Draft Decision on Proposed Revisions to the Goldfields Gas Pipeline Access Arrangement for 2020 to 2024

Submitted by Goldfields Gas Transmission Pty Ltd

31 July 2019

Economic Regulation Authority
WESTERN AUSTRALIA

DMS204046

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Invitation to make submissions

Submissions are due by 4:00 pm (WST) Thursday, 10 October 2019

The ERA invites comment on this decision and encourages all interested parties to provide comment on the matters discussed in this decision and any other issues or concerns not already raised in this decision.

We would prefer to receive your comments via our online submission form https://www.erawa.com.au/consultation

You can also send comments through:

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Please note that submissions provided electronically do not need to be provided separately in hard copy.

All submissions will be made available on our website unless arrangements are made in advance between the author and the ERA. This is because it is preferable that all submissions be publicly available to facilitate an informed and transparent consultative process. Parties wishing to submit confidential information are requested to contact us at info@erawa.com.au.

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Summary of Required Amendments

Required Amendment 1

GGT must incorporate the proposed changes to section 2 (Pipeline Services) of the access arrangement as detailed in Appendix 4 of this draft decision.

Required Amendment 2

GGT must amend the total revenue requirement for the fourth access arrangement period to reflect the values set out in Table 8 of this draft decision.

Required Amendment 3

GGT must amend the values for operating expenditure to reflect the values set out in Table 14 of this draft decision

Required Amendment 4

GGT must amend the opening capital base at 1 January 2020 to reflect the values set out in Table 28 of this draft decision.

Required Amendment 5

GGT must amend the projected capital base to reflect the values set out in Table 43 of this draft decision.

Required Amendment 6

GGT must incorporate a speculative capital expenditure account into the access arrangement. The speculative capital expenditure account for AA3 will reflect the closing balance shown in Table 45.

Required Amendment 7

Subject to the nomination of a final averaging period, GGT must amend its rate of return estimate to be 5.02 per cent (vanilla nominal after-tax).

Required Amendment 8

GGT must amend the forecast of depreciation for the fourth access arrangement period to reflect the values set out in Table 51 of this draft decision.

Required Amendment 9

GGT must amend its calculation of income tax and tax depreciation methods as follows:

- Amend the depreciation method to the diminishing value method for new assets from 1 January 2020.
- Amend the estimated cost of corporate income tax in accordance with Table 58 of this draft decision.

Required Amendment 10

GGT must amend Schedule A of the access arrangement with the reference service tariffs in Table 61 of this draft decision.

Required Amendment 11

GGT must amend the tariff variation formulas in Schedule A of the access arrangement (pages 40 and 41) to update the definition of inflation ("Z") to reflect the value of inflation used in this draft decision, and ultimately the value used in the ERA's final decision. The 'limit on movement of the weighted average tariff basket' formula must delete the definition of "Y" because this component is not used in that formula. The X factor parameter must be

revised to use the present value of tariff revenue and tariffs that are calculated by the tariff model.

Required Amendment 12

GGT must incorporate the proposed changes to section 5 (Queuing) of the access arrangement as detailed in Appendix 5 of this draft decision.

Required Amendment 13

GGT must incorporate the proposed changes to section 7 (Extension and Expansion) of the access arrangement as detailed in Appendix 6 of this draft decision.

Draft Decision

Background

1. The purpose of an access arrangement is to provide the terms and conditions, including price, upon which an independent third party user can gain access to a regulated pipeline to transport gas.

2. On 21 December 2018, Goldfields Gas Transmission Pty Ltd (GGT) submitted its proposed access arrangement revisions,[1] access arrangement information[2] and access arrangement supporting information[3] for the Goldfields Gas Pipeline (GGP) to the ERA. GGT's proposal covers the five-year period from 1 January 2020 to 31 December 2024 (referred to as the fourth access arrangement period or AA4).

3. The role of the ERA is to determine whether GGT's proposal complies with the requirements of the National Gas Law (NGL) and National Gas Rules (NGR) as implemented in Western Australia by the *National Gas Access (WA) Act 2009*.

4. As required by the NGR, the ERA invited submissions from interested parties on GGT's proposal by publishing an initiating notice on 22 January 2019.

5. On 1 March 2019, the ERA published an Issues Paper to assist interested parties to prepare submissions and understand some of the issues to be addressed by the ERA in determining whether to approve (or not approve) GGT's proposal. Interested parties were invited to make their submissions by 27 March 2019. No submissions were received.

GGT's Proposal

6. 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.

7. For the purposes of tariff regulation, the GGP comprises two notional pipelines, which in reality 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, which is the subject of this access arrangement review process. The remaining 45.5 per cent of capacity is now regulated by the access regime and is a non-scheme pipeline.

8. GGT has proposed to increase reference tariffs by approximately 26 per cent in real terms from the average tariff applying during the period from 1 July 2016 to 31 December 2019.

1 GGT, *Goldfields Gas Pipeline Revised Access Arrangement 1 January 2020*.

2 GGT, *Proposed Revised Access Arrangement Information*, 1 January 2019.

3 GGT, *Access Arrangement Revision Proposal Supporting Information*, 1 January 2019.

9. GGT has proposed:

- $95.9 million[4] of forecast operating expenditure during AA4. GGT has utilised the base-step-trend method to forecast its operating costs.
- $16.1 million[5] of forecast capital expenditure during AA4. Most of this proposed expenditure is for sustaining the GGP's capital assets. Projects accounting for a large proportion of proposed capital expenditure include:
  - a compressor station replacement program (24.5 per cent of proposed capital expenditure)
  - a site accommodation upgrade program (24.4 per cent of proposed capital expenditure)
  - a remote terminal unit replacement program (20.7 per cent of proposed capital expenditure)
  - a cathodic protection unit replacement program (7.7 per cent of proposed capital expenditure).

10. GGT's proposed rate of return is 5.56 per cent (nominal after tax).

ERA's Draft Decision

11. The draft decision of the ERA is to not approve GGT's proposed revisions to the GGP access arrangement for 2020 to 2024. The reasons for not approving GGT's proposal are set out in the remainder of this document.

12. GGT is required to make 13 amendments to the access arrangement before the ERA will approve it. The required amendments, as listed on page iv of this decision, are also stated in the reasons for this decision at the point where each relevant element of GGT's proposal is considered.

13. Under rule 59(3) of the NGR, the ERA is required to fix a period (revision period) within which GGT may, under rule 60, submit additions or other amendments to its proposal to address the matters raised in this decision. The ERA fixes the revision period of 30 business days from the date of this decision. That is, GGT may submit revisions to its proposal by 4.00 pm (WST) Wednesday, 11 September 2019.

14. Consistent with rule 59(5)(iii), the ERA has invited submissions on its draft decision for a period of 20 business days following the revision period fixed for GGT. That is, submissions are due by Thursday, 10 October 2019. The ERA will consider any submissions received and make a final decision to approve (or not approve) GGT's proposal or revised proposal if submitted by GGT.

[4] Real dollars at 31 December 2018.

[5] Real dollars at 31 December 2018.

Reasons

Decision Making Framework

Regulatory framework

15. The requirements for an access arrangement are established by the National Gas Law (NGL) and National Gas Rules (NGR) as enacted by the *National Gas (South Australia) Act 2008* and implemented in Western Australia by the *National Gas Access (WA) Act 2009*.

16. Under rule 100 of the NGR, all provisions of an access arrangement must be consistent with the national gas objective, which is specified in section 23 of the NGL.

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

17. Sections 28(1) and (2) of the NGL specify the way the ERA must perform or exercise its regulatory functions or powers.

> **28 Manner in which [ERA] must perform or exercise [ERA] economic regulatory functions or powers**
>
> (1) The [ERA] must, in performing or exercising an [ERA] economic regulatory function or power—
>
> (a) perform or exercise that function or power in a manner that will or is likely to contribute to the achievement of the national gas objective; and
>
> (b) …
>
> (2) In addition, the [ERA]—
>
> (a) must take into account the revenue and pricing principles—
>
> (i) when exercising a discretion in approving or making those parts of an access arrangement relating to a reference tariff; or
>
> (ii) when making an access determination relating to a rate or charge for a pipeline service; and
>
> (b) may take into account the revenue and pricing principles when performing or exercising any other [ERA] economic regulatory function or power, if the [ERA] considers it appropriate to do so.

18. As specified, the ERA must consider the revenue and pricing principles. These principles are set out in section 24 of the NGL.

> **24 Revenue and pricing principles**
>
> (1) The revenue and pricing principles are the principles set out in subsections (2) to (7).
>
> (2) A service provider should be provided with a reasonable opportunity to recover at least the efficient costs the service provider incurs in—
>
> (a) providing reference services; and

(b) complying with a regulatory obligation or requirement or making a regulatory payment.

(3) A service provider should be provided with effective incentives in order to promote economic efficiency with respect to reference services the service provider provides. The economic efficiency that should be promoted includes—

(a) efficient investment in, or in connection with, a pipeline with which the service provider provides reference services; and

(b) the efficient provision of pipeline services; and

(c) the efficient use of the pipeline.

(4) Regard should be had to the capital base with respect to a pipeline adopted—

(a) in any previous—

(i) full access arrangement decision; or

(ii) decision of a relevant Regulator under section 2 of the Gas Code;

(b) in the Rules.

(5) A reference tariff should allow for a return commensurate with the regulatory and commercial risks involved in providing the reference service to which that tariff relates.

(6) Regard should be had to the economic costs and risks of the potential for under and over investment by a service provider in a pipeline with which the service provider provides pipeline services.

(7) Regard should be had to the economic costs and risks of the potential for under and over utilisation of a pipeline with which a service provider provides pipeline services.

Content of an access arrangement

19. GGT is required to submit a "full access arrangement" for the GGP. Section 2 of the NGL specifies a full access arrangement to be an access arrangement that:

- Provides for price or revenue regulation as required by the NGR.
- Deals with all other matters for which the NGR require provisions to be made in an access arrangement.

20. The required content of a full access arrangement proposal is specified in rule 48 of the NGR.[6] Table 1 states the required content and indicates where the ERA has considered it in this draft decision.

[6] A modified version of rule 48 applies to the Goldfields Gas Pipeline for this access arrangement review, refer to paragraph 23.

Table 1: Required content of a full access arrangement

National Gas Rule	Requirement	Draft Decision Reference
48(1)(a)	Identify the pipeline to which the access arrangement relates and include a reference to a website at which a description of the pipeline can be inspected.	Paragraph 26 to 39
48(1)(b)	Describe all the pipeline services that the service provider can reasonably provide on the pipeline, which must be consistent with the [ERA's] reference service proposal decision under rule 47A, unless there has been a material change in circumstances. [A modified version of this rule applies to the GGP under transitional provisions – refer to paragraph 23 of this decision document.]	Paragraph 40 to 60
48(1)(c)	Specify the reference services, which must be consistent with the [ERA's] reference service proposal decision under rule 47A, unless there has been a material change in circumstances. [A modified version of this rule applies to the GGP under transitional provisions – refer to paragraph 23 of this decision document.]	Paragraph 40 to 60
48(1)(c1)	If the information provided under subrules (1)(b) or (1)(c) is difference to the [ERA's] reference service proposal decision under rule 47A, describe the material change in circumstances that necessitate the change having regard to the reference service factors. [This rule does not apply to the GGP under transitional provisions – refer to paragraph 23 of this decision document.]	Not applicable
48(1)(d)(i)	Specify for each reference service, the reference tariff.	Paragraph 612 to 627
48(1)(d)(ii)	Specify for each reference service, the other terms and conditions on which each reference service will be provided.	Paragraph 642 to 680
48(1)(e)	If the access arrangement is to contain queuing requirements, set out the queuing requirements.	Paragraph 681 to 697
48(1)(f)	Set out the capacity trading requirements.	Paragraph 698 to 701
48(1)(g)	Set out the extension and expansion requirements.	Paragraph 702 to 718
48(1)(h)	State the terms and conditions for changing receipt and delivery points.	Paragraph 719 to 721
48(1)(i)	If there is to be a review submission date, state the review submission date and the revision commencement date.	Paragraph 26 to39
48(1)(j)	If there is to be an expiry date, state the expiry date.	No expiry date.

21. The NGR require GGT to submit "access arrangement information" with its proposal. The NGR define access arrangement information as "information that is reasonably necessary for users and prospective users" to understand the background to the

access arrangement, and the basis and derivation of various elements of the access arrangement.

22. The specific requirements for access arrangement information relevant to price and revenue regulation are set out in rule 72 of the NGR. Table 2 states the requirements.

Table 2: Requirements for access arrangement information relevant to price and revenue regulation

National Gas Rule	Requirements for Access Arrangement Information (AAI)
72(1)(a)	If the access arrangement period commences at the end of an earlier access arrangement, AAI must include: • Capital expenditure (by asset) and operating expenditure (by category) over the earlier access arrangement period. • Usage of the pipeline over the earlier access arrangement period showing: – 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: • 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 deprecation 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 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 for the previous access arrangement period, the AAI must include the proposed carry over of increments/decrements for efficiency gains/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:

National Gas Rule	Requirements for Access Arrangement Information (AAI)
	• 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 rationale 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.

Changes to the regulatory framework and transitional provisions

23. 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.[7] The specific changes to the NGR are set out in *National Gas Amendment (Regulation of covered pipelines) Rule 2019 No.1*.[8] The new rules:[9]

- Set out a new process for determining which services will have reference tariffs set by the regulator. Reference tariffs are the prices that pipeline operators can charge their customers.
- Clarify how regulators calculate efficient costs so reference tariffs can be set at more efficient levels.
- Strengthen reporting obligations to support more balanced negotiations. Pipeline owners will be required to provide more relevant, timely and accessible information for pipeline users through the Natural Gas Bulletin Board or on the pipeline owners' websites.
- Give stakeholders, including pipeline users, more input into regulators' decisions.
- Set a clear trigger for pipeline users to start arbitration if negotiations fail.

24. Most of the new rules commenced on 21 March 2019, including new transitional provisions for transitional pipelines. The GGP is classified as a transitional pipeline, hence transitional rule 62 (in schedule 1) of the NGR applies. Rule 62 is reproduced below. As specified, new rules 46, 47A and 48 do not apply to the GGP access arrangement. These rules introduce provisions for the submission of a "reference service proposal" to the ERA prior to the submission of an access arrangement proposal.[10]

7 Australian Energy Market Commission, *Regulation of covered pipelines, Rule determination*, 14 March 2019 (online) (accessed May 2019).

8 Australian Energy Market Commission, *National Gas Amendment (Regulation of covered pipelines) Rule 2019 No.1* (online) (accessed May 2019).

