipt points | 2 | 2 | 2 | 2 | 2 |
| Delivery points | 15 | 15 | 15 | 15 | 16 |
| Users | 10 | 10 | 9 | 9 | 9 |

Source: GGT, 29 November 2019, *Response to ERA information request 12.*

Opening Capital Base – NGR 72(1)(b)

20. AAI must include how the capital base is arrived at, and if the access arrangement period commences at the end of an earlier access arrangement period, it must provide a demonstration of how the capital base increased or diminished over the previous access arrangement period.
21. The opening capital base for the access arrangement period (that is, the capital base at 1 January 2020) is determined in accordance with the formula in rule 77(2) of the NGR.

77 Opening capital base

...

(2) If an access arrangement period follows immediately on the conclusion of a preceding access arrangement period, the opening capital base for the later access arrangement period is to be:

(a) the opening capital base as at the commencement of the earlier access arrangement period adjusted for any difference between estimated and actual capital expenditure included in that opening capital base. This adjustment must also remove any benefit or penalty associated with any difference between the estimated and actual capital expenditure;

plus:

(b) conforming capital expenditure made, or to be made, during the earlier access arrangement period;

plus:

(c) any amounts to be added to the capital base under rule 82, 84 or 86;

less:

(d) depreciation over the earlier access arrangement period (to be calculated in accordance with any relevant provisions of the access arrangement governing the calculation of depreciation for the purpose of establishing the opening capital base); and

(e) redundant assets identified during the course of the earlier access arrangement period; and

(f) the value of pipeline assets disposed of during the earlier access arrangement period.

22. The NGR define *conforming capital expenditure* as “capital expenditure that complies with the new capital expenditure criteria”. Rule 79 of the NGR sets out the criteria.

79 New capital expenditure criteria

(1) Conforming capital expenditure is capital expenditure that conforms with the following criteria:

(a) the capital expenditure must be such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services;

(b) the capital expenditure must be justifiable on a ground stated in subrule (2).

(2) Capital expenditure is justifiable if:

- (a) the overall economic value of the expenditure is positive; or
 - (b) the present value of the expected incremental revenue to be generated as a result of the expenditure exceeds the present value of the capital expenditure; or
 - (c) the capital expenditure is necessary:
 - (i) to maintain and improve the safety of services; or
 - (ii) to maintain the integrity of services; or
 - (iii) to comply with a regulatory obligation or requirement; or
 - (iv) to maintain the service provider's capacity to meet levels of demand for services existing at the time the capital expenditure is incurred (as distinct from projected demand that is dependent on an expansion of pipeline capacity); or
 - (d) the capital expenditure is an aggregate amount divisible into 2 parts, one referable to incremental services and the other referable to a purpose referred to in paragraph (c), and the former is justifiable under paragraph (b) and the latter under paragraph (c).
- (3) In deciding whether the overall economic value of capital expenditure is positive, consideration is to be given only to economic value directly accruing to the service provider, gas producers, users and end users.
- (4) In determining the present value of expected incremental revenue:
- (a) a tariff will be assumed for incremental services based on (or extrapolated from) prevailing reference tariffs or an estimate of the reference tariffs that would have been set for comparable services if those services had been reference services; and
 - (b) incremental revenue will be taken to be the gross revenue to be derived from the incremental services less incremental operating expenditure for the incremental services; and
 - (c) a discount rate is to be used equal to the rate of return implicit in the reference tariff.
- (5) If capital expenditure made during an access arrangement period conforms, in part, with the criteria laid down in this rule, the capital expenditure is, to that extent, to be regarded as conforming capital expenditure.
- (6) Conforming capital expenditure that is included in an access arrangement revision proposal must be for expenditure that is allocated between:
- (a) reference services;
 - (b) other services provided by means of the covered pipeline; and
 - (c) other services provided by means of uncovered parts (if any) of the pipeline,
- in accordance with rule 93.

Conforming capital expenditure

23. Conforming capital expenditure was assessed using the following framework.
- Determine whether the expenditure satisfies the prudent service provider criteria set out in rule 79(1) of the NGR. That is, the expenditure would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services.

- Determine whether the expenditure is justifiable on one or more of the grounds set out in rule 79(2) of the NGR.
 - Assess whether forecasts or estimates comply with rule 74(2) of the NGR, which requires a forecast or estimate to be arrived at on a reasonable basis and represent the best forecast or estimate possible in the circumstances.
24. Refer to Table 3, which shows the conforming capital expenditure made during the earlier access arrangement period.

Amounts added under rules 82, 84 and 86

25. Rules 82, 84 and 86 of the NGR cover provisions for capital contributions by users to new capital expenditure, the speculative capital expenditure account and the re-use of redundant assets.

- | | |
|-----------|--|
| 82 | Capital contributions by users to new capital expenditure |
| (1) | A user may make a capital contribution towards a service provider's capital expenditure. |
| (2) | Capital expenditure to which a user has contributed may, with the [ERA's] approval, be rolled into the capital base for a pipeline but, subject to subrule (3), not to the extent of any such capital contribution. |
| (3) | The [ERA] may approve the rolling of capital expenditure (including a capital contribution made by a user, or part of such a capital contribution) into the capital base for a pipeline on condition that the access arrangement contain a mechanism to prevent the service provider from benefiting, through increased revenue, from the user's contribution to the capital base. |
| ... | |
| 84 | Speculative capital expenditure account |
| (1) | A full access arrangement may provide that the amount of non-conforming capital expenditure, to the extent that it is not to be recovered through a surcharge on users or a capital contribution, is to be added to a notional fund (the speculative capital expenditure account). |
| (2) | The balance of the speculative capital expenditure account must be adjusted annually by applying to the balance a rate that is the same as the allowed rate of return for the regulatory year in which the adjustment is made. |
| (3) | If at any time the type or volume of services changes so that capital expenditure that did not, when made, comply with the new capital expenditure criteria becomes compliant, the relevant portion of the speculative capital expenditure account (including the return referable to that portion of the account) is to be withdrawn from the account and rolled into the capital base as at the commencement of the next access arrangement period. |
| ... | |
| 86 | Re-use of redundant assets |
| (1) | Subject to the new capital expenditure criteria, if, after the reduction of the capital base by the value of assets identified as redundant, the assets later contribute to the delivery of pipeline services, the assets may be treated as new capital expenditure of an amount calculated by taking their value as at the time of their removal from the capital base and increasing it annually at the rate of return implicit in the reference tariff. |

- (2) To the extent the new capital expenditure criteria allow, the amount arrived at under subrule (1) will be returned to the capital base in accordance with those criteria.
26. There were no amounts added to the opening capital base under rules 82, 84 or 86 of the NGR.
27. An amount of \$0.061 million was added to the speculative capital expenditure account under rule 84 of the NGR. This comprises \$0.058 million of capital expenditure which the ERA concluded could be added to the speculative capital expenditure account under rule 84 of the NGR and an adjustment reflecting the allowed rate of return on this expenditure, calculated according to rule 84. There were no amounts withdrawn from this account and rolled into the opening capital base.

Depreciation

28. The depreciation method used for calculating the depreciation on the regulatory asset base over the earlier access arrangement period was the straight-line depreciation method using the current cost accounting approach. This approach is consistent with the depreciation criteria set out in rule 89 of the NGR (see paragraph 41).

Redundant and disposed assets

29. There were no redundant assets identified during the earlier access arrangement period.
30. There were no asset disposals during the earlier access arrangement period.

Opening capital base

31. The opening capital base at 1 January 2020 is \$377.206 million (Table 7).⁶

⁶ Real dollars as at 31 December 2018

Table 7 Opening capital base at 1 January 2020 (\$ million nominal)

| | 2015 | 2016 | 2017 | 2018 | 2019 |
|--|---------|---------|---------|---------|---------|
| Opening capital base AA3 (start of year) | 390.362 | 393.109 | 389.184 | 386.667 | 382.768 |
| Plus: Inflationary gains | 6.591 | 5.802 | 7.430 | 6.899 | 4.364 |
| Opening capital base AA3 (end of year) | 396.954 | 398.912 | 396.613 | 393.565 | 387.131 |
| Plus: Capital expenditure | 3.255 | 1.409 | 1.432 | 0.766 | 1.640 |
| Less: Depreciation | 7.100 | 11.137 | 11.379 | 11.564 | 11.565 |
| Less: Asset disposals | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Closing capital base | 393.109 | 389.184 | 386.667 | 382.768 | 377.206 |

Some numbers may not add due to rounding.

Source: ERA, December 2019, Final decision tariff model.

Projected Capital Base – NGR 72(1)(c)

32. AAI must include the projected capital base over the access arrangement period, including:
 - A forecast of conforming capital expenditure for the period and the basis for the forecast (rule 72(1)(c)(i) of the NGR).
 - A forecast of depreciation for the period, including a demonstration of how the forecast is derived based on the proposed depreciation method (rule 72(1)(c)(ii) of the NGR).
33. The projected capital base for the access arrangement period is determined in accordance with the formula in rule 78 of the NGR.

78 Projected capital base

The projected capital base for a particular period is:

- (a) the opening capital base;
- plus:
- (b) forecast conforming capital expenditure for the period;
- less:
- (c) forecast depreciation for the period; and
- (d) the forecast value of pipeline assets to be disposed of in the course of the period.

34. The return on the projected capital base for each year of the access arrangement period is determined in accordance with the formula in rule 87 of the NGR.

87 Rate of return

The return on the projected capital base for a service provider for a regulatory year of an access arrangement period for an applicable access arrangement (RPCB_t) is to be calculated using the following formula:

$$\text{RPCB}_t = a_t \times v_t$$

where:

a_t is the allowed rate of return for the regulatory year; and

v_t is the value, as at the beginning of the regulatory year, of the projected capital base for the regulatory year (as established under rule 78 and subject to rule 82(3)).⁷

35. The projected capital base for the access arrangement period is shown in Table 8.
36. No pipeline assets are expected to be disposed of during the access arrangement period.

⁷ Rule 82(3) states: The [ERA] may approve the rolling of capital expenditure (including a capital contribution made by a user, or part of such a capital contribution) into the capital base for a pipeline on condition that the access arrangement contain a mechanism to prevent the service provider from benefiting, through increased revenue, from the user's contribution to the capital base.

Table 8 Projected capital base for AA4 (\$ million nominal)

| | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|---------|---------|---------|---------|---------|
| Opening capital base (beginning of period) | 377.206 | 373.868 | 367.098 | 359.709 | 351.869 |
| Inflation | 4.300 | 4.262 | 4.185 | 4.101 | 4.011 |
| Opening capital base (end of period) | 381.506 | 378.130 | 371.283 | 363.810 | 355.880 |
| Plus: Capital expenditure | 3.364 | 1.075 | 0.711 | 0.503 | 0.891 |
| Less: Depreciation | 11.002 | 12.107 | 12.285 | 12.444 | 11.487 |
| Less: Asset disposals | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Plus: Non-depreciable asset variation | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Closing capital base | 373.868 | 367.098 | 359.709 | 351.869 | 345.284 |

Source: ERA, December 2019, Final decision tariff model.