9 Australian Energy Market Commission, 'Regulation of covered pipelines' (online) (accessed May 2019).

10 In the NGR a "reference service proposal" means the proposal submitted under rule 47A. The proposal allows for the separate assessment of reference services prior to the assessment of an access arrangement or revisions to an access arrangement. In the case of revisions, the proposal must be submitted no later than 12 months prior to the review submission date for the access arrangement.

62 Application of Amending Rule to transitional pipelines

(1) The application of the Amending Rule to the transitional pipelines is modified under this rule 62.

(2) New rule 46, 47A and 48 do not apply to the transitional pipelines in respect of the access arrangement for the next access arrangement period.

(3) Old rule 46 applies to the transitional pipelines in respect of the access arrangement for the next access arrangement period.

(4) Modified rule 48 applies to the transitional pipelines in respect of the access arrangement for the next access arrangement period.

(5) Modified rule 48 is:

"48 Requirements for full access arrangement (and full access arrangement proposal)

(1) A full access arrangement must:

(a) identify the pipeline to which the access arrangement relates and include a reference to a website at which a description of the pipeline can be inspected; and

(b) describe all of the pipeline services that the service provider can reasonably provide on the pipeline, which must be described having regard to the characteristics of different pipeline services, including those listed in subrule 47A(2) of the Amending Rule; and

(c) from the pipeline services identified under subrule (b), specify the services the service provider proposes to specify as reference services having regard to the reference service factors including any supporting information required by the AER; and

(d) if the pipeline service provider has engaged with pipeline users and end users in identifying the reference services under subrule (c), describe any feedback received from those users about which pipeline services should be specified as reference services; and

(e) specify for each reference service:

(i) the reference tariff; and

(ii) the other terms and conditions on which each reference service will be provided; and

(f) if the access arrangement is to contain queuing requirements – set out the queuing requirements; and

(g) set out the capacity trading requirements; and

(h) set out the extension and expansion requirements; and

(i) state the terms and conditions for changing receipt and delivery points; and

(j) if there is to be a review submission date – state the review submission date and the revision commencement date; and

(k) if there is to be an expiry date – state the expiry date.

(2) This rule extends to an access arrangement proposal consisting of a proposed full access arrangement."

25. Subrule 47A(2) of the Amending Rule states:

> A pipeline service is to be treated as distinct from another pipeline service having regard to the characteristics of different pipeline services, including:

(a) the service type (for example, forward haul, backhaul, connection, park and loan);

(b) the priority of the service relative to other pipeline services of the same type; and

(c) the receipt and delivery points.

Key Dates and Identification of the Pipeline

26. The NGR require an access arrangement to:

- Identify the pipeline to which the access arrangement relates and to refer to a website where a description of the pipeline can be inspected (rule 48(1)(a)[11]).
- If required by rule 49(1)(a), state the review submission date and revision commencement date (modified rule 48(1)(j)[12]). The NGR define these dates to mean:
  - Review submission date means a date on or before which an access arrangement revision proposal is required to be submitted.
  - Revision commencement date for an applicable access arrangement means the date fixed in the access arrangement as the date on which revisions resulting from a review of an access arrangement are intended to take effect.

27. At the time GGT submitted its proposed access arrangement revisions, the NGR specified a general rule for a review submission date and revision commencement date:

- A review submission date will fall four years after the access arrangement took effect or the last revision commencement date.
- A revision commencement date will fall five years after the access arrangement took effect or the last revision commencement date.

28. As outlined at paragraph 23, changes to the NGR occurred in March 2019 (and after GGT's access arrangement proposal submission to the ERA). These changes removed the general rule for a review submission date and revision commencement date. The new rules for such dates are as follows.

- The revision commencement date must not be less than 12 months after the proposed review submission date (rule 50(1)).
- The ERA must approve the proposed dates if it is satisfied that the dates are consistent with the national gas objective and the revenue and pricing principles; and if the proposed revision commencement date is not less than 12 months after the proposed review submission date (rule 50(2)).
- If the ERA does not approve the proposed review submission date or revision commencement date, it must fix an alternative date (rule 50(3)).

GGT's Proposal

29. GGT is the pipeline operator and complying service provider for and on behalf of each of the pipeline owners, who include:

- Southern Cross Pipelines Australia Pty Limited
- Southern Cross Pipelines (NPL) Australia Pty Limited

[11] Under transitional provisions, modified rule 48 (as set out in schedule 1 (rule 62) of the NGR) applies to the access arrangement for the GGP. Modified rule 48(1)(a) is, however, the same as rule 48(1)(a) of the NGR.

[12] As set out in schedule 1 (rule 62) of the NGR.

- Alinta Energy GGT Pty Limited

30. Section 1 of GGT's access arrangement identified the pipeline to which the access arrangement relates as the GGP, which is:[13]

> The pipeline as defined in Pipeline Licence 24 issued under the *Petroleum Pipelines Act 1969 (WA)*, being the pipeline or pipeline system for the transmission of natural gas from the North-West of Western Australia into the inland Pilbara and Goldfields regions, together with all structures for protecting or supporting the pipeline or pipeline system and associated facilities for the compression of gas, the maintenance of the pipeline and the receipt and delivery of gas and all fittings, appurtenances, appliances, compressor stations, scraper stations, mainline valves, telemetry systems (including communication towers) works and buildings used in connection with the pipeline or pipeline system and includes the lateral pipeline to Newman.

31. A description of the GGP, including pipeline map, is available on APA Group's website.[14]

32. GGT proposed a five-year period for the fourth access arrangement period (AA4), with a review submission date of 1 January 2024 and revision commencement date of 1 January 2025.

Draft Decision

33. The NGR require GGT to identify the pipeline to which the access arrangement relates and to reference a website where a description of the pipeline can be inspected. GGT has satisfied these requirements in section 1 of the proposed revised access arrangement by:

- Identifying the pipeline to which the access arrangement relates as being the GGP.
- Referring to the APA Group website as the website where a description of the pipeline can be inspected.

34. GGT's proposed review submission date and revision commencement date were also specified in section 1 of the proposed revised access arrangement.

- The proposed review submission date of *1 January 2024* is four years after the expected commencement date of this proposed revised access arrangement (being 1 January 2020).
- The proposed revision commencement date of *1 January 2025* is five years after the expected commencement date of this proposed revised access arrangement (being 1 January 2020).

35. As mentioned above (paragraph 28), changes to the NGR occurred in March 2019. These changes affect the requirements for review and commencement dates. Under new rule 50, the general rule of a review submission date falling four years after the access arrangement took effect (or the last revision commencement date) and a revision commencement date falling five years after the access arrangement took effect (or the last revision commencement date) has been deleted. The rules now require:

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13 GGT, *Goldfields Gas Pipeline Revised Access Arrangement 1 January 2020*, p. 65.

14 https://www.apa.com.au/our-services/gas-transmission/west-coast-grid/goldfields-gas-pipeline/

- The revision commencement date to be at least 12 months after the proposed review submission date.
- The ERA to approve the proposed dates if it is satisfied that the dates are consistent with the national gas objective and the revenue and pricing principles.

36. The national gas objective and revenue and pricing principles are set out in sections 23 and 24 of the NGL, and are referenced at paragraphs 16 and 18 of this draft decision.

37. Although GGT's proposed revision commencement and review submission dates were submitted prior to the March 2019 rule changes, the proposed dates still meet the requirement of rule 50(1). GGT's proposed revision commencement date (1 January 2025) is at least 12 months after the proposed review submission date (1 January 2024).

38. GGT's proposed dates create a five-year access arrangement period for AA4. A five-year period is considered to provide a balance between the need to review provisions of the access arrangement and the cost of regulation. A shorter access arrangement period may diminish the incentives for GGT to seek efficiency gains over time and increase the overall cost of regulation. A longer access arrangement period may increase the level of forecasting errors, which would affect the determination of GGT's revenue requirement and reference tariffs. An underestimate of the revenue requirement would result in reference tariffs that were lower than needed, while an overestimate would result in reference tariffs being higher than needed, increasing the possibility of price shocks to users from one access arrangement period to the another.

39. The ERA is satisfied that GGT's proposed dates are consistent with the national gas objective and the revenue and pricing principles. The ERA approves GGT's proposed review submission date of 1 January 2024 and revision commencement date of 1 January 2025 pursuant to rule 50(2) of the NGR.

Pipeline and Reference Services

40. "Pipeline service" is defined in section 2 of the NGL.

> **Pipeline service means**
>
> (a) a service provided by means of a pipeline, including –
>
> (i) a haulage services (such as firm haulage, interruptible haulage, spot haulage and backhaul); and
>
> (ii) a service providing for, or facilitating, the interconnection of pipelines; and
>
> (b) a service ancillary to the provision of a service referred to in paragraph (a).
>
> but does not include the production, sale or purchase of natural gas or processable gas;

41. Rules 48(1)(b), (c) and (d) of the NGR detail the requirements for pipeline and reference services.

> **48 Requirements for a full access arrangement (and full access arrangement proposal)**
>
> (1) A full access arrangement must:
>
> …
>
> (b) describe all of the pipeline services that the service provider can reasonably provide on the pipeline, which must be consistent with the [ERA's] reference service proposal decision under rule 47A, unless there has been a material change in circumstances; and
>
> (c) specify the refence services, which must be consistent with the [ERA's] reference service proposal decision under rule 47A, unless there has been a material change in circumstances; and
>
> (d) if the information provided under subrules (1)(b) or (1)(c) is different to the [ERA's] reference service proposal decision under rule 47A, describe the material change in circumstances that necessitated the change having regard to the reference service factors; and

42. As outlined at paragraph 23, changes to the NGR occurred in March 2019. These changes have affected the requirements for pipeline and reference services in the access arrangement. Under transitional provisions, modified rules 48(1)(b), (c) and (d)[15] apply to the GGP access arrangement. The modified rules are as follows.

> (1) A full access arrangement must:
>
> …
>
> (b) describe all of the pipeline services that the service provider can reasonably provide on the pipeline, which must be described having regard to the characteristics of different pipeline services, including those listed in subrule 47A(2) of the Amending Rule; and
>
> (c) from the pipeline services identified under subrule (b), specify the services the service provider proposes to specify as reference services having regard to the reference service factors including any supporting information required by the [ERA]; and
>
> (d) if the service provider has engaged with pipeline users and end users in identifying the reference services under subrule (c), describe any

[15] As set out in schedule 1 (rule 62) of the NGR.

feedback received from those users about which pipeline services should be specified as reference services; and

43. Subrule 47A(2) of the Amending Rule states:

> A pipeline service is to be treated as distinct from another pipeline service having regard to the characteristics of different pipeline services, including:
>
> (a) the service type (for example, forward haul, backhaul, connection, park and loan);
>
> (b) the priority of the service relative to other pipeline services of the same type; and
>
> (c) the receipt and delivery points.

44. The reference service factors are specified in rule 47A(15).

> 47A(15) The reference service factors are:
>
> (a) actual and forecast demand for the pipeline service and the number of prospective users of the service;
>
> (b) the extent to which the pipeline service is substitutable with another pipeline service to be specified as a reference service;
>
> (c) the feasibility of allocating costs to the pipeline service;
>
> (d) the usefulness of specifying the pipeline service as a reference service in supporting access negotiations and dispute resolution for other pipeline services, such that:
>
> (i) reference services serve as a point of reference from which pipeline services that are not reference services can be assessed by a user or prospective user for the purpose of negotiating access to those other pipeline services;
>
> (ii) a reference tariff serves as a benchmark for the price of pipeline services that are not reference services; and
>
> (iii) reference service terms and conditions serve as a benchmark for the terms and conditions of pipeline services that are not reference services;
>
> (e) the likely regulatory cost for all parties (including the [ERA], users, prospective users and the service provider) in specifying the pipeline service as a reference service.

GGT's Proposal

45. GGT submitted that the GGP can be used to provide the following pipeline services. A backhaul service is not provided (as there are no receipt points downstream of delivery points) and the GGP is not configured to provide a bi-directional service.[16]

- **Firm transportation service:** a service whereby the pipeline operator receives from a user, at the receipt point, on a day, a quantity of gas not exceeding the maximum daily quantity (MDQ) specified in the user's gas transportation agreement, and delivers to the user, at one or more delivery points, on that day, a quantity of gas not exceeding the user's MDQ, without interruption or curtailment,

[16] GGT, *Access Arrangement Revision Proposal Supporting Information (Public)*, 1 January 2019, pp. iv and 11-12.

except in the specific and limited circumstances set out in the user's gas transportation agreement.

- **Park service:** [a service for the] receipt and "parking" or storing of gas in the pipeline;
- **Loan service:** [a service for the] loan of gas from the pipeline;
- **Interruptible transportation service:** [a service for the] receipt and delivery of gas at specified points, if scheduled, on an interruptible basis; and
- **In-pipe trade service:** [a service for the] receipt and delivery of gas to or from a notional point within the pipeline to facilitate trade of gas between users at specified locations.

46. GGT proposed to retain a single *reference service* – the "Firm Service" – for the fourth access arrangement period. The Firm Service is detailed in section 2.2 of the proposed revised access arrangement and is "a service on the covered pipeline for the receipt of gas at a receipt point, the transmission of gas to, and the delivery of gas at, the agreed delivery point(s)".[17] Provision of the Firm Service is subject to there being sufficient spare capacity. The terms and conditions applying to the Firm Service are discussed elsewhere in this decision document (see paragraph 644).

47. GGT also proposed to continue to offer *non-reference services* – the "Negotiated Service" – to any user or prospective user who have requirements that cannot be satisfied through the Firm Service. The Negotiated Service will be provided on terms and conditions that have been negotiated between GGT and the user. One type of Negotiated Service to be offered is an "Interruptible Service".[18]

> **Interruptible Service** means the provision of gas pipeline services by [GGT], on a basis which in the sole discretion of [GGT] acting reasonably may be curtailed or interrupted from time to time.

48. An Interruptible Service will be offered in instances where the spare capacity of the GGP is insufficient to meet the user's requirements in their entirety with a Firm Service.[19] In instances where additional spare capacity then becomes available, the user will be required to contract for the spare capacity as a Firm Service (and reduce the amount of Interruptible Service accordingly).

Draft Decision

49. GGT retained the existing Firm Service as the only *reference service* to be provided under the proposed revised access arrangement. The Firm Service is a service that is "likely to be sought by a significant part of the market" and is detailed in section 2.2 of the access arrangement.[20] GGT made several amendments to the drafting of this section to clarify aspects of the Firm Service. These amendments do not materially alter the nature of the Firm Service and are not inconsistent with the requirements of the NGR.