Forecast conforming capital expenditure (NGR 72(1)(c)(i))

37. The NGR define *conforming capital expenditure* as “capital expenditure that complies with the new capital expenditure criteria”. Rule 79 of the NGR sets out the criteria, which is set out at paragraph 22 (above).
38. Forecast conforming capital expenditure for the access arrangement period was assessed using the following framework.
 - Determine whether the expenditure satisfies the prudent service provider criteria set out in rule 79(1) of the NGR. That is, the expenditure would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services.
 - Determine whether the expenditure is justifiable on one or more of the grounds set out in rule 79(2) of the NGR.
 - Assess whether forecasts or estimates comply with rule 74(2) of the NGR, which requires a forecast or estimate to be arrived at on a reasonable basis and represent the best forecast or estimate possible in the circumstances.
39. Table 9 shows the forecast conforming capital expenditure for the access arrangement period.

Table 9 Forecast conforming capital expenditure for AA4 (\$ million real as at 31 December 2018)

| | 2020 | 2021 | 2022 | 2023 | 2024 | AA4 total |
|--|--------------|--------------|--------------|--------------|--------------|--------------|
| Pipeline and laterals | | | | | | |
| Verification digs program | 0.213 | - | - | - | - | 0.213 |
| Preparation for in-line inspection | 0 | 0 | 0 | 0 | 0 | 0 |
| Labour escalation adjustment | 0 | 0 | 0 | 0 | 0 | 0 |
| Compressor stations | | | | | | |
| Gas engine alternator 60,000hrs overhaul program | - | 0.114 | 0.076 | - | 0 | 0.189 |
| Reliability replacement program | 0.500 | - | 0.309 | - | 0.520 | 1.329 |
| Hazardous areas rectification program | 0.050 | 0.050 | 0.050 | 0.050 | 0 | 0.200 |
| Labour escalation adjustment | (0.001) | - | (0.002) | - | (0.005) | (0.009) |
| Receipt and delivery point facilities | | | | | | |
| Flow computer upgrade programme | 0.066 | 0.408 | - | - | - | 0.474 |
| Gas chromatograph replacement program | 0.083 | 0.204 | 0.082 | - | - | 0.369 |
| Labour escalation adjustment | - | (0.003) | (0.001) | - | - | (0.004) |
| SCADA, communications and electronic equipment | | | | | | |
| Remote terminal unit replacement program | 0.217 | 0.092 | 0.166 | 0.429 | 0.321 | 1.225 |
| Labour escalation adjustment | - | - | (0.001) | (0.004) | (0.004) | (0.010) |
| Cathodic protection | | | | | | |
| CPU upgrade program | 0 | 0 | 0 | 0 | 0 | 0 |
| Labour escalation adjustment | - | - | - | - | - | - |
| Maintenance bases and depots | | | | | | |
| Site accommodation upgrade program | 2.045 | 0.176 | - | - | - | 2.221 |
| Karratha maintenance base rebuild | 0.104 | - | - | - | - | 0.104 |
| Labour escalation adjustment | (0.004) | (0.001) | - | - | - | (0.005) |
| Equity raising costs | 0.017 | 0.000 | 0.000 | 0.000 | 0.000 | 0.017 |
| Total AA4 draft decision forecast capital expenditure | 3.288 | 1.039 | 0.680 | 0.475 | 0.832 | 6.315 |

Source: ERA, December 2019, Final decision tariff model.

Forecast of depreciation (NGR 72(1)(c)(ii))

40. Rule 88 of the NGR sets out the requirements for the depreciation schedule.
- 88 Depreciation schedule**
- (1) 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.
 - (2) The depreciation schedule may consist of a number of separate schedules, each relating to a particular asset or class of assets.
41. Rules 89 and 90 of the NGR set out the depreciation criteria and requirements for the calculation of depreciation for establishing the opening capital base for the next access arrangement period.
- 89 Depreciation criteria**
- (1) The depreciation schedule should be designed:
 - (a) so that reference tariffs will vary, over time, in a way that promotes efficient growth in the market for reference services; and
 - (b) so that each asset or group of assets is depreciated over the economic life of that asset or group of assets; and
 - (c) 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; and
 - (d) so that (subject to the rules about capital redundancy), an asset is depreciated only once (ie that the amount by which the asset is depreciated over its economic life does not exceed the value of the asset at the time of its inclusion in the capital base (adjusted, if the accounting method approved by the [ERA] permits, for inflation)); and
 - (e) so as to allow for the service provider's reasonable needs for cash flow to meet financing, non-capital and other costs.
 - (2) Compliance with subrule (1)(a) may involve deferral of a substantial proportion of the depreciation, particularly where:
 - (a) the present market for pipeline services is relatively immature; and
 - (b) the reference tariffs have been calculated on the assumption of significant market growth; and
 - (c) the pipeline has been designed and constructed so as to accommodate future growth in demand.
 - (3) The [ERA's] discretion under this rule is limited.
- 90 Calculation of depreciation for rolling forward capital base from one access arrangement period to the next**
- (1) A full access arrangement must contain provisions governing the calculation of depreciation for establishing the opening capital base for the next access arrangement period after the one to which the access arrangement currently relates.
 - (2) The provisions must resolve whether depreciation of the capital base is to be based on forecast or actual capital expenditure.

42. A current cost accounting approach on a straight-line basis is used to calculate the depreciation on the regulatory asset base for the access arrangement period. The approach is consistent with the criteria under rule 89(1) of the NGR.
43. Table 10 shows the forecast of depreciation for the access arrangement period.
44. The asset lives used to calculate the forecast are shown in Table 11.

Table 10 Forecast of depreciation for AA4 (\$ million as at 31 December 2018)

| | 2020 | 2021 | 2022 | 2023 | 2024 | Total |
|--|---------------|---------------|---------------|---------------|---------------|---------------|
| Pipeline and laterals | 7.327 | 7.330 | 7.330 | 7.330 | 7.330 | 36.648 |
| Main line valve and scraper stations | 0.192 | 0.224 | 0.224 | 0.224 | 0.224 | 1.087 |
| Compressor stations | 2.713 | 2.947 | 2.952 | 2.967 | 2.060 | 13.639 |
| Receipt and delivery points facilities | -0.285 | 0.159 | 0.179 | 0.182 | 0.148 | 0.384 |
| SCADA, communications and electronic equipment | 0.474 | 0.496 | 0.505 | 0.508 | 0.513 | 2.496 |
| Cathodic protection | 0.087 | 0.131 | 0.130 | 0.128 | 0.085 | 0.560 |
| Maintenance bases and depots | 0.223 | 0.266 | 0.269 | 0.269 | 0.269 | 1.295 |
| Other depreciable assets | 0.025 | 0.150 | 0.150 | 0.150 | 0.101 | 0.576 |
| Equity raising cost | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 |
| Forecast depreciation | 10.755 | 11.702 | 11.740 | 11.758 | 10.731 | 56.688 |

Source: ERA, Final Decision, Appendix 7, GGP Tariff Model, December 2019.

Table 11 AA4 asset lives

| Asset class | Economic life |
|--|---------------|
| Pipeline and laterals | 70 |
| Main line valve and scraper stations | 50 |
| Compressor stations | 30 |
| Receipt and delivery points facilities | 30 |
| SCADA, communications and electronic equipment | 10 |
| Cathodic protection | 15 |
| Maintenance bases and depots | 50 |
| Other depreciable assets | 10 |
| Equity raising costs | 33 |

Source: GGT, *Goldfields Gas Pipeline Access Arrangement Revision Proposal Supporting Information*, 21 December 2018, p. 38, Table 18.

Forecast Demand – NGR 72(1)(d)

45. AAI must include, to the extent it is practicable to forecast pipeline capacity and utilisation of pipeline capacity over the access arrangement period, a forecast of pipeline capacity and utilisation of pipeline capacity over that period and the basis on which the forecast has been derived.
46. Table 12 shows the demand forecast for pipeline services (capacity and throughput) over the access arrangement period. The demand forecast is derived on the following basis.
- Forecast demand for pipeline services (capacity and throughout) is expected to be consistent with existing gas transportation agreements. There is no forecast for demand growth and the GGP is forecast to be at full capacity over the access arrangement period.
 - Forecast gas usage by major users of the GGP (gold, nickel and iron ore procedures) is expected to be consistent with the commodity forecasts for gold, nickel and iron ore. Demand for gold and nickel production is expected to increase over the access arrangement period.

Table 12 Demand forecast (capacity and throughput) for pipeline services for AA4

| | 2020 | 2021 | 2022 | 2023 | 2024 |
|--------------------|--------|--------|--------|--------|--------|
| Average capacity | 110.53 | 110.53 | 110.53 | 110.53 | 110.53 |
| Maximum capacity | 110.53 | 110.53 | 110.53 | 110.53 | 110.53 |
| Average throughput | 90.71 | 90.71 | 90.71 | 90.71 | 90.71 |

Forecast Operating Expenditure – NGR 72(1)(e)

47. AAI must include a forecast of operating expenditure over the access arrangement period and the basis on which the forecast has been derived.
48. Rule 91 of the NGR sets out criteria governing operating expenditure.

- 91 Criteria governing operating expenditure**
- (1) Operating expenditure must be such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services.
 - (2) The forecast of required operating expenditure of a pipeline service provider that is included in the full access arrangement must be for expenditure that is allocated between:
 - (a) reference services;
 - (b) other services provided by means of the covered pipeline; and
 - (c) other services provided by means of uncovered parts (if any) of the pipeline,in accordance with rule 93.

49. Table 13 shows the forecast operating expenditure over the access arrangement period. The forecast was derived on the following basis.
 - Estimates for operating expenditure were derived using the base-step-trend method. Under this method, operating expenditure forecasts were based on costs incurred in an efficient base year plus adjustments to account for unanticipated difference between the base year and the AA4 years.
 - Specific yearly forecasts for ‘major expenditure jobs’, regulatory costs and corporate costs were calculated as the expenditure profile for these categories were not suitably captured by the base-step-trend method.

Table 13: Forecast operating expenditure for AA4 (\$ million real at 31 December 2018)

| | 2020 | 2021 | 2022 | 2023 | 2024 | Total AA4 |
|---|---------------|---------------|---------------|---------------|---------------|---------------|
| Base year operating expenditure | 12.689 | 12.689 | 12.689 | 12.689 | 12.689 | 63.445 |
| <i>Add: Separate forecasts</i> | | | | | | |
| Major expenditure jobs | 0.560 | 0.480 | 0.670 | 0.200 | 0.500 | 2.410 |
| Regulatory costs | 0.682 | 0.682 | 0.682 | 0.682 | 0.682 | 3.408 |
| Corporate costs | 2.669 | 2.669 | 2.669 | 2.669 | 2.669 | 13.345 |
| | | | | | | |
| Equals: Baseline forecast operating expenditure | 16.600 | 16.519 | 16.710 | 16.240 | 16.539 | 82.608 |
| <i>Add: Real labour cost escalation</i> | | | | | | |
| Labour cost | 0.147 | 0.196 | 0.248 | 0.290 | 0.346 | 1.227 |
| Equals: Total operating expenditure | 16.747 | 16.715 | 16.958 | 16.530 | 16.885 | 83.835 |

Source: ERA, Final Decision, Appendix 7, GGP Tariff Model, December 2019.