50. GGT proposed to continue to offer a Negotiated Service (which includes an Interruptible Service) to users that have requirements which cannot be satisfied through the Firm Service. The Negotiated Service is offered as a *non-reference*

17 GGT, *Goldfields Gas Pipeline Revised Access Arrangement 1 January 2020*, p. 6.

18 GGT, *Goldfields Gas Pipeline Revised Access Arrangement 1 January 2020*, p. 127.

19 An Interruptible Service is available only to the extent that the Firm Service is not available.

20 GGT has submitted that all the existing gas transportation agreements with users of the GGP are for the Firm Service (*Access Arrangement Revision Proposal Supporting Information*, 1 January 2019, p. 12).

service and is not covered by the provisions of the access arrangement. In circumstances where there is insufficient spare capacity to meet a user's requirements in their entirety with a Firm Service, GGT will be required to offer an Interruptible Service under section 2.3(c) of the access arrangement.

51. The pipeline and reference services specified in the proposed revised access arrangement remain largely the same as the services detailed in the current (AA3) access arrangement. There were no submissions to the ERA seeking any amendments to the services specified.

Changed requirements of the NGR for pipeline and reference services

52. As mentioned above (paragraph 42), changes to the NGR occurred in March 2019. These changes affect the requirements for pipeline and reference services. Under modified rules 48(1)(b), (c) and (d):[21]

- GGT must describe all the pipeline services that it can reasonably provide on the pipeline.
- From the pipeline services identified, GGT must specify the services it proposes to specify as reference services having regard to the reference service factors.
- If GGT engaged with pipeline users and end users in identifying the reference services, GGT must describe any feedback received from those users about which pipeline services should be specified as reference services.

53. As the changes to the NGR occurred after GGT's submission to the ERA, the ERA asked for and allowed GGT to provide additional information to clarify, substantiate and/or amend its proposal to specify only one reference service in the access arrangement for AA4.

54. In response to the ERA's request, GGT advised that it held discussions with users of the GGP who would be affected by any changes to the access arrangement.[22]

> Prior to submitting the revision proposal, GGT held discussions with the two users of the GGP who would be affected by any changes to the GGP Access Arrangement. GGT explained that further changes to the National Gas Rules, dealing with a range of matters including services, were being considered by the COAG Energy Council, but these had not (at that time) been progressed to specific rule change proposals.

55. GGT also proposed further amendments to section 2.1 of the proposed revised access arrangement to provide descriptions of each of the pipeline services that it could reasonably provide on the GGP (the proposed amendments are detailed in Appendix 4 of this draft decision). The pipeline services that could reasonably be provided include those services that were included in GGT's supporting information submitted with its revision proposal in December 2018. GGT has expanded the *park service* and *loan service* into firm and interruptible park and loan services.

Assessment of GGT's further amendments to address rule changes

56. The pipeline services that GGT proposes to include (and describe) in the access arrangement include the:

[21] As set out in schedule 1 (rule 62) of the NGR.

[22] GGT, *'GGP Access Arrangement Revision: ERA Information Requests 2, 3, 4 and 5'* [email], 30 May 2019.

- Firm service
- Interruptible service
- Firm parking service
- Firm loan service
- Interruptible parking service
- Interruptible loan service
- In-pipe trade service
- Interconnection service

57. GGT specified the Firm Service as the only *reference service* to be provided (this is consistent with GGT's original December 2018 proposal to the ERA). The other pipeline services that can be provided are *non-reference services* and these services will be offered as *negotiated services*.

58. GGT's further amendments meet the requirements of modified rules 48(1)(b) and (c). GGT has identified and described all the pipeline services that it can reasonably provide on the GGP and has specified the services it proposes to offer as reference services, being only the Firm Service. In specifying the Firm Service as the only reference service, GGT has had regard to the reference service factors.

- Actual and forecast demand for the Firm Service – GGT stated that all the current gas transportation agreements with users of the GGP are agreements for the provision of a firm service, and inquiries from prospective users have usually been inquiries for access to a firm service.
- Other substitutable pipeline services – GGT considered all the pipeline services that can be offered by means of the GGP and did not identify any other pipeline service that is substitutable with the Firm Service.
- Allocation of costs to the Firm Service, including regulatory costs – GGT considered the allocation of costs in determining its revenue requirement for AA5 and reference tariffs to be charged.
- The usefulness of the Firm Service in supporting access negotiations for other pipeline services – GGT stated that users seeking access to the Firm Service can negotiate different terms and conditions on which the service is offered (and have in the past). In circumstances where there is insufficient capacity to meet a user's service request, an interruptible service is offered and can be negotiated.

59. The ERA considers the purpose of modified rule 48(1)(d) is to demonstrate that the service provider consulted with users of the pipeline and properly considered any feedback when determining what reference services to offer under the access arrangement. GGT submits that it held direct discussions with users of the GGP prior to submitting its proposal to the ERA in December 2018. Users and other interested parties were given a further opportunity to comment on GGT's proposal when it was published by the ERA and in response to the ERA's issues paper.[23] No submissions were made to the ERA. In the absence of any submissions, the ERA has no reason to consider that users and end users have any concerns with GGT's proposal to offer a single reference service, being the Firm Service.

[23] ERA, *Proposed revisions to the access arrangement for the Goldfields Gas Pipeline for 2020 to 2024: Issues Paper*, 1 March 2019.

60. Subject to any submissions from interested parties in response to this draft decision on GGT's further (May 2019) proposed amendments, the ERA considers that GGT's amended proposal for pipeline and reference services is consistent with the national gas objective and meets the (modified) requirements of the NGR.

Required Amendment 1

GGT must incorporate the proposed changes to section 2 (Pipeline Services) of the access arrangement as detailed in Appendix 4 of this draft decision.

Demand Forecasts

61. Rule 72 of the NGR contains requirements for access arrangement information relevant to demand forecasts, including:

> **72 Specific requirements for access arrangement information relevant to price and revenue regulation**
>
> (1) The access arrangement information for a full access arrangement proposal (other than an access arrangement variation proposal) must include the following:
>
> (a) if the access arrangement period commences at the end of an earlier access arrangement period:
>
> …
>
> (iii) usage of the pipeline over the earlier access arrangement period showing:
>
> (A) … for a transmission pipeline, minimum, maximum and average demand for each receipt or delivery point; and
>
> (B) …for a transmission pipeline, user numbers for each receipt or delivery point;
>
> …
>
> (d) 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; …

62. 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.

GGT's Proposal

63. GGT submitted that the end users of the Goldfields Gas Pipeline (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.[24]

64. GGT transports some gas for power generation in regional communities, and a small quantity is delivered into the Kalgoorlie distribution system for commercial and residential use in the city.[25] GGT considered the Kalgoorlie commercial and

[24] GGT, *GGP Access Arrangement Information 2020-2024*, p. 1.

[25] GGT, *Access Arrangement Revision Proposal Supporting Information (Public)*, 1 January 2019, p. 12.

residential market as small and relatively static, after it consulted with ATCO Gas Australia (the owner and operator of the Kalgoorlie distribution system) and Alinta Energy (gas retailer in Kalgoorlie).[26]

65. Rule 72 of the NGR requires GGT to provide pipeline usage information for both the third (AA3) and fourth (AA4) access arrangement periods. Table 3 shows the actual and forecast reserved capacity and throughput of the pipeline during AA3. While the access arrangement notes the capacity of the covered portion of the GGP is approximately 109TJ/day, this is calculated at the end of the pipeline at Kalgoorlie. The covered portion of the pipeline can deliver more capacity than this based on the location of its users and other factors.[27]

Table 3: Minimum, maximum and average historic demand by category

TJ/d	2015 Actual	2016 Actual	2017 Actual	2018 Forecast	2019 Forecast
Reserved capacity					
Minimum	102.32	97.49	98.51	98.51	110.28
Maximum	103.30	105.22	99.26	110.28	110.28
Average	102.79	102.59	98.88	102.07	110.28
Throughput					
Minimum	64.61	76.52	85.24	86.95	89.79
Maximum	73.32	90.02	93.02	96.22	89.79
Average	69.21	84.88	89.73	92.18	89.79

Source: GGT, Access Arrangement Information 2020-2024, 1 January 2019, Table 3, p. 8.

66. Table 4 shows the number of users, and user numbers at receipt points and delivery points over AA3. GGT provided aggregate information instead of the number of users for each receipt and delivery point to avoid disclosure of information pertaining to the operations of individual pipeline users.

Table 4: Number of receipt points, delivery points and users over AA3

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

Source: GGT, Access Arrangement Information 2020-2024, 1 January 2019, Table 4, p. 9.

[26] GGT, *Access Arrangement Revision Proposal Supporting Information (Public)*, 1 January 2019, p. 13.

[27] Other factors include pressure at which gas is received into the pipeline, the heating value of the gas, gas temperature and roughness of the internal surface of the pipe.

67. GGT submitted that all the existing capacity of the GGP available for firm service provision will be fully utilised by its users with no spare capacity being available during AA4 for the following reasons:

- GGT expected that Australian production and export volumes of iron ore, gold and nickel ore would remain high over AA4.[28] In recent years, prices for nickel have fluctuated and this affected production volumes. However, GGT expected strong demand for nickel ore over AA4 for the manufacture of the nickel compounds used in lithium ion batteries and energy storage devices.[29]
- GGT did not expect the Kalgoorlie commercial and residential market to grow significantly during AA4 given the size of the market.[30]

68. GGT's capacity forecast for the AA4 period is based on the user capacities under the existing transportation agreements with GGT joint venture participants (Alinta Energy GGT, Southern Cross Pipelines Australia, and Southern Cross Pipelines Australia) and third party users of the GGP.[31]

69. GGT's throughput forecast over AA4 was based on two components: (1) the actual capacity and throughput data of its existing users for the period between 2015 and 2017; and (2) usage of new users. GGT made transportation arrangements with three new users at the time of preparing its access arrangement revision proposal and assumed that these new users will use all their capacity each day during AA4.[32]

70. As noted above, GGT has forecast that the pipeline capacity of the GGP will be fully contracted over AA4 and as a result there will be no spare capacity. Four prospective users have expressed interest in pipeline capacity during AA4, with the total capacity sought between 10 TJ/day and 18.5 TJ/day.[33] In each case, interest was conditional on a decision to proceed with a project which would use gas.[34] At the time of submitting GGT's revision proposal, these prospective users had insufficient commitment for advancement of the development of capacity set out in section 5.3 of the GGP Access Arrangement.[35] As a result, GGT did not include the indicative pipeline capacity among the prospective users in its demand forecast and cost of capacity development in its AA4 revision proposal.[36]

71. GGT's forecasts of covered pipeline capacity and throughput for the AA4 period are shown in Table 5 below.

28 GGT, *Access Arrangement Revision Proposal Supporting Information (Public)*, 1 January 2019, pp. iv-v.

29 GGT, *Access Arrangement Revision Proposal Supporting Information (Public)*, 1 January 2019, p. 13.

30 GGT, *Access Arrangement Revision Proposal Supporting Information (Public)*, 1 January 2019, p. 11, p. 13.

31 GGT, *Access Arrangement Revision Proposal Supporting Information (Public)*, 1 January 2019, p. 15.

32 GGT, *Access Arrangement Revision Proposal Supporting Information (Public)*, 1 January 2019, p. 15.

33 GGT, *Access Arrangement Revision Proposal Supporting Information (Public)*, 1 January 2019, p. 14.

34 GGT, *Access Arrangement Revision Proposal Supporting Information (Public)*, 1 January 2019, p. 14.

35 Section 5.3 refers to developable capacity. GGT placed a Development Capacity Notice in the West Australian and the Australia, advising that GGT may commence investigations into the development of pipeline capacity and sought registration of interest from prospective users of services, which might be provided using that capacity.

36 GGT, *Access Arrangement Revision Proposal Supporting Information (Public)*, 1 January 2019, p. 13, p. 14.

Table 5: GGT's forecast capacity and throughput over AA4

TJ/d	2020	2021	2022	2023	2024
Average capacity	110.28	110.28	110.28	110.28	110.28
Maximum capacity	110.28	110.28	110.28	110.28	110.28
Average throughput	90.46	90.46	90.46	90.46	90.46

Source: GGT, Access Arrangement Information 2020-2024, 1 January 2019, Table 10, p. 15.

Draft Decision

72. GGT's AA3 proposal complies with the requirement in rule 72(1)(a)(iii) of the NGR to provide AA3 pipeline usage information.

73. The ERA assessed GGT's demand forecast for GGT's firm service over AA4 and notes the following:

- GGT has not forecast any demand growth during AA4, as GGT expects that the contracted capacity and throughput will remain consistent with its existing gas transportation agreements. GGT assumes that all the GGP's existing available capacity for firm service provision will be contracted to the end users during AA4.[37]
- GGT expects that strong demand for nickel, gold and iron ore will maintain the increase of gas demand to full capacity for the end users during AA4.

74. While GGT's forecast of gas demand is for the GGP to be at full capacity for the AA4 period, the ERA has still assessed the reasonableness of the GGT's forecast, as it is required to do under rule 74.

75. Nickel and gold mining operations account for over 80 per cent of capacity and throughput of the covered pipeline, with the remaining share of capacity being represented by iron ore mining and power generation.

76. The ERA assessed the Australian and international demand forecast for nickel, gold and iron ore during AA4, including the relevant information sourced from the commodity market publications of the World Bank, the Western Australia State Budget 2019/20 and the commodity review from the Western Australian Department of Mines, Industry Regulation and Safety.

77. The World Bank expects demand for nickel for batteries and electric vehicles to grow strongly in the coming years.[38] The World Bank's nickel price forecast, which shows a steady price increase from US$13,681/tonne in 2019 to around US$15,890/tonne in 2025, appears to reflect a strong demand for nickel.[39] The Western Australian

[37] GGT, *Access Arrangement Revision Proposal Supporting Information (Public)*, 1 January 2019, p. 13.

[38] The World Bank, *Commodity Markets Outlook: The Changing of the Guard: Shifts in Commodity Demand October 2018*, p. 36.

[39] The World Bank, *Commodity Markets Outlook: The Changing of the Guard: Shifts in Commodity Demand October 2018*, Appendix A, p. 44.