50. Table 14 shows the forecast operating expenditure by category for AA4.

Table 14 Forecast operating expenditure by category for AA4 (\$ million as at 31 December 2018)

| Category | 2020 | 2021 | 2022 | 2023 | 2024 | Total AA4 |
|------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Pipeline operations | 12.222 | 12.268 | 12.318 | 12.358 | 12.411 | 61.576 |
| Major expenditure jobs | 0.560 | 0.480 | 0.670 | 0.200 | 0.500 | 2.410 |
| Commercial operations | 0.615 | 0.617 | 0.619 | 0.621 | 0.624 | 3.097 |
| Regulatory costs | 0.682 | 0.682 | 0.682 | 0.682 | 0.682 | 3.408 |
| Corporate costs | 2.669 | 2.669 | 2.669 | 2.669 | 2.669 | 13.345 |
| Total operating expenditure | 16.747 | 16.715 | 16.958 | 16.530 | 16.885 | 83.835 |

Source: ERA, Final Decision, Appendix 7, GGP Tariff Model, December 2019.

Key Performance Indicators – NGR 72(1)(f)

51. As stated at paragraph 10, changes to the NGR in March 2019 removed the requirement for AAI to include information on the key performance indicators to be used by the service provider to support the expenditure to be incurred over the access arrangement period.⁸

⁸ Rule 72(1)(f) was deleted from the NGR.

Rate of Return – NGR 72(1)(g)

52. AAI must include the allowed rate of return for each regulatory year of the access arrangement period.
53. The rate of return, based on the Weighted Average Cost of Capital (WACC), provides for a return on the regulatory asset base.
54. The allowed rate of return is determined in accordance with the gas rate of return guidelines,⁹ which became a binding instrument in Western Australia in April 2019.
55. Table 15 shows the rate of return parameters for the access arrangement period.

Table 15: Rate of return parameters for AA4

| Parameter | Value |
|---|--------------|
| Return on debt | |
| 5-year interest rate swap (effective yield) | 0.87% |
| Debt risk premium (10-year average) | 2.325% |
| Debt issuing cost (0.100%) + hedging (0.114%) | 0.214% |
| Nominal return on debt (%) | 3.41% |
| Return on equity | |
| Nominal risk free rate (%) | 0.72% |
| Market risk premium (%) | 6.00% |
| Equity beta | 0.7 |
| Nominal return on equity (%) | 4.92% |
| Other parameters | |
| Debt proportion (%) | 55.0% |
| Inflation rate (%) | 1.14% |
| Corporate tax rate (%) | 30% |
| Franking credit | 0.5 |
| Nominal after-tax WACC (%) | 4.09% |
| Real after-tax WACC (%) | 2.92% |

Source: ERA, Final Decision; GGP Tariff Model, December 2019.

⁹ Economic Regulation Authority, *Final Rate of Return Guidelines (2018)*, 18 December 2018.

Estimated Cost of Income Tax – NGR 72(1)(h)

56. AAI must include the estimated cost of corporate income tax, calculated in accordance with rule 87A of the NGR, including the allowed imputation credits referred to in that rule. Rule 87A states:

87A Estimated cost of corporate income tax

- (1) The estimated cost of corporate income tax of a service provider for each regulatory year of an access arrangement period (ETC_t) is to be estimated in accordance with the following formula:

$$\text{ETC}_t = (\text{ETI}_t \times r_t) (1 - \gamma)$$

Where

ETI_t is an estimate of the taxable income for that regulatory year that would be earned by a benchmark efficient entity as a result of the provision of reference services if such an entity, rather than the service provider, operated the business of the service provider;

r_t is the expected statutory income tax rate for that regulatory year as determined by the [ERA]; and

γ is the allowed imputation credits for the regulatory year.

57. Table 16 shows the estimated cost of corporate income tax for the access arrangement period.

Table 16 Estimated cost of corporate income tax for AA4 (\$ million)

| | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---------------|---------------|---------------|---------------|---------------|
| Revenue | | | | | |
| Total (unsmoothed) revenue | 41.472 | 42.828 | 43.350 | 43.071 | 42.383 |
| Operating expenditure | 17.131 | 17.294 | 17.744 | 17.494 | 18.074 |
| Tax depreciation | 6.993 | 6.853 | 6.653 | 6.445 | 6.234 |
| Debt servicing costs | 2.578 | 2.668 | 2.320 | 2.292 | 1.768 |
| Total expenses | 26.701 | 26.814 | 26.717 | 26.232 | 26.075 |
| Estimated taxable income | 14.770 | 16.014 | 16.633 | 16.840 | 16.308 |
| Carried forward tax loss | 0 | 0 | 0 | 0 | 0 |
| Estimated taxable income (Net of tax loss) | 14.770 | 16.014 | 16.633 | 16.840 | 16.308 |
| Estimated income tax payable | 4.431 | 4.804 | 4.990 | 5.052 | 4.892 |
| Value of imputation credits | (2.216) | (2.402) | (2.495) | (2.526) | (2.446) |
| Estimated cost of corporate income tax | 2.216 | 2.402 | 2.495 | 2.526 | 2.446 |

Taxable income

58. Taxable income is estimated using the following method:

- Unsmoothed tariff revenue
- minus** approved forecast operating expenditure
- minus** depreciation of the tax asset base, calculated using the straight line method for assets purchased before 1 January 2020 and the diminishing value method for assets purchased on or after 1 January 2020
- minus** debt servicing costs
- equals** estimated taxable income

Tax asset lives

59. The tax asset categories and respective tax lives for the access arrangement period are shown in Table 17.

Table 17 Tax asset categories and tax lives for AA4

| Asset categories | GGT AA4 proposed asset lives |
|--|------------------------------|
| Pipeline and laterals | 20 |
| Main line valve and scraper stations | 20 |
| Compressor stations | 20 |
| Receipt and delivery point facilities | 20 |
| SCADA, communications and electronic equipment | 10 |
| Cathodic protection | 10 |
| Maintenance bases and depots | 20 |
| Other depreciable assets | 10 |

Source: Goldfields Gas Transmission Pty Ltd, GGP Confidential AA Tariff Model 2020-2024, 1 January 2020.

Tax depreciation method

60. Depreciation of the tax asset base is calculated using a straight-line method for assets purchased before 1 January 2020 and the diminishing value method for assets purchased on or after 1 January 2020.
61. The asset category of maintenance bases and depots has and will continue to be depreciated using straight-line depreciation for both existing and new assets.

Tax asset base

62. The forecast tax asset base for the access arrangement period is shown in Table 18 and is determined using the following (roll forward) method:

Opening value at 1 January 2020

plus forecast capital expenditure (net of capital contributions) to be incurred in AA4

less depreciation based on the forecast of capital expenditure

less any forecast asset disposals during AA4.

Table 18 Forecast tax asset base for AA4 (\$ million nominal)

| | 2020 | 2021 | 2022 | 2023 | 2024 |
|------------------------|---------------|---------------|---------------|---------------|---------------|
| Opening tax asset base | 16.577 | 17.363 | 15.770 | 14.161 | 12.372 |
| Capital expenditure | 3.364 | 1.075 | 0.711 | 0.503 | 0.891 |
| Tax depreciation | (2.578) | (2.668) | (2.320) | (2.292) | (1.768) |
| Asset disposals | 0 | 0 | 0 | 0 | 0 |
| Closing value | 17.363 | 15.770 | 14.161 | 12.372 | 11.495 |

63. No asset disposals are forecast for the access arrangement period.

Statutory income tax rate

64. The expected statutory income tax (r_t) for each regulatory year of the access arrangement period is 30 per cent.

Imputation credits

65. As required by the gas rate of return guidelines, a value of 0.5 is used for the value of imputation credits (v).¹⁰

¹⁰ The gas rate of return guidelines became a binding instrument in Western Australia in April 2019.

Efficiency Gains and/or Losses – NGR 72(1)(i)

66. If an incentive mechanism operated for the previous access arrangement period, AAI must include the proposed carryover of increments for efficiency gains, or decrements for efficiency losses, in the previous access arrangement period and a demonstration of how allowance is to be made for any such increments or decrements.
67. There was no incentive mechanism that operated in the previous (earlier) access arrangement period.

Approach to Setting Tariffs – NGR 72(1)(j)

68. AAI must include the proposed approach to the setting of tariffs including:
- The suggested basis of reference tariffs, including the method used to allocate costs and a demonstration of the relationship between costs and tariffs (rule 72(1)(j)(i) of the NGR).
 - A description of any pricing principles employed but not otherwise disclosed under this rule (rule 72(1)(j)(ii) of the NGR).
69. Rule 95 of the NGR sets out the requirements for determining reference tariffs for transmission pipelines.

- 95 Tariffs – transmission pipelines**
- (1) A tariff for a reference service provided by means of a transmission pipeline must be designed:
- (a) to generate from the provision of each reference service the portion of total revenue referable to that reference service; and
 - (b) as far as is practicable consistently with paragraph (a), to generate from the user, or the class of users, to which the reference service is provided, the portion of total revenue referable to providing the reference service to the particular user or class of users.
- (2) The portion of total revenue referable to a particular reference service is determined as follows:
- (a) costs directly attributable to each reference service are to be allocated to that service; and
 - (b) other costs attributable to reference services are to be allocated between them on a basis (which must be consistent with the revenue and pricing principles) determined or approved by the [ERA].
- (3) The portion of total revenue referable to providing a reference service to a particular user or class of users is determined as follows:
- (a) costs directly attributable to supplying the user or class of users are to be allocated to the relevant user or class; and
 - (b) other costs are to be allocated between the user or class of users and other users or classes of users on a basis (which must be consistent with the revenue and pricing principles) determined or approved by the [ERA].

70. Section 4.1 of the access arrangement for the GGP details the reference tariff and charges for the single reference service offered – the Firm Service. The reference tariff is a three-part tariff, comprising:
- A *toll charge*, which is a capacity-based charge
 - A *capacity reservation charge*, which is a capacity and distance-based charge
 - A *throughput charge*, which is a throughput and distance-based charge.
71. The toll and capacity reservation charges represent access charges that aim to recover the fixed costs of the GGP, while the throughput charge aims to recover variable costs.
72. The capacity reservation and throughput charges are distance-based charges. This distance-based charging structure aims to make the tariff reflective of the costs of the resources used to provide pipeline services to individual users at different locations along the GGP.