Treasury forecasts royalty income from nickel will increase from around AU$77 million in 2019/20 to around AU$88 million in 2022/23.[40]

78. Gold sales volumes for Western Australia increased for the third consecutive year to reach a record 212 tonnes in 2017/18.[41] According to the 2019/20 State Budget, the volume of merchandise exports is forecast to grow by four per cent in 2019/20, partly due to gold and lithium production increases in Western Australia.[42]

79. The World Bank stated that uncertainty remains around the iron ore price forecast, which is subject to the effect of China's environmental policies on its iron ore imports.[43] The price of iron ore is expected to decline moderately, from US$65 for a dry metric tonne in 2019 to around US$62 for a dry metric tonne in 2025.[44]

80. The Western Australian Treasury has forecast business investment in the state to return to growth of around six per cent in 2019/20, and expects investment supported by iron ore projects to grow at a relatively moderate level for the next few years.[45] The collapse of a tailings dam at a Vale iron ore mine in Brazil has affected the mine's production capacity and resulted in the increased iron ore price seen in early 2019. However, the Western Australian Treasury has forecast that the increase in price will be relatively short-lived. Given the uncertainty in the global iron ore market, the Western Australian Treasury is forecasting the iron price to decrease from around US$73.5 per tonne in 2019/20 to around US$64 per tonne by 2022/23.[46]

81. The GGT's demand forecast for AA4 is broadly consistent with the ERA's assessment of commodity prices and demand for nickel, gold and iron ore. Although prices for nickel and production volumes have fluctuated in recent years, GGT expects a stronger demand for nickel and gold production during AA4.[47]

82. GGT expects demand from the Kalgoorlie commercial and residential market to remain stable during AA4.[48] In addition, GGT has not included these relatively small requirements for pipeline capacity into its demand forecast given the absence of firm commitments from prospective users as mentioned in paragraph 70.[49]

83. GGT's reference tariff is based on its capacity and throughput forecast under existing gas transportation agreements with the GGT joint venture participants and third party users.[50] Given the expected increase in demand for mining operations during AA4,

40 Department of Treasury Western Australia, *Western Australia State Budget 2019-20, Budget Paper No.3 Economic and Fiscal Outlook*, p. 85.

41 Department of Mines, Industry Regulation and Safety, *Western Australian Mineral and Petroleum Statistics Digest 2017-18*, p. 30.

42 Department of Treasury Western Australia, *Western Australia State Budget 2019-20, Budget Paper No.3 Economic and Fiscal Outlook*, p. 12.

43 The World Bank, *Commodity Markets Outlook: The Changing of the Guard: Shifts in Commodity Demand October 2018*, p. 36.

44 The World Bank, *Commodity Markets Outlook: The Changing of the Guard: Shifts in Commodity Demand October 2018*, Appendix A, p. 44.

45 Department of Treasury Western Australia, *Western Australia State Budget 2019-20, Budget Paper No.3 Economic and Fiscal Outlook*, p. 11.

46 Department of Treasury Western Australia, *Western Australia State Budget 2019-20, Budget Paper No.3 Economic and Fiscal Outlook*, p. 2.

47 GGT, *Access Arrangement Revision Proposal Supporting Information (Public)*, 1 January 2019, p. 13.

48 GGT, *Access Arrangement Revision Proposal Supporting Information (Public)*, 1 January 2019, p. 13.

49 GGT, *Access Arrangement Revision Proposal Supporting Information (Public)*, 1 January 2019, p. 14.

50 GGT, *Access Arrangement Revision Proposal Supporting Information (Public)*, 1 January 2019, p. 15.

GGT has forecast the contracted capacity of the GGP to increase from 99.26 TJ/d in 2017 to 110.28 TJ/d in 2018, and expects the same level of capacity to continue during AA4.[51] Likewise, GGT expects the average throughput to increase from an average of around 85.16 TJ/d during AA3 to 90.46 TJ/d in 2020 and remain at the same level of throughput during AA4.

84. The ERA considers that GGT's forecast demand for capacity and throughput over AA4 has been arrived at on a reasonable basis as required under rule 74(2)(a) of the NGR.

[51] GGT, *Access Arrangement Information 2020-2024*, 1 January 2019, Table 3, p. 8 and Table 10, p. 15.

Key Performance Indicators

85. At the time GGT submitted its proposed access arrangement revisions, the NGR required access arrangement information 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 (old rule 72(1)(f)).

86. As outlined in paragraph 23, changes to the NGR occurred in March 2019 (and after GGT's access arrangement proposal submission to the ERA). These changes removed the requirement for access arrangement information to include key performance indicators.[52]

GGT's Proposal

87. GGT's proposed key performance indicators are set out in Part 7 of the access arrangement information and include unit operating costs of capacity reservation and throughput, expressed in dollars per gigajoule ($/GJ) and dollars per terajoule per kilometre ($/TJ km).

88. GGT noted that the unit operating costs expressed in $/GJ do not recognise that the pipeline's outlets are distributed over 78 per cent of its length.

Draft Decision

89. GGT included in its access arrangement information the key performance indicators that it will use to support the expenditure to be incurred over the fourth access arrangement period (AA4). GGT's proposed expenditure to be incurred over the access arrangement period is discussed elsewhere in this draft decision.

90. As mentioned above (paragraph 86), changes to the NGR occurred in March 2019. These changes removed the requirement for access arrangement information to include information on key performance indicators.

91. While the requirement to include information on key performance indicators has been removed, service providers may still wish to include such information to support and substantiate their access arrangement proposals. For example, key performance indicators may be used to monitor the effects of expenditure over an access arrangement period and for benchmarking against other service providers.

92. Should GGT continue to include its proposed key performance indicators in its access arrangement information, the proposed indicators are not directly comparable with other regulated Australian gas transmission pipelines.[53] To be comparable with indicators in access arrangements for other gas transmission pipelines, GGT would need an expenditure indicator showing operating expenditure per kilometre ($/km), and/or operating expenditure per millimetre-kilometre ($/mmkm).[54] [55]

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

53 Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement*, July 2019, p. 18.

54 For example, APA Victorian Transmission System (Victoria), Roma to Brisbane Pipeline (Queensland) and Amadeus Gas Pipeline (Northern Territory).

55 mmkm = Pipeline diameter (mm) multiplied by pipeline length (km).

93. While not proposed, an operating expenditure per kilometre indicator can be calculated from the information already provided by GGT in its access arrangement proposal (Table 6). However, a direct and simple comparison of this indicator with other transmission pipelines for benchmarking purposes would be limited, given the differences between the GGP and other transmission pipelines, including for example, pipeline configuration, compression and operating conditions. Such differences would need to be considered if the results were to be used to assess the efficiency of the pipeline.

Table 6: Operating expenditure key performance indicator

	2020	2021	2022	2023	2024
Forecast opex ($ million 2018)	18.893	18.945	19.147	19.341	19.553
GGP kilometres	1,378	1,378	1,378	1,378	1,378
Opex per kilometre of pipeline ($ 2018)	**13,710**	**13,748**	**13,895**	**14,036**	**14,189**

Source: GGT, Access Arrangement Supporting Information – Attachment 4 (OPEX model); APA website.

Revenue and Tariffs

Total Revenue

94. Rule 76 of the NGR requires total revenue to be determined for each year of the access arrangement period using the building block approach.

> **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).

GGT's Proposal

95. GGT applied the building block approach to propose a total revenue requirement for AA4 of $249 million. Table 7 details GGT's proposed building block components, each of which are discussed in following sections of this draft decision.

Table 7: GGT's proposed total revenue requirement for AA4 ($ million nominal)

	2020	2021	2022	2023	2024	Total
Return on equity	11.045	11.130	11.043	10.931	10.797	54.946
Return on debt	10.131	10.209	10.130	10.027	9.904	50.400
Depreciation	4.453	5.548	6.043	6.473	5.770	28.288
Operating expenditure	19.606	20.028	20.619	21.219	21.852	103.324
Cost of tax	5.261	5.053	4.964	4.793	4.803	24.875
Value of imputation credits	(2.631)	(2.527)	(2.482)	(2.396)	(2.402)	(12.437)
Total revenue	**47.865**	**49.441**	**50.317**	**51.046**	**50.725**	**249.395**

Source: GGT, Proposed Revised Access Arrangement Information, 1 January 2019, p. 28, Table 16.

Draft Decision

96. The ERA's reasoning for its determination of the forecast value of each of the building blocks is outlined in following sections of this draft decision. The total revenue requirement resulting from these forecast values is set out in Table 8.

Table 8: ERA's draft decision total revenue requirement for AA4 ($ million nominal)

	2020	2021	2022	2023	2024	Total
Return on capital base	18.452	18.316	18.010	17.672	17.311	89.761
Regulatory depreciation	6.010	7.135	7.396	7.654	6.841	35.035
Depreciation	*10.715*	*11.805*	*11.988*	*12.160*	*11.254*	*57.923*
Inflationary gain	*-4.705*	*-4.670*	*-4.592*	*-4.506*	*-4.414*	*-22.887*
Operating expenditure	17.243	17.433	17.910	17.691	18.298	88.575
Regulatory corporate income tax	2.323	2.459	2.477	2.553	2.599	12.411
Corporate income tax	*4.646*	*4.919*	*4.955*	*5.106*	*5.197*	*24.823*
Imputation credits	*-2.323*	*-2.459*	*-2.477*	*-2.553*	*-2.599*	*-12.411*
Total Revenue	**44.029**	**45.344**	**45.793**	**45.570**	**45.048**	**225.783**

Source: ERA, Draft Decision, Appendix 7, GGP Tariff Model, July 2019. Some numbers may not add due to rounding.

Required Amendment 2

GGT must amend the total revenue requirement for the fourth access arrangement period to reflect the values set out in Table 8 of this draft decision.

Operating Expenditure

97. Rule 91 of the NGR states the criteria that the ERA must consider when approving a service provider's 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.

98. Rule 93 is as follows:

> **93 Allocation of total revenue and costs**
>
> (1) Total revenue is to be allocated between reference and other services in the ratio in which costs are allocated between reference and other services.
>
> (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]…

99. Rule 74 of the NGR states the specific requirements for 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.

100. Rule 71 of the NGR states the considerations that the ERA may and must take into consideration when evaluating forecast operating expenditure.

> **71 Assessment of compliance**
>
> (1) In determining whether capital or operating expenditure is efficient and complies with other criteria prescribed by these rules, the [ERA] may, without embarking on a detailed investigation, infer compliance from the operation of an incentive mechanism or on any other basis the [ERA] considers appropriate.
>
> (2) The [ERA] must, however, consider, and give appropriate weight to, submissions and comments received when the question whether a relevant access arrangement proposal should be approved is submitted for public consultation.

101. As stated in paragraph 7, for the purposes of tariff regulation the GGP comprises two notional pipelines, one of which is covered by the access arrangement while the other is a non-scheme pipeline. The assessment of GGT's proposed operating expenditure for AA4 includes establishing whether the proposed expenditure has been allocated between services provided by means of the covered pipeline and services provided by means of uncovered parts of the GGP, in compliance with rule 91(2) of the NGR (reproduced in paragraph 97).

GGT's Proposal

102. GGT proposed $95.9 million for operating expenditure for the AA4 period from 2020 to 2024.[56] Estimated operating expenditure for AA3 was $93.9 million.[57]

103. Figure 1 shows the ERA's approved operating expenditure and GGT's actual/forecast expenditure for the AA3 period as well as GGT's proposed operating expenditure forecast for the AA4 period.

Figure 1: ERA approved forecast and GGT actual/forecast operating expenditure for AA3 and GGT's proposed operating expenditure for AA4 by year ($ million real at 31 December 2018)

Source: ERA's Reference Tariff Model 2016; GGT Access Arrangement Revision Proposal Supporting Information, 1 January 2019, p. 75, Table 38 and p. 88, Table 42.

104. GGT split its forecast operating expenditure into five main categories:

- APA Group operations
- major expenditure jobs
- GGT operations
- commercial operations
- corporate costs.

105. GGT used the base-step-trend method to forecast its operating costs. GGT selected 2017 as the base year for forecasting operating expenditure for the 2020 to 2024 access arrangement period. GGT's external auditor reviewed operating expenditure attributed to the covered pipeline in 2017.

106. GGT chose the 2017 calendar year as the base year as it was the most recent calendar year with complete financial information at the time of preparing its access arrangement proposal.

[56] Real dollars at 31 December 2018.

[57] Real dollars at 31 December 2018.

107. Before applying the base-step-trend method, GGT allocated the components of base year operating expenditure for the GGP to the covered pipeline according to the cost allocation method for the allocation of operating expenditure between the covered and uncovered pipeline set out in the final decision for AA3.[58] The cost allocation method set out for operating expenditure in the final decision for AA3 is consistent with rule 93 of the NGR. Application of the cost allocation method for operating expenditure is considered to yield the best forecast or estimate possible of operating expenditure in the circumstances of the GGP, as is required by rule 74(2) of the NGR.

108. The cost allocation method set out in the final decision for AA3 was that any operating expenditure not required solely to provide covered services would be allocated between the covered and uncovered pipelines as follows:

- APA operations expenditure (except for engineering and field services) and commercial and GGT operations operating expenditure (except for regulatory expenditure) would be allocated to the covered pipeline according to the ratio of the number of terajoules per day (TJ/d) of contracted capacity provided using the covered pipeline to the number of TJ/d of contracted capacity provided using the whole GGP (covered and uncovered pipelines) in the year in which the expenditure was incurred.
- 75 per cent of commercial and GGT operations operating expenditure within the regulatory expenditure category would be allocated to the covered pipeline.
- APA operations expenditures within the engineering and field services categories would be allocated to the covered pipeline based on the expected relative direct costs of those services.

109. GGT reviewed the allocation of the base year to determine if a simple extrapolation of the base-step-trend method was appropriate for forecasting operating expenditure for the covered pipeline.

110. After removing irregular costs, which showed variability that precluded simple extrapolation, and expenditures that showed significant reductions over time (referred to as changing operating expenditure) GGT noted that the remaining covered pipeline operating expenditure was relatively stable over time and considered that simple extrapolation could be used for forecasting purposes.

111. To forecast operating expenditure for the AA4 period, GGT started from the base year operating expenditure for the covered pipeline. GGT reviewed components of base year operating expenditure identified as changing operating expenditure to see if the base year cost was the most appropriate cost and adjusted if required. Costs regarded as irregular costs were removed from the base year and forecast separately.

112. Four components of operating expenditure were categorised as changing operating expenditure in GGT's proposal. These were costs that showed reductions over time, namely field services, administration (commercial operations), marketing (commercial operations) and insurance.

[58] Economic Regulation Authority, *Final Decision on Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline,* 21 July 2016, paragraphs 424, 431, 432, 441 and 442.

113. For each of those categories, GGT reviewed and concluded that the 2017 expenditure was the most appropriate amount to use in the base operating expenditure as changes between years were relatively small.

114. Irregular costs, which were separately forecast, included major expenditure jobs, regulatory costs, carbon liability costs and corporate costs.

115. This left the underlying stable operating expenditure for the covered pipeline, which was projected forward for the AA4 period.

Table 9: GGT calculation of starting base year operating expenditure ($ million nominal)

Operating expenditure components	2017 Actual Cost
2017 actual operating cost (efficient base year) (nominal)	15.985
Adjustment for 'changing' expenditure categories	0.000
Removal of irregular costs	
Major expenditure jobs	0.322
Regulatory costs	0.313
Corporate costs	2.883
Carbon liability costs[59]	0.000
Starting base year operating expenditure (nominal)	12.467
Starting base year operating expenditure in 31 December 2018 real dollars	**12.700**

Source: GGT AA Supporting Information Attachment 4 – Forecast Operating Expenditure, 1 January 2019.

116. To determine total operating expenditure, the separately forecast irregular costs were added to the base year operating expenditure. GGT did not propose any step changes in operating expenditure for AA4.

117. The resulting value was adjusted for a forecast real change in the price of labour to arrive at the forecast of operating expenditure for the access arrangement period.

118. GGT proposed to spend $2.8 million on major expenditure jobs in the AA4 period. GGT classified major expenditure jobs as activities incurring large non-recurrent operating expenditures. In AA3, GGT had so far spent $0.93 million for 2015 to 2017 and forecast to spend an additional $0.88 million in 2018 to 2019 bringing total expenditure for major expenditure jobs in AA3 to $1.8 million.

119. The costs for major expenditure jobs were forecast "bottom up" from the type and scope of activities that were expected to occur in each year of the access

[59] Irregular cost for the carbon liability has been removed from the AA4 forecast following the repeal of the Australian Government tax on carbon emissions on 1 July 2014.

arrangement period. The list of jobs forecast by GGT is set out in table 40 of its Access Arrangement supporting information document.[60]

120. Regulatory costs, another component of the irregular costs, comprised both GGT's internal regulatory costs and the ERA's standing and service charges.[61] GGT noted that regulatory costs were high during periods of an access arrangement revision and lower during the rest of an access arrangement period.

121. GGT noted that regulatory costs were relatively low in 2017 and so extrapolation of the 2017 base year may not lead to a forecast consistent with the requirements of rule 91(1) of the NGR, or the requirement under section 24 of the NGL.

122. As a result, GGT forecast its regulatory costs in two parts. GGT forecast the ERA standing and service charges from a pattern of those costs in previous years. This was then added to GGT's internal regulatory costs, which were forecast as part of an estimation of corporate costs for a standalone business based on a report prepared by KPMG.[62]

123. In AA3, the total actual (2015 to 2017) and forecast (2018 to 2019) expenditure for regulatory costs was $3.3 million, or $0.66 million a year on average. GGT forecast a total expenditure of $5.6 million for AA4, equating to an average of $1.1 million a year for the period.

124. The irregular cost for the carbon liability was removed from the AA4 forecast following the repeal of the Australian Government tax on carbon emissions on 1 July 2014.

125. In the ERA's final decision for AA3, corporate costs were determined using an estimate of the stand-alone corporate costs for operating the covered portion of the GGP.

126. GGT provided a report from its consultant, KPMG that benchmarked an estimate of corporate costs for a stand-alone business based on the covered pipeline. In its proposal, GGT used the median value of KPMG's range of benchmarked corporate costs.

127. GGT's actual corporate costs in its 2017 base year were $2.9 million, while the forecast for the AA4 period using the KPMG report was $4.8 million for each year.

60 Goldfields Gas Transmission Pty Ltd, Access Arrangement Revision Proposal Supporting Information, 1 January 2019, p. 81.

61 ERA Standing and Specific charges form part of the ERA levy. This levy covers the costs of the ERA's gas access functions. Further information on this levy is set out in Economic Regulation Authority (national Gas Access Funding) Regulations 2009.

62 KPMG, Corporate Cost Benchmarking: Goldfields Gas Pipeline, June 2014.

Table 10: GGT proposed operating expenditure for the AA4 period 2020 to 2024 ($ million real at 31 December 2018)

	2020	2021	2022	2023	2024	Total AA4
Starting: Base year operating expenditure	12.700	12.700	12.700	12.700	12.700	**63.500**
Add: Separate forecasts						
Major expenditure jobs	0.560	0.680	0.670	0.400	0.500	**2.810**
Regulatory costs	1.211	1.091	1.091	1.091	1.091	**5.575**
Corporate costs	4.789	4.789	4.789	4.789	4.789	**23.945**
Equals: baseline forecast operating expenditure	19.260	19.260	19.250	18.980	19.080	**95.830**
Add: Real labour cost escalation						
Labour cost escalation	0.193	0.365	0.567	0.762	0.973	**2.860**
Equals: Total operating expenditure	**19.453**	**19.625**	**19.817**	**19.741**	**20.053**	**98.689**

Source: GGT AA Supporting Information Attachment 4 – Forecast Operating Expenditure, 1 January 2019

Note: As noted in paragraph 125 and 126 the total operating expenditure does not include major expenditure jobs. This value is incorrectly deducted from pipeline operations and commercial operations in this table.

128. There was an error in GGT's model whereby the major expenditure jobs expenditure was subtracted from the total operating expenditure provided by GGT. This error was confirmed with GGT. This meant that GGT's proposed operating expenditure value for AA4 was incorrect.

129. Fixing the error in the model results in forecast operating expenditure of $98.689 million ($ real at 31 December 2018). The ERA corrected this error in its modelling.

130. Table 11 sets out GGT's proposed operating expenditure for the AA4 period separated into the five major reporting categories in real dollars at 31 December 2018. Table 12 provides the AA4 proposed operating expenditure in nominal dollars.

Table 11: GGT proposed forecast operating expenditure, 2020 to 2024 ($ million real at 31 December 2018)

Forecast operating expenditure	2020	2021	2022	2023	2024	Total
Pipeline operations	11.742	11.792	11.993	12.436	12.542	60.505
Major expenditure jobs	0.560	0.680	0.670	0.400	0.500	2.810
Commercial operation	0.591	0.593	0.603	0.625	0.631	3.043
Regulatory	1.211	1.091	1.091	1.091	1.091	5.575
Corporate costs	4.789	4.789	4.789	4.789	4.789	23.945
Total	**18.893**	**18.945**	**19.147**	**19.341**	**19.553**	**95.879**

Source: Goldfields Gas Transmission Pty Ltd, Access Arrangement Revision Proposal Supporting Information, 1 January 2019, p. 88, Table 42.

Note: As noted in paragraph 125 and 126 the total operating expenditure does not include major expenditure jobs. This value is incorrectly deducted from pipeline operations and commercial operations in this table.

Table 12: GGT proposed forecast operating expenditure, 2020 to 2024 ($ million nominal)

Forecast operating expenditure	2020	2021	2022	2023	2024	Total
Pipeline operations	12.186	12.466	12.916	13.643	14.017	65.227
Major expenditure jobs	0.581	0.719	0.722	0.439	0.559	3.019
Commercial operation	0.613	0.627	0.650	0.686	0.705	3.280
Regulatory	1.257	1.153	1.175	1.197	1.219	6.001
Corporate costs	4.970	5.063	5.157	5.254	5.352	25.796
Total	**19.606**	**20.028**	**20.619**	**21.219**	**21.852**	**103.324**

Source: Goldfields Gas Transmission Pty Ltd, Goldfields Gas Pipeline Access Arrangement Revision Proposal – Supporting Information, 1 January 2019, p. 88, Table 43.

Note: As noted in paragraph 128 and 129 the total operating expenditure does not include major expenditure jobs. This value is incorrectly deducted from pipeline operations and commercial operations in this table.

Draft Decision

Assessment of operating expenditure

131. GGT's proposed operating expenditure forecast for AA4 of $95.9 million is 2.1 per cent higher than its estimated $93.9 million operating expenditure for the AA3 period.[63]

[63] $ million real at 31 December 2018.

132. The ERA's technical advisor EMCa reviewed GGT's approach to expenditure governance and management processes and the forecasting methods and relevant assumptions GGT applied and assessed the projects and programs of work that formed the basis of its submission.

133. Both the ERA and EMCa considered that GGT did not explicitly explain its operating expenditure governance process in its submission. However, from discussions at on-site meetings with GGT representatives, the ERA and EMCa gained a better understanding of the operating expenditure governance processes. The ERA understands that at the start of each calendar year GGT prepares draft budgets on the operating activity for the following five years and that the budget is subject to a review and monitoring process within the organisation.

134. As set out in the previous section outlining GGT's proposal, GGT developed its operating expenditure forecast using a base-step-trend method with 2017 as its base year. GGT also removed three components, being major expenditure jobs, corporate costs and regulatory costs, for which it prepared separate forecasts.

135. GGT also produced a trend forecast from this adjusted base, to account for its forecast of real labour cost escalation.

Base-step-trend forecast

136. As set out above in GGT's proposal, GGT's removal of operating expenditure components it regarded as irregular, which could not be included in the base-step-trend forecast, resulted in a base year value of $12.48 million (nominal) which GGT converted to a figure of $12.70 million in real 2018 terms for the purposes of the base-step-trend forecast.

137. The cost components that made up the base year figure have declined in real terms and are less than the equivalent components in the ERA's AA3 allowance.

138. GGT identified four areas within the base year which it classified as changing operating expenditure as these components showed significant reductions over time. These areas were field services, administration (commercial operations), marketing (commercial operations) and insurance.

139. Field services expenditure in 2017 was down $0.45 million compared to 2016. This reflected a reduction in the level of covered pipeline field services and was not due to a process of cost allocation. GGT considered the 2017 value represented the lowest sustainable cost of delivering the pipeline service.

140. Commercial operations administration and marketing costs have declined since 2013 but the changes were relatively small after 2015. GGT observed that this was partially explained by the change in the way these costs were allocated between the covered pipeline and uncovered GGP assets. GGT did not make any additional adjustments to the 2017 base year cost.

141. GGT's insurance premiums tended to follow economic cycles and in recent years premiums for property and liability insurance have fallen, which contributed to the lower insurance costs charged to the GGP in 2017. However, GGT did not adjust the insurance premium component of its base operating expenditure for the AA4 period.

142. The ERA reviewed the base year cost components including the areas identified by GGT as changing operating expenditure. The base year components were compared with previous years actuals and with the ERA approved values for the AA3 period.

While costs in some components have shown a decline over the AA3 period, these declines have reduced over the period and there is no evidence, that the ERA is aware of, to justify the inclusion of a value lower than the 2017 revealed cost.

143. The ERA is satisfied that the amount of the expenditure allocated to the covered pipeline for the operating expenditure base costs has been allocated according to the cost allocation method set out in the AA3 final decision and therefore is properly allocated as required by rule 91(2) of the NGR.

144. Accordingly, the ERA considers GGT's proposed inclusion of these components as well as the proposed values are consistent with the NGR 91(1) and 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.

Step changes

145. GGT did not propose any step changes in its AA4 forecast operating expenditure. The ERA is not aware of any changes within GGT or in the gas pipeline sector that would result in a required positive or negative step change.

146. As noted above, GGT's base year components have declined in real terms and are less than the equivalent components in the ERA's AA3 allowance. The ERA is satisfied that a step change is not required for GGT in AA4.

147. In its review of GGT's operating expenditure, EMCa also considered it reasonable that GGT proposed no step change.

Cost escalation

148. The only trend factor that GGT proposed in its AA4 operating cost forecast was the real labour cost escalation.

149. GGT adopted the method that the ERA used in the Western Power access arrangement final decision from 2018 to determine real labour price changes.

150. GGT adopted the Western Australian Department of Treasury forecasts for the general Wages Price Index (WPI) and added a premium of 0.48 per cent per year for wages growth in the sector. After deducting its forecast inflation rate of 1.87 per cent, the resulting value was the proposed real wage growth.

151. Since the publication of the Western Power access arrangement final decision in 2018, the method for determining labour cost escalation adopted by the ERA has changed. The ERA's ATCO Draft Decision was published in April 2019, after GGT submitted its proposed access arrangement submission.

152. GGT has not forecast, as part of its operating expenditure, a productivity adjustment. Given that a business with no productivity growth is unlikely to sustain real wage growth at above-average rates in the long term, it is not reasonable to expect wages growth for GGT to exceed average wages growth without increases in GGT's productivity. Also, there is no indication that economic activity during AA4 will put pressure on wages in the gas pipeline sector more than for other sectors.

153. An additional change to the method used for determining labour cost escalation from the Western Power decision is that the ERA now applies the Western Australian Treasury forecast Consumer Price Index (CPI) instead of the Australian Bureau of

Statistics' eight cities CPI with the Western Australian Treasury WPI to ensure that the inflation implicit in the WPI value is removed, resulting in a like-for-like comparison.

154. As a result, the labour cost escalation proposed by GGT cannot be considered the best forecast for the AA4 period and is, therefore, inconsistent with rule 74(2)(b) of the NGR.

155. The ERA has calculated real labour escalation using the average of recent and forecast Western Australian Treasury WPI growth and CPI growth. The real labour escalation rate is 0.55 per cent

156. Table 13 below sets out the Western Australian Treasury data for WPI growth and CPI growth used in the ERA's calculation.

Table 13: Western Australian Treasury – Wage Price Index and Consumer Price Index data included in calculating the real labour cost escalation (%)

	2018/19 estimated actual	2019/20 budget estimate	2020/21 forward estimate	2021/22 forward estimate	2022/23 forward estimate	Annual average
Wage Price Index growth	1.75	2.25	2.75	3.00	3.25	2.60
Consumer Price Index growth	1.25	1.75	2.25	2.50	2.50	2.05

Source: WA Department of Treasury, Economic Forecasts – Major Economic Aggregates (online) [accessed 1 July 2019].

157. The labour escalation rate of 0.55 per cent is applied only to the portion of operating expenditure that contains labour, being 54.4 per cent of the forecast operating expenditure for GGT. This results in an increase in operating costs due to labour escalation of $1.271 million in total over the AA4 period.[64]

158. The ERA is satisfied that the amount of the expenditure allocated to the covered pipeline for the operating expenditure labour escalation has been allocated according to the cost allocation method set out in the AA3 final decision and therefore is properly allocated as required by rule 91(2) of the NGR.

Major expenditure jobs allowance

159. Major expenditure jobs are activities incurring large non-recurrent operating expenditures and must be forecast "bottom up" from the type and scope of activities that are expected to occur in each year of the access arrangement period.

160. GGT proposed eight major expenditure jobs at a total cost of $2.81 million, which resulted in an average annual proposed allowance of $0.56 million per year. In the AA3 period, the average expenditure for major expenditure jobs was $0.36 million per year.