73. The tariff components (charges) are calculated assuming the allocation of GGT's total revenue requirement in the proportions set out in Table 19. That is:
- The *toll tariff* was calculated as the price during the period 2020 to 2024 which set the present value of the forecast revenue from the tariff equal to 11.3 per cent of the present value of total revenue.
 - The *capacity reservation tariff* was calculated as the price during the period 2020 to 2024 which set the present value of the forecast revenue from the tariff equal to 72.2 per cent of the present value of total revenue.
 - The *throughput tariff* was calculated as the price during the period 2020 to 2024 which set the present value of the forecast of revenue for the tariff equal to 16.5 per cent of the present value of total revenue.
74. The discount rate used to calculate the present values was 4.09 per cent (see paragraph 55).

Table 19 Allocation of total revenue to reference tariff components

| Tariff component | Proportion (%) |
|----------------------|----------------|
| Toll | 11.3 |
| Capacity reservation | 72.2 |
| Throughput | 16.5 |

75. Table 20 shows the reference tariffs for the Firm Service that apply at the start of the access arrangement period. These tariffs will vary throughout the access arrangement period based on the tariff variation mechanism.

Table 20 Reference tariff for the Firm Service from 1 January 2020

| Tariff component* | Tariff |
|-------------------------------------|----------|
| Toll (\$/GJ) | 0.119199 |
| Capacity reservation (\$/GJ MDQ km) | 0.000722 |
| Throughput (\$GJ/km) | 0.000197 |

* GJ = gigajoule, MDQ = maximum daily quantity, km = kilometre

Reference Tariff Variation Mechanism – NGR 72(1)(k)

76. AAI must include the service provider's rationale for any proposed reference tariff variation mechanism.
77. Rule 92 of the NGR requires the access arrangement for the GGP to include a reference tariff variation mechanism, which must be designed to equalise (in terms of present values) the forecast revenue from reference services over the access arrangement period and the portion of total revenue allocated to reference services for the access arrangement period.
78. Rule 97 of the NGR specifies the requirements (or mechanisms) for reference tariff variations.

97 Mechanics of reference tariff variation

- (1) A reference tariff variation mechanism may provide for variation of a reference tariff:
 - (a) in accordance with a schedule of fixed tariffs; or
 - (b) in accordance with a formula set out in the access arrangement; or
 - (c) as a result of a cost pass through for a defined event (such as a cost pass through for a particular tax); or
 - (d) by the combined operation of 2 or more or the above.
- (2) A formula for variation of a reference tariff may (for example) provide for:
 - (a) variable caps on the revenue to be derived from a particular combination of reference services; or
 - (b) tariff basket price control; or
 - (c) revenue yield control; or
 - (d) a combination of all or any of the above.
- (3) In deciding whether a particular reference tariff variation mechanism is appropriate to a particular access arrangement, the [ERA] must have regard to:
 - (a) the need for efficient tariff structures; and
 - (b) the possible effects of the reference tariff variation mechanism on administrative costs of the [ERA], the service provider, and users or potential users; and
 - (c) the regulatory arrangements (if any) applicable to the relevant reference services before the commencement of the proposed reference tariff variation mechanism; and
 - (d) the desirability of consistency between regulatory arrangements for similar services (both within and beyond the relevant jurisdiction); and
 - (e) any other relevant factor.
- (4) A reference tariff variation mechanism must give the [ERA] adequate oversight or powers of approval over variation of the reference tariff.
- (5) Except as provided by a reference tariff variation mechanism, a reference tariff is not to vary during the course of an access arrangement period.

79. Section 4.5 of the access arrangement for the GGP details the reference tariff variation mechanism that applies for the access arrangement period. The mechanism comprises:

- A *scheduled reference tariff variation* mechanism, which provides for an annual variation of the reference tariff.
- A *cost pass through reference tariff variation* mechanism, which provides for the variation of the reference tariff in response to one or more cost pass through events.

Scheduled tariff variation

80. Schedule A of the revised access arrangement for the GGP details the operation of the scheduled reference tariff variation mechanism. This mechanism varies the reference tariff so it more closely reflects variations in the costs that the tariff is to recover. It is intended to maintain efficient cost recovery during the access arrangement period.

81. At the commencement of each year during the access arrangement period (that is, each 1 January) the scheduled reference tariff variation mechanism:

- Adjusts the reference tariff for inflation.
- Allows the service provider to vary the individual components of the reference tariff, by up to two per cent, within a constraint on the overall revenue that might be earned at the reference tariff (the weighted average tariff basket).
- Effects a change in the reference tariff following the annual adjustment of the return of debt.

Cost pass through tariff variation

82. Section 4.5.2 of the revised access arrangement for the GGP details the operation of the cost pass through tariff variation mechanism. This mechanism ensures that costs resulting from material¹¹ unforeseen change in law or tax change events (cost pass through events) that affect the provision of the reference service can be recovered through the reference tariff. It is intended to maintain efficient cost recovery during the access arrangement period.

83. If one or more cost pass through events occur, or are expected to occur, during the access arrangement period, the cost pass through reference tariff variation mechanism allows the service provider to vary the reference tariff to recover the financial costs of the cost pass through event(s), to the extent that the costs have not already been accounted for in the reference tariff.

¹¹ A cost pass through event is considered “material” where the cumulative costs of the event exceed 1% of the total revenue for the GGP in the year(s) in which the costs are incurred (section 4.5.2(d) of the access arrangement for the GGP).

Proposed Incentive Mechanism – NGR 72(1)(I)

84. AAI must include the service provider's rationale for any proposed incentive mechanism.
85. There is no proposed incentive mechanism for the access arrangement period.

Total Revenue – NGR 72(1)(m)

86. AAI must include the total revenue to be derived from pipeline services for each regulatory year of the access arrangement period.
87. Total revenue has been determined using the “building block approach” in accordance with rule 76 of the NGR.