161. The eight major expenditure jobs and their total proposed expenditure over the AA4 period are:

64 $ million real at 31 December 2018.

- $1.000 million for easement line of sight maintenance.
- $0.400 million for easement marker sign replacement.
- $0.055 million for pipeline integrity management plan review.
- $0.055 million for safety management system review.
- $0.275 million for mainline valve and scraper station above-ground recoating.
- $0.175 million for mainline valve and scraper station bolted flange joint integrity program.
- $0.650 million for compressor station above ground recoating.
- $0.200 million for compressor station bolted flange joint integrity program.

162. GGT provided a description of each of the eight major expenditure jobs in its supporting information submission and provided further information on the projects at an onsite meeting.

163. The proposed easement line of sight expenditure is an allowance for an annual program of line of sight maintenance at a cost of $200,000 per year. GGT said that the project's costs were based on historical costs.

164. The historical costs for easement line of sight maintenance showed that such work was conducted only every second year. This level of maintenance has been considered appropriate by the ERA's technical advisor EMCa.

165. GGT did not provide any supporting information to justify the increase in easement line of sight maintenance from every second year to every year of the AA4 period.

166. As the project was last undertaken in 2018, it is likely that the project will be required to be undertaken in three of the five years of this access arrangement period. As a result, the ERA has determined that this major expenditure job be reduced by $400,000, being two years' worth of easement line of sight maintenance.

167. The ERA has reviewed the remaining seven major expenditure jobs projects. Three of the projects, the easement marker sign replacement, Pipeline Integrity Management Plan and Safety Management System reviews, are projects required to be undertaken to be compliant with Australian Standards, GGT's pipeline licence and good industry practice.

168. GGT regarded the remaining four projects, above-ground recoating for the compressor stations and mainline valve sites and scraper stations, and the bolted flange joint integrity program for the compressor stations and mainline valve sites and scraper stations, as part of prudent and efficient pipeline operation, in accordance with good industry practice.

169. For the above-ground recoating projects, above ground pipework must be coated with an epoxy resin coating to prevent corrosion. The coating deteriorates over time and, when necessary, is repaired as part of routine field services activity. However, GGT found that eventually these "spot repairs" were insufficient, and the facility must be recoated.

170. For the bolted flange joint integrity program, the studs and nuts which were used to bolt together the flanges on the pipework at the mainline valve sites and scraper stations and at compressor stations when the GGP was constructed had no protective coatings to prevent corrosion. Over the last 25 years they have corroded,

and this corrosion may be putting at risk the integrity of the pipeline and so are required to be replaced with corrosion-protected studs and nuts.

171. The costs for the above ground recoating are estimated from recent expenditure undertaken at the Ilgarari Compressor Station and the costs for the bolted flange joint program are estimated based on a similar stud and nut replacement program recently undertaken at the Mondarra Gas Storage Facility.

172. The ERA is satisfied that these projects for above-ground recoating and bolted flange joint integrity program are required to be undertaken, are in line with good industry practice and are prudent and efficient expenditure.

173. The ERA considers that except for the easement line of sight maintenance, the remaining seven major expenditure jobs meet the criteria for inclusion as efficient operating expenditure for the AA4 period. The ERA considers the easement line of sight maintenance proposed expenditure partially meets the criteria for inclusion.

174. The ERA considers that $2.41 million of GGT's proposed major expenditure jobs project expenditure is consistent with the NGR 91(1) and 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.

175. The ERA is satisfied that the amount of the expenditure allocated to the covered pipeline for the operating expenditure major expenditure jobs has been allocated according to the cost allocation method set out in the AA3 final decision and therefore is properly allocated as required by rule 91(2) of the NGR.

Regulatory costs

176. GGP regulatory costs comprise GGT's internal regulatory costs and the ERA's standing and service charges.

177. GGT noted that its internal regulatory costs and the ERA's charges were high during the period of access arrangement revision and lower at other times during the five-year period. The regulatory costs were relatively low in 2017 following the AA3 final decision in June 2016.

178. As a result, GGT considered that extrapolation from the base year in 2017 for regulatory costs would not lead to a forecast consistent with the requirements of rule 91(1) of the NGR (paragraph 97).

179. The 2017 base year regulatory costs would have been $0.32 million, however, GGT proposed an allowance of $1.21 million in 2020, followed by $1.09 million in each of the remaining four years of the AA4 period.

180. GGT's proposed regulatory costs are based on estimates contained in a report which it commissioned from KPMG. GGT was asked to provide additional information on the regulatory costs and the response provided a derivation of its proposed allowance, comprising a KPMG estimate together with an allowance for ERA charges.

181. KPMG estimated the cost of a regulatory function for a business such as GGT ranging from $0.57 million to $0.93 million with a median of $0.75 million, not including ERA charges.

182. The ERA agrees with GGT that, due to the cyclical nature of the regulatory cost expenditure, an extrapolation of the $0.32 million incurred in 2017 would not provide an efficient estimation of the amount required over the AA4 period.

183. However, the ERA considers that over the full five years of an access arrangement period, the cyclical effect should average out. Accordingly, GGT's actual regulatory costs over the last five years (made up of the last two years of AA2 and the first 3 years of AA4), including ERA charges, averaged $0.68 million per year in 2018 real dollars.

184. The $0.68 million average per year is made up of ERA charges of $0.45 million per year while GGT's internal regulatory costs average $0.23 million per year.

185. For AA4, GGT proposed an average allowance of $1.12 million per year in 2018 real terms. This is made up of $0.37 million per year for ERA charges and KPMG's median benchmark value of $0.75 million per year for GGT's internal regulatory costs.

186. While GGT's proposed annual allowance in AA4 for the ERA charges ($0.37 million) is marginally below the actual annual average costs for the last five years ($0.45 million) GGT's proposed allowance of $0.75 million a year for its internal regulatory costs is more than three times the annual average cost over the last five years of $0.22 million.[65]

187. GGT has not provided sufficient justification to increase its internal regulatory cost portion of the regulatory cost operating expenditure category by more than triple the last five years of actual revealed cost.

188. The revealed cost approach provides the best estimate for the regulatory costs in AA4. This is because the revealed cost can in this case be reliably measured as with most costs in GGTs proposal except for the corporate costs. The ERA considers that where the revealed cost can be reliably measured it should be used and evaluated against efficiency of those costs.

189. For each year of the AA4 period, efficient operating expenditure would be $0.68 million, resulting in a total expenditure for regulatory costs in the AA4 period of $3.38 million. The ERA considers the determination of the regulatory costs by using the average of the last five years of revealed costs is consistent with the NGR 91(1) and 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.

190. The expenditure allocated to the covered pipeline for the operating expenditure regulatory costs has been allocated according to the cost allocation method set out in the AA3 final decision and therefore is properly allocated as required by rule 91(2) of the NGR.

Corporate Costs

191. GGT proposed $23.945 million in corporate cost for the AA4 period. This is $4.789 million per year of the AA4 period.[66]

65 All amounts are in $ real as at 2018 terms

66 $ million real at 31 December 2018.

192. GGT, being part of a larger corporate group, relies on the "corporate centre" for the provision of a range of corporate or "headquarters" functions. The costs incurred in providing these corporate functions are costs attributable to the provision of services using the GGP, and a portion of these costs attributable to the GGP is, in turn, attributable to the provision of pipeline services using the covered pipeline.

193. In its financial accounting for the GGT Joint Venture, GGT recorded an allocation of APA Group corporate costs as corporate costs. APA corporate costs are allocated based on revenue of the entities within the APA Group. These corporate costs are then allocated between the covered pipeline and uncovered GGP assets using pipeline capacity (measured in TJ/d).

194. GGT advised that as revenues varied among the entities in the APA Group, those allocations were more difficult as the group structure became more complex.

195. In the AA3 final decision, the ERA did not accept GGT's proposed corporate costs using the APA allocation method and instead had regard to a report prepared by KPMG for GGT, which determined the benchmark estimated corporate costs for a stand-alone business with characteristics similar to a gas transportation business based on the covered GGP.

196. The ERA made several amendments to the estimated corporate costs in the KPMG report when making its final decision for the AA3 period.

197. GGT engaged KPMG to again benchmark the estimated corporate costs for a stand-alone business based on the entire GGP (covered and uncovered) for the AA4 period.

198. The KPMG report estimated costs for:

- Executive management and administration (including board of directors, chief executive officer, head office administration and human resources).
- Legal and corporate affairs (including general counsel, company secretarial, risk management and investor relations).
- Finance (including treasury, general financial accounting, general management accounting, financial reporting, the provision of financial services such as accounts payable and accounts receivable, and tax).
- Information and communications technology services (including the development and maintenance of company-wide compatible IT and communications systems and maintaining IT systems security).
- External relations (including government relations, business strategy and planning).
- Contract management.
- Economic and market regulation.

199. KPMG's report provided low, median and high estimates for each of the components of corporate costs. GGT removed the estimated economic and market regulation costs, which it forecast separately as regulatory costs (see paragraphs 176 to 190).

200. For the remaining components, GGT used the median value of KPMG's range of estimated corporate costs for a stand-alone business in its proposal. These costs were then split between the covered and uncovered portions of the pipeline based on

the covered and uncovered percentages of the capacity of the pipeline. The covered percentage of the pipeline is 53.96 per cent based on covered pipeline capacity of 109 TJ/d and the total capacity of the pipeline being 202 TJ/d.

201. As a result, the median value for corporate costs of the covered portion of the GGP in KPMG's report is $4.789 million a year.[67] GGT uses this value for its proposed corporate costs for AA4.

202. The ERA considers that, where available, the revealed cost approach provides the best forecast of corporate costs to deliver the pipeline services unless there is evidence that the services can be delivered prudently at a lower sustainable cost. Under the revealed cost approach, the forecast operating expenditure for the next access arrangement period is based on the most recent actual operating expenditure incurred by the service provider. The incentive-based regulatory approach of the NGL/NGR allows service providers to retain any savings from efficiencies and productivity that are achieved during a regulatory period. Therefore, using the recent actual expenditure should ensure that consumers share the benefit from those efficiencies. However, there may be circumstances where the revealed cost needs to be adjusted to remove any identified inefficiencies if the service provider is not responding to the efficiency incentives of the regulatory framework.

203. However, there is no true revealed cost for the GGP as the corporate costs that are attributed to the GGP are based on an allocation of corporate costs from a parent entity (APA Group). In 2017, the corporate costs that were allocated to GGT were $2.937 million.

204. The ERA reviewed GGT's proposed approach to calculating the corporate costs using the Corporate Cost Benchmarking report prepared by KPMG. KPMG's report was prepared for the entire GGP (covered and uncovered) on a stand-alone basis. KPMG found the total corporate cost of running the GGP was not the sum of corporate support costs for each of the uncovered and covered sections. This was due to economies of scale and scope that would be achieved where all sections were operated by a single entity.

205. The KPMG report is based on a series of assumptions for the corporate costs of a stand-alone notional pipeline to deliver the services of the GGP. The KPMG report is not a revealed cost. As the GGP is operated by GGT, which is part of the APA group, KPMG's assumption of a stand-alone notional pipeline does not provide a reasonable comparator of the costs that GGT as a prudent operator would incur to operate the GGP.

206. GGT has used the median value of the range of KPMG's estimated corporate costs in its AA4 proposal. As stated above, during the AA3 review the ERA made several amendments to the estimated median corporate costs in the KPMG report, as it considered the median value overestimated the efficient amount for an entity with the characteristics of the GGT.

207. The ERA still considers that KPMG's 2018 median value overestimates the efficient amount for an entity with the characteristics of the GGT, including for the reason that KPMG's report was prepared on a stand-alone basis and as such the median value includes costs that would not be required if the entity had parental ownership, which the GGT does.

[67] $ million real at 31 December 2018.

208. KPMG states in its report that:

> By assuming GGT Pty Ltd to be a stand-alone entity, KPMG has not accounted for any economies of scale that may be afforded to APA Group by controlling multiple pipeline entities (e.g. APA Group in practice have one Chief Executive Officer (CEO) responsible for all of its pipeline entities as opposed to one CEO per entity). The cost of the CEO are therefore recovered across multiple entities. As part of our assessment, these same costs (scaled to reflect the size and complexity of the entity under analysis) are recovered via one entity – GGT Pty Ltd.[68]

209. An example of costs that would not be required with group ownership compared to being a stand-alone entity is the costs of being listed on the ASX in order to access efficiently priced capital.

210. The GGT, being part of a group corporate structure, would not require the level of stand-alone costs for these activities and as such the KPMG estimated costs are overestimated for a business with the corporate characteristics of the GGT.

211. KPMG's report estimated that a stand-alone entity would require 31 full time staff to undertake the corporate activities of the business. The GGT being a joint venture has three staff members, being a general manager, office manager and management accountant, with resources for the day-to-day operation and management of the GGP provided by other related entities, as and when required.

212. The costs of having 31 full time corporate staff, as estimated in the KPMG report, overstates the costs for a business with the corporate characteristics of GGT.

213. Head office accommodation suitable for 31 full time staff is not required as staff are based in the parental owner locations around the country and can be used for the GGP when required from their current locations. The KPMG report overstates the office accommodation costs for a business with the corporate characteristics of GGT.

214. In addition, separate payroll, ICT and human resource systems, among others, would not be required as these services, systems and staff required to undertake these activities can be provided by the parental group using their existing systems and staff. While GGT would still be allocated a portion of these costs from the parental group as part of its corporate costs allocation in the 2017 base year value, the KPMG report overstates these costs for a business with the corporate characteristics of GGT as they are included in full assuming the entity is a stand-alone business.

215. Being part of a larger group should provide economies of scale for its corporate costs, and this is evidenced by the 2017 actual allocated corporate costs of the GGT being $2.937 million which is less than the KPMG estimated values.

216. With the GGP operating under the abovementioned characteristics, the ERA considers that the median estimated benchmark value of corporate costs in KPMG's report overestimates the efficient amount for an entity with the characteristics of the GGT.

217. The ERA considers that by taking into account the economies of scale benefits that come from group ownership of the pipeline, GGT's proposed $4.789 million per year

[68] GGT, *Access Arrangement Revision Proposal Supporting Information – Attachment 2 – KMPG, Corporate Cost Benchmarking,19 December 2018 (Confidential)*, 1 January 2019, pg. 4.

would not provide the best estimate of GGT covered pipeline corporate costs and that a best estimate would be lower than this value.

218. Rule 91(1) of the NGR states that the "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."

219. While KPMG's report has low, median and high cost ranges, all of these are based on a stand-alone business structure, which does not represent GGT's corporate structure.