76 Total revenue

Total revenue is to be determined for each regulatory year of the access arrangement period using the building block approach in which the building blocks are:

- (a) a return on the projected capital base for the year (See Divisions 4 and 5); and
 - (b) depreciation on the projected capital base for the year (See Division 6); and
 - (c) the estimated cost of corporate income tax for the year (See Division 5A); and
 - (d) increments or decrements for the year resulting from the operation of an incentive mechanism to encourage gains in efficiency (See Division 9); and
 - (e) a forecast of operating expenditure for the year (See Division 7).
88. The building blocks of total revenue for each year of the access arrangement period is shown in Table 21. There was no incentive mechanism that operated in the earlier access arrangement period, and there is no proposed incentive mechanism for the access arrangement period. Hence, there are no increments or decrements that affect total revenue.

Table 21 Total revenue building blocks for AA4 (\$ million nominal)

| | 2020 | 2021 | 2022 | 2023 | 2024 | Total |
|---------------------------------|---------------|---------------|---------------|---------------|---------------|----------------|
| Return on capital base | 15.424 | 15.287 | 15.010 | 14.708 | 14.388 | 74.818 |
| Operating expenditure | 17.131 | 17.294 | 17.744 | 17.494 | 18.074 | 87.736 |
| Regulatory depreciation | | | | | | |
| Depreciation | 11.002 | 12.107 | 12.285 | 12.444 | 11.487 | 59.325 |
| Inflationary gain | (4.300) | (4.262) | (4.185) | (4.101) | (4.011) | (20.859) |
| Regulatory corporate income tax | | | | | | |
| Corporate income tax | 4.431 | 4.804 | 4.990 | 5.052 | 4.892 | 24.169 |
| Imputation credits | (2.216) | (2.402) | (2.495) | (2.526) | (2.446) | (12.085) |
| Total revenue | 41.472 | 42.828 | 43.350 | 43.071 | 42.383 | 213.104 |

Source: ERA, Final Decision Tariff Model, December 2019. Some numbers may not add due to rounding.

Allocation of total revenue

89. The NGR require total revenue to be allocated between reference services and other services on an allocation of cost basis. Rule 93(2) of the NGR states:

- 93 **Allocation of total revenue and costs**
- ...
- (2) Costs are to be allocated between reference and other services as follows:
- (a) costs directly attributable to reference services are to be allocated to those services; and
 - (b) costs directly attributable to pipeline services that are not reference services are to be allocated to those services; and
 - (c) other costs are to be allocated between reference and other services on a basis (which must be consistent with the revenue and pricing principles) determined or approved by the [ERA].
90. The NGR further allow some services, other than reference services, to be classified as *rebateable services*, with part of the revenue from the sale of these services to be rebated or refunded to users of reference services. Rule 93(4) of the NGR states that "a pipeline service is a rebateable service if the service is not a reference service; and substantial uncertainty exists concerning the extent of the demand for the service or of the revenue to be generated from the service". There are no rebateable services for the access arrangement period.
91. The Firm Service is the single reference service provided under the revised access arrangement for the GGP. No other pipeline services (for example ancillary haulage services) are provided because there is no forecast for such services. As a result, there is no need to allocate revenue and costs between reference and non-reference (other) services.

Appendix 1 List of Tables

| | | |
|-----------|--|----|
| Table 1: | Requirements for access arrangement information relevant to price and revenue regulation | 2 |
| Table 2 | Actual and forecast consumer price index and inflation rates | 4 |
| Table 3: | Conforming capital expenditure by asset class for AA3 (\$ million nominal)..... | 5 |
| Table 4: | Operating expenditure by category for AA3 (\$ million as at 31 December 2018)..... | 6 |
| Table 5: | Minimum, maximum and average demand for AA3 (TJ / day) | 6 |
| Table 6: | Number of receipt points, delivery points and users (customers) for AA3 | 6 |
| Table 7 | Opening capital base at 1 January 2020 (\$ million nominal) | 11 |
| Table 8 | Projected capital base for AA4 (\$ million nominal)..... | 13 |
| Table 9 | Forecast conforming capital expenditure for AA4 (\$ million real as at 31 December 2018) | 14 |
| Table 10 | Forecast of depreciation for AA4 (\$ million as at 31 December 2018)..... | 16 |
| Table 11 | AA4 asset lives | 17 |
| Table 12 | Demand forecast (capacity and throughput) for pipeline services for AA4 | 18 |
| Table 13: | Forecast operating expenditure for AA4 (\$ million real at 31 December 2018) | 20 |
| Table 14 | Forecast operating expenditure by category for AA4 (\$ million as at 31 December 2018) | 20 |
| Table 15: | Rate of return parameters for AA4 | 22 |
| Table 16 | Estimated cost of corporate income tax for AA4 (\$ million)..... | 24 |
| Table 17 | Tax asset categories and tax lives for AA4 | 25 |
| Table 18 | Forecast tax asset base for AA4 (\$ million nominal) | 25 |
| Table 19 | Allocation of total revenue to reference tariff components | 29 |
| Table 20 | Reference tariff for the Firm Service from 1 January 2020 | 29 |
| Table 21 | Total revenue building blocks for AA4 (\$ million nominal) | 33 |

Appendix 2 Abbreviations

| | |
|------|-------------------------------------|
| AAI | Access Arrangement Information |
| GGP | Goldfields Gas Pipeline |
| NGR | National Gas Rules |
| AA4 | Fourth Access Arrangement Period |
| GGT | Goldfields Gas Transmission Pty Ltd |
| AEMC | Australian Energy Market Commission |
| WACC | Weighted Average Cost of Capital |