220. The corporate costs allocated to GGT in 2017 were $2.937 million.[69] These corporate costs would reflect some of the group ownership structure benefits and the associated economies of scale, as the costs reflect an allocation of corporate costs from APA Group.

221. As noted above, the ERA considers that where appropriate, the revealed cost approach provides the best forecast of corporate costs to deliver the pipeline services unless there is evidence that the services can be delivered prudently at a lower sustainable cost.

222. While GGT's allocation of corporate costs is not a true revealed cost, it is an allocation capturing some of the group ownership structure benefits and the associated economies of scale of being part of the APA group. In the absence of a true revealed cost to undertake the activities the ERA has used the 2017 allocated cost as provided by GGT in its proposal.

223. The ERA considers that GGT's 2017 base year corporate cost of $2.937 million is the best estimate available to achieve the lowest sustainable cost of delivering pipeline services and the ERA is not aware of a sustainable cost lower than the 2017 base year value for corporate costs. The alternative of using the KPMG report values would overestimate the efficient amount of corporate costs for an entity with the characteristics of the GGT, including for the reason that KPMG's report was prepared on a stand-alone basis and as such the median value includes costs that would not be required if the entity had parental ownership, which the GGT does.

224. Absent further substantiation of the appropriate level of corporate costs, the level of expenditure reflected in the 2017 base year allocated cost for corporate costs is a better estimate of what 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 and, therefore, i.e. consistent with the rule 91(1) of the NGR.

225. As a result, the ERA has retained corporate costs as part of the base operating expenditure amount in the base-step-trend approach and has not forecast these costs separately as GGT did in its proposal by considering it to be an irregular operating expenditure item.

226. The amount of the expenditure allocated to the covered pipeline for the operating expenditure corporate costs has been allocated according to the cost allocation

[69] $ million real at 31 December 2018.

method set out in the AA3 final decision and therefore is properly allocated as required by rule 91(2) of the NGR.

Required amendments

227. Following the reasoning and conclusions outlined in paragraphs 131 to 226, the ERA considers that $85.224 million of GGT's forecast operating expenditure for AA4 satisfies rules 74 and 91 of the NGR.

228. Table 14 summarises the revised operating expenditure forecast for AA4.

Table 14: ERA determined AA4 operating expenditure ($ million real at 31 December 2018)

	2020	2021	2022	2023	2024	Total AA4
Starting: Base year operating expenditure	15.637	15.637	15.637	15.637	15.637	**78.183**
Add: Separate forecasts						
Major expenditure jobs	0.560	0.480	0.670	0.200	0.500	**2.410**
Regulatory costs	0.676	0.676	0.676	0.676	0.676	**3.380**
Equals: Baseline forecast operating expenditure	16.873	16.793	16.983	16.513	16.813	**83.973**
Add: Real labour cost escalation						
Labour cost	0.152	0.203	0.257	0.301	0.358	**1.271**
Equals: Total operating expenditure	**17.025**	**16.995**	**17.240**	**16.813**	**17.171**	**85.244**

Source: ERA AA4 Operating Expenditure Draft Decision Model

Required Amendment 3

GGT must amend the values for operating expenditure to reflect the values set out in Table 14 of this draft decision

Opening capital base

229. Rule 77(2) of the NGR establishes the approach to determine the opening capital base for an access arrangement period that follows immediately on the conclusion of a preceding access arrangement period. The opening capital base for the later access arrangement period is to be:

> **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 82, 84 or 86;

Plus:

(c1) in relation to any existing extension specified in the extension and expansion requirements in accordance with rule 104(2), the following value:

(i) the cost of construction of the extension;

plus:

(ii) capital expenditure on the extension since construction of the extension;

less:

(iii) depreciation of the extension since the date the extension was commissioned; and

(iv) the value of pipeline assets constituting the extension disposed of since commissioning of the extension;

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.

230. Rule 79 of the NGR sets out the new capital expenditure 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; and

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

(c) the capital expenditure must be for expenditure that is properly allocated in accordance with the requirements of subrule (6).

(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 two 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.

231. Rule 93 is as follows:

93 Allocation of total revenue and costs

(1) Total revenue is to be allocated between reference and other services in the ratio in which costs are allocated between reference and other services.

(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]…

GGT's Proposal

232. GGT proposed an opening capital base for AA4 of $380.521 million. The calculated values of the capital base at the commencement of AA4 are shown in Table 15.

Table 15 GGT's proposed opening capital base for AA4 ($ million nominal)

	2015	2016	2017	2018	2019
Opening capital base	390.362	393.124	389.164	386.631	383.285
Proposed conforming capital expenditure	3.334	1.409	1.432	1.025	1.762
Capital depreciation	0.573	5.369	3.966	4.371	4.525
Closing capital base	393.124	389.164	386.631	383.285	380.521

Source: Goldfields Gas Transmission Pty Ltd, *PUBLIC AA tariff model 2020-2024 (1-Jan-2019)*, 21 December 2018.

233. GGT's calculated value of the opening capital base for AA4 included $8.962 million[70] of proposed conforming capital expenditure for the AA3 period, less depreciation of $18.804 million.[71] Table 16 shows GGT's proposed AA3 conforming capital expenditure by asset class.

[70] $ million nominal.

[71] $ million nominal.

Table 16 GGT proposed AA3 conforming capital expenditure by asset class ($ million nominal)

	2015 (Actual)	2016 (Actual)	2017 (Actual)	2018 (Forecast)	2019 (Forecast)	Total
Pipeline and laterals	1.766	0.492	0.276	0.065	0.000	2.599
MLV and scraper stations	0.110	0.001	0.000	0.000	0.000	0.111
Compressor stations	-0.015	0.000	0.966	0.521	1.024	2.496
Receipt and delivery points	0.412	-0.395	0.001	0.188	0.126	0.331
SCADA, communications and electronic equipment	0.970	0.990	0.065	0.110	0.000	2.135
Cathodic protection	0.000	0.000	0.000	0.000	0.075	0.075
Maintenance bases and depots	0.025	0.000	0.000	0.019	0.313	0.357
Other depreciable assets	0.067	0.321	0.124	0.122	0.224	0.858
Non-depreciable assets	0.000	0.000	0.000	0.000	0.000	0.000
Total	**3.334**	**1.409**	**1.432**	**1.026**	**1.762**	**8.962**

Source: Goldfields Gas Transmission Pty Ltd, *Goldfields Gas Pipeline Proposed Revised Access Arrangement Information,* 21 December 2018, p. 10, Table 7.

234. Table 17 shows the AA3 final decision forecast capital expenditure, GGT's proposed capital expenditure for the AA3 period and the differences by asset class. The proposed capital expenditure for AA3 is $0.452 million,[72] or 4.8 per cent, less than the ERA's AA3 final decision forecast.

[72] $ million nominal.

Table 17 AA3 Final Decision forecast capital expenditure and GGT proposed conforming AA3 capital expenditure by asset class ($ million nominal)

	ERA final decision forecast AA3 capital expenditure (A)	Proposed conforming AA3 capital expenditure (B)	Difference (B - A)
Pipeline and laterals	4.206	2.599	-1.607
MLV and scraper stations	0.537	0.111	-0.426
Compressor stations	2.089	2.496	0.406
Receipt and delivery points	1.034	0.331	-0.703
SCADA, communications and electronic equipment	0.516	2.135	1.619
Cathodic protection	0.243	0.075	-0.168
Maintenance bases and depots	0.167	0.357	0.190
Other depreciable assets	0.622	0.858	0.237
Non-depreciable assets	0.000	0.000	0.000
Total	**9.414**	**8.962**	**-0.452**

Source: ERA analysis based on Economic Regulation Authority, *AA3 Final Decision Tariff Model,* July 2016; Economic Regulation Authority, *Final Decision on Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline,* 21 July 2016, p. 140, Table 57; and GGT, *GGP Public AA tariff model 2020-2024,* 1 January 2019.

235. GGT proposed that the actual and forecast capital expenditure for AA3 satisfied the criteria for conforming capital expenditure set out in rule 79 of the NGR and therefore should be added to the capital base according to rule 77(2).

236. GGT's proposed capital expenditure is less than the AA3 final decision forecast capital expenditure due to:

- GGT not undertaking certain projects which were included in the AA3 final decision capital expenditure forecast.
- Some projects that were included in the AA3 final decision capital expenditure forecast were now expected to be delivered for less than the forecast amount.

237. The underspend on capital expenditure for projects that were included in the AA3 capital expenditure forecast was offset by:

- Overspending on some projects that were included in the forecast. The most significant of these were four compressor station upgrades that were undertaken as one combined project (discussed in paragraphs 280 to 281) and the national satellite clear SCADA project (discussed in paragraphs 308 to 310).
- Some projects undertaken during AA3 which were not included in the AA3 final decision capital expenditure forecast.

238. Table 17 above shows the main classes where GGT's proposed conforming AA3 capital expenditure exceeded the forecast for that asset class included in the AA3 final decision capital expenditure forecast. These include:[73]

- SCADA, communications and electronic equipment – Overspend of $1.619 million, equivalent to 313.76 per cent more than the final decision forecast in nominal terms.
- Compressor stations – Overspend of $0.406 million, equivalent to 19.44 per cent more than the final decision forecast in nominal terms.
- Other depreciable assets – Overspend of $0.237 million, equivalent to 38.10 per cent more than the final decision forecast in nominal terms.
- Maintenance bases and depots – Overspend of $0.190 million, equivalent to 113.77 per cent more than the final decision forecast in nominal terms.

239. An underspend relative to forecast values in AA3 occurred in other asset classes:[74]

- Pipeline and laterals – Underspend of $1.607 million, equivalent to 38.21 per cent less than the final decision forecast in nominal terms.
- Mainline valve and scraper stations – Underspend of $0.426 million, equivalent to 79.33 per cent less than the final decision forecast in nominal terms.
- Receipt and delivery points – Underspend of $0.703 million, equivalent to 67.99 per cent less than the final decision forecast in nominal terms.
- Cathodic protection – Underspend of $0.168 million, equivalent to 69.14 per cent less than the final decision forecast in nominal terms.

240. GGT's actual capital expenditure has been significantly below its initial forecast of capital expenditure over the past two access arrangement periods. As shown in Table 18, GGT's actual capital expenditure was 29.21 per cent below its initial forecast for AA2 and 36.61 per cent below its initial forecast for AA3. There were also significant variances between GGT's actual capital expenditure and its initial forecast of capital expenditure at an asset class level over these two periods. This history of overestimating capital expenditure forecasts implies that GGT's forecasting processes are not producing reliable forecasts and was taken into account when evaluating GGT's proposed capital expenditure for AA4. The extent of GGT's overestimation of capital expenditure in AA3 is the basis for the adjustment applied to the proposed capital expenditure for the remote terminal unit program, discussed in paragraphs 431 to 438.

[73] All stated figures and percentages are based on ERA analysis based on Economic Regulation Authority, AA3 Final Decision Tariff Model, July 2016; Economic Regulation Authority, Final Decision on Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline, 21 July 2016, p. 140, Table 57*;* and *GGT,* GGP Public AA tariff model 2020-2024, *1 January 2019.*

[74] All stated figures and percentages are based on ERA analysis based on Economic Regulation Authority, AA3 Final Decision Tariff Model, July 2016; Economic Regulation Authority, Final Decision on Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline, 21 July 2016, p. 140, Table 57*;* and *GGT,* GGP Public AA tariff model 2020-2024, *1 January 2019.*

Table 18 GGT initial proposed capital expenditure and actual capital expenditure for AA2 and AA3 ($ million real at 31 December 2018)

AA2				
	GGT initial proposal	**Actual expenditure**	**Variance: Actual expenditure – Initial proposal**	**Variance: Actual expenditure / Initial proposal (%)**
Pipeline and laterals	-0.069	-0.057	-0.012	-17.02%
Mainline valve and scraper stations	0.000	0.000	0.000	0.00%
Compressor stations	2.486	1.735	0.751	-30.22%
Receipt and delivery point facilities	0.345	0.320	0.025	-7.17%
SCADA and communications	3.556	2.302	1.254	-35.27%
Maintenance bases and depots	1.550	1.142	0.408	-26.33%
Other assets	0.790	0.688	0.103	-13.00%
Total AA2	8.658	6.129	2.529	-29.21%
AA3				
	GGT initial proposal	**Actual capital expenditure**	**Variance: Actual expenditure – Initial proposal**	**Variance: Actual expenditure / Initial proposal (%)**
Pipeline and laterals	6.166	2.696	3.470	-56.27%
Mainline valve and scraper stations	0.721	0.116	0.605	-83.90%
Compressor stations	2.625	2.496	0.129	-4.90%
Receipt and delivery point facilities	1.579	0.336	1.242	-78.70%
SCADA and communications	1.424	2.208	-0.784	55.04%
Cathodic protection	0.296	0.074	0.221	-74.88%
Maintenance bases and depots	0.687	0.354	0.333	-48.51%
Other assets	0.938	0.870	0.068	-7.27%
Total AA3	14.435	9.151	5.284	-36.61%

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241. The ERA assessed GGT's proposed opening capital base for AA4 according to rules 77 and 79 of the NGR. This included:

- Determining GGT's opening capital base for AA4, which included an assessment of:
  - conforming capital expenditure in AA3
  - capital contributions
  - depreciation.
- Assessing GGT's general method of calculating the capital base.

242. The ERA's assessment of the opening capital base also considered GGT's governance and investment management framework and assessed how the framework applied to actual capital expenditure during AA3. This review was also undertaken for the proposed forecast capital expenditure for AA4, as outlined in paragraphs 366 and 367.

243. While GGT has investment management processes in place that are consistent with common industry practice for businesses with similar levels of complexity and capital expenditure, GGT's history of capital expenditure forecasts exceeding the level of expenditure actually incurred, outlined in paragraph 240, implies that its capital expenditure forecasting processes are not producing reliable forecasts.

244. The ERA's view is supported by EMCa's conclusions on GGT's governance processes. EMCa assisted the ERA as a technical advisor to assess whether GGT's actual and proposed capital expenditure during AA3 was conforming capital expenditure that should be rolled into the opening capital base for AA4. EMCa also assisted the ERA to assess GGT's proposed forecast capital expenditure for AA4. EMCa reviewed GGT's approach to investment governance and management systems, procedures and practices, focusing on:

- The alignment of GGT's corporate governance framework with GGT's corporate objectives, including its regulatory and statutory obligations.
- The alignment of GGT's governance framework with good industry practice.
- Evidence that the processes and procedures in place within GGT are consistently applied by GGT in practice.
- The effectiveness of the governance process.

245. EMCa's conclusions on the proposed conforming capital expenditure for AA3 are:

- GGT advised that business cases were not developed for the AA3 projects that were undertaken but have not been included in the AA3 final decision capital expenditure forecast. Rather APT Pipelines (WA) Pty Limited, as pipeline operator, was required to obtain authorities for expenditure for GGT's authorisation for all items of capital expenditure. This process was required under the terms of the operating agreement for the operation and maintenance of the GGP between APT Pipelines (WA) Pty Limited and the GGT joint

venture.[75] While EMCa considered that the authorities for expenditure were adequate for reporting and monitoring small variations in small expenditure items, EMCa did not consider them sufficient to support the expenditure of hundreds of thousands of dollars or more.[76]

- GGT did not produce change control documentation and project close-out reports for the AA3 projects/programs it undertook. Whilst acknowledging that GGT undertook few multi-million dollar projects during AA3, EMCa considered that GGT would have benefited from reviews of the projects with significant variations from their initial scope and cost expectations to identify the drivers for these variations, rectify these where practicable and to then apply the improved forecasting practices to the development of the AA4 capital expenditure forecast.[77]

246. EMCa concluded that GGT's method for estimating capital expenditure was consistent with common industry practice for businesses with similar levels of complexity and capital expenditure but found that the outcomes of GGT's approach indicate that there are material flaws in the application of its processes. These outcomes observed by EMCa are:

- A track record of GGT significantly underspending against forecasts. EMCa notes that GGT's actual capital expenditure was 70 per cent less than its initial AA2 forecast and its AA3 actual/estimated capital expenditure was 36 per cent less than its initial forecast and 6 per cent less than the AA3 final decision forecast capital expenditure.[78]
- Volatility in spending at an asset category level against the amounts included for each asset category in the AA3 final decision forecast capital expenditure.[79]

247. As stated in paragraph 7, for the purposes of tariff regulation the GGP comprises two notional pipelines, one of which is covered by the access arrangement while the other is a non-scheme pipeline. The assessment of GGT's proposed capital expenditure for AA3 and AA4 includes establishing whether the proposed expenditure has been allocated between services provided by means of the covered pipeline and services provided by means of uncovered parts of the GGP, in compliance with rule 79(6) of the NGR (reproduced in paragraph 230).

248. The ERA considers that the allocation of costs between the covered and uncovered pipeline, as set out in the final decision for AA3, provides a means for allocating capital expenditure between services provided by the covered and uncovered

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75 Goldfields Gas Transmission Pty Ltd, Goldfields Gas Pipeline, *Response to information request EMCa 03, 19 February 2019.*

76 Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 66. Projects exceeding a hundred thousand dollars of capital expenditure which were undertaken during AA3 but not included in the AA3 final decision capital expenditure forecast were the Wiluna compressor controls upgrade ($1.216 million nominal, discussed in paragraph 285), replacement trucks ($0.426 million nominal, discussed in paragraph 347) and site accommodation upgrade program ($0.315 million nominal, discussed in paragraph 287).

77 Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 66.

78 Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 102-103.

79 Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 104.

pipelines of the GGP that is consistent with rule 79(6).[80] The ERA's assessment of the capital expenditure GGT proposed to include in the opening capital base for AA4, therefore, examines whether the proposed conforming capital expenditure has been allocated to the covered pipeline consistent with this cost allocation method.

249. The cost allocation method set out in the final decision for AA3 was that any capital expenditure on assets that could be used in the delivery of services by both the covered pipeline and uncovered pipeline would be allocated between the two notional pipelines as follows:

- For expenditure on compressor station assets where capital expenditure could not be attributed to a specific compressor unit, the amount of that expenditure allocated to the covered pipeline would be apportioned according to the ratio of covered pipeline compressor units to the total number of compressor units at that station.
- For expenditure on other assets that could be used for both the covered pipeline and uncovered pipeline, the amount of that expenditure allocated to the covered pipeline would be apportioned according to the ratio of terajoule kilometres of contracted capacity provided using the covered pipeline to the number of terajoule kilometres of contracted capacity provided using the GGP in the year in which the expenditure was made. GGT has estimated that this ratio is 69.9 per cent for the AA3 period. The ERA has reviewed this estimate and considers it has been calculated in accordance with the agreed cost allocation method.

Assessment of capital expenditure – Pipeline and laterals

250. As shown in Table 17, GGT initially proposed $2.599 million of capital expenditure within the pipeline and laterals asset class for the AA3 period. This was $1.607 million less than the capital expenditure for the pipeline and laterals asset class included in the AA3 final decision forecast capital expenditure.

251. The ERA has determined that $2.535 million of capital expenditure for pipeline and laterals assets during AA3 is conforming capital expenditure.

252. The AA3 final decision included forecast capital expenditure for eight projects within the pipeline and laterals asset class. GGT will have undertaken five of these projects within AA3. Additionally, GGT will have undertaken three additional projects within the pipelines and laterals asset class that were not included in the AA3 final decision forecast.

253. GGT's proposed conforming capital expenditure for the five projects which it will have undertaken within AA3 that were proposed in the AA3 final decision forecast capital expenditure are:

- 16 inch mainline in-line inspection and 14 inch mainline in-line inspection and Newman Lateral in-line inspection projects. GGT refers to these projects collectively as the mainline in-line inspection projects and has reported a combined AA3 capital expenditure for this project of $1.960 million.
- Easement repair for in-line inspection ($0.093 million).
- In-line inspection verification dig-ups ($0.350 million).

[80] Economic Regulation Authority, *Final Decision on Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline,* 21 July 2016, paragraphs 1974 – 1991.

254. The proposed capital expenditure for each of the five pipelines and laterals projects listed in paragraph 253 is less than the respective amounts included for each in the AA3 final decision forecast capital expenditure. GGT advised that the reasons for the lower actual and forecast costs are as follows:

- Mainline in-line inspection project – The costs of completing the work under the contract with the third-party service provider engaged to complete the work were lower than forecast in the business case, as were internal labour costs.
- Easement repair for in-line inspection - The mobilisation costs for the project were lower than forecast. Additionally, some easement defects are thought to have been rectified as part of routine maintenance activity during AA3.
- In-line inspection verification dig-ups – The number of verification digs carried out during AA3 will be lower than the number forecast, and the levels of damage identified by the digs were generally low.[81]

255. The mainline in-line inspection project, the easement repair for in-line inspection project and the in-line inspection verification dig-ups will have been carried out during AA3 for less than the amounts included in the AA3 final decision capital expenditure for these projects, without significant variations in these project scopes from their original scopes. Therefore, the ERA considers that these projects have been carried out efficiently during AA3. The ERA also considers that carrying out these projects is in accordance with good industry practice.[82] The mainline in-line inspection project, the easement repair for in-line inspection project and the in-line inspection verification dig-ups satisfy rule 79(1)(a) of the NGR.

256. The mainline in-line inspection project is justifiable because it covers capital expenditure necessary to maintain and improve the safety of services, to maintain the integrity of services and to comply with a regulatory obligation or requirement.[83] These are justifiable grounds for capital expenditure under rule 79(2)(c)(i), 79(2)(c)(ii) and 79(2)(c)(iii) of the NGR. The mainline in-line inspection project therefore satisfies rule 79(1)(b) of the NGR.

257. The easement repair for in-line inspection project is justifiable to maintain the integrity of services, which is a justifiable ground for capital expenditure under rule 79(2)(c)(i) of the NGR.[84] The easement repair for in-line inspection project therefore satisfies rule 79(1)(b) of the NGR.

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81 Goldfields Gas Transmission Pty Ltd, Goldfields Gas Pipeline, *Response to information request EMCa 22, 19 March 2019.*

82 This maintains the ERA's conclusions on the alignment of the mainline in-line inspection project, the in-line inspection verification dig-ups and the easement repair for in-line inspection projects with good industry practice expressed in the AA3 draft decision and the AA3 final decision. The ERA's conclusion is supported by EMCa's technical opinion that the capital expenditure projects in the pipeline and laterals asset class proposed as conforming capital expenditure are likely to satisfy the capital expenditure criteria. Draft Decision on Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline, *17 December 2015,* paragraph 398. *Economic Regulation Authority*, Final Decision on Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline, *21 July 2016,* paragraph 616. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 135.

83 The advice provided by EMCa as technical advisor for the AA3 final decision supported that the mainline in-line inspection project was necessary to maintain and improve the safety of services, to maintain the integrity of services and to comply with a regulatory obligation or requirement. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* December 2015, paragraph 154.

84 The advice provided by EMCa as technical advisor for the AA3 final decision supported that the in-line inspection verification dig-ups were necessary to maintain the integrity of services. Energy Market

258. The in-line inspection verification dig-ups are justifiable to maintain the integrity of services, which is a justifiable ground for capital expenditure under rule 79(2)(c)(ii) of the NGR.[85] The in-line inspection verification dig-ups, therefore, satisfy rule 79(1)(b) of the NGR.

259. GGT's initial proposed conforming capital expenditure for the three projects within the pipelines and laterals asset class that were not included in the AA3 final decision capital expenditure forecast is as follows:

- additional capacity feasibility load financial year 2018 ($0.064 million)
- Wiluna lateral cathodic protection surge protection upgrade ($0.003 million)
- Kalgoorlie south flow computer upgrade ($0.148 million).

260. In response to an information request, GGT advised that the proposed capital expenditure for the additional capacity feasibility load project was for some preliminary engineering design work on a possible expansion of the GGP and for some initial investigations into the land access issues which might arise if expansion were to proceed. GGT advised that, at the date of submission of the access arrangement revision proposal for AA4, there was insufficient commitment to capacity development for GGT to propose an expansion of the GGP. GGT requested that the capital expenditure for the additional capacity feasibility load be included as speculative capital expenditure in a speculative capital expenditure account until there was sufficient commitment from prospective users to allow expansion of the GGP.[86] Consequently, the proposed capital expenditure for the additional capacity feasibility load project has been excluded from the regulatory asset base for AA3. Whether or not this expenditure can be included in a speculative capital account according to the NGR is considered in paragraphs 468 to 477 of this draft decision.

261. The ERA considers that the Wiluna lateral cathodic protection surge protection upgrade capital expenditure is of a nature that it is justifiable to maintain the integrity of the services, which is a justifiable ground for capital expenditure under rule 79(2)(c)(ii) of the NGR. This expenditure therefore satisfies rule 79(1)(b) of the NGR. As stated in paragraph 243, the ERA's review of GGT's investment management processes concluded that these are consistent with common industry practice for businesses of similar complexity and similar levels of capital expenditure. This conclusion was based on technical advice from EMCa which included, among other advice, that GGT's processes for reporting and monitoring small variations in small expenditure items were adequate. The ERA is therefore satisfied that the capital expenditure for the Wiluna lateral cathodic protection surge protection upgrade has been incurred in accordance with good industry practice, and that the amount proposed is reasonable and would be incurred by a prudent service provider acting efficiently. The capital expenditure for this item therefore satisfies rule 79(1)(a) of the NGR.

Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* December 2015, paragraph 154.

85 The advice provided by EMCa as technical advisor for the AA3 final decision supported that the easement repair for in-line inspection project was necessary to maintain the integrity of services. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* December 2015, paragraph 154.

86 Goldfields Gas Transmission Pty Ltd, Goldfields Gas Pipeline, *Response to information request ERA 7, 18 July 2019.*

262. The AA3 final decision included six separately identified projects for flow computer upgrades within the receipt and delivery points asset class. However, this did not include the flow computer at Kalgoorlie south. The ERA considers the capital expenditure for the Kalgoorlie south flow computer, and the other flow computers upgraded, is justifiable because it covers capital expenditure necessary to maintain the integrity of services, which is a justifiable ground for capital expenditure under rule 79(2)(c)(ii). This is supported by EMCa's technical advice that the flow computer upgrades undertaken during AA3 are likely to satisfy the conforming capital expenditure criteria.[87]

263. GGT has included capital expenditure for three flow computers upgraded during AA3 within the pipeline and laterals, receipt and delivery points and SCADA, communications and electronic equipment asset classes. The flow computers upgraded during AA3 are the flow computers at Leonora, Kalgoorlie South and Jundee. GGT explained that the capital expenditure for the flow computers was allocated to more than one asset class because, in operation, these assets interact with and function as part of more than one part of the distribution system.[88] The ERA has evaluated the efficiency of the proposed capital expenditure for the three flow computers as a combined amount for this draft decision.

264. The average unit cost of upgrading the flow computers incurred during AA3 ($0.131 million[89]) does not significantly exceed the average amount for each flow computer upgrade included in the AA3 final decision capital expenditure forecast ($0.110 million). Based on this and EMCa's technical advice that the average unit cost incurred is reasonable,[90] the capital expenditure for the flow computers, including the $0.148 million of capital expenditure included within the pipeline and laterals asset class, is consistent with an amount that would be incurred by a service provider acting efficiently and consistent with good industry practice and therefore satisfies rule 79(1)(a) of the NGR.

265. The ERA is satisfied that the expenditure GGT has proposed to allocate to the covered pipeline for the pipeline and laterals projects, other than the capital expenditure for the additional capacity feasibility load project, has been allocated according to the cost allocation method set out in the AA3 final decision and therefore properly allocated as required by rule 79(6) of the NGR. As outlined in paragraphs 255 to 259, the ERA concludes that all the projects comprising the proposed AA3 conforming capital expenditure for the pipeline and laterals asset class, other than the capital expenditure for the additional capacity feasibility load project, satisfy rule 79(1)(a) and 79(1)(b) of the NGR. Therefore, the proposed AA3 conforming capital expenditure for the pipeline and laterals asset class, other than the capital expenditure for the additional capacity feasibility load project, satisfies the criteria for conforming capital expenditure under rule 79(1) of the NGR. Capital expenditure of $2.535 million for the pipeline and laterals asset class has therefore been included in the regulatory asset base for AA3.

266. The conforming capital expenditure included in the regulatory asset base for AA3 for the pipeline and laterals asset class is shown in Table 19 below. GGT has subtracted

87 Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 150.

88 Goldfields Gas Transmission Pty Ltd, Goldfields Gas Pipeline, *Response to information request EMCa 22, 19 March 2019.*

89 Nominal dollars.

90 Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 147.

$0.018 million from its proposed 2015 conforming capital expenditure for the GGT Gorgon interconnect project. The Draft Decision conforming capital expenditure also subtracts this amount as Table 19 shows.

Table 19 ERA Draft Decision conforming capital expenditure for pipeline and laterals asset class (AA3) ($ million nominal)

Project / Work item	2015	2016	2017	2018	2019	AA3 total
Mainline in-line inspection	1.608	0.351	0.000	—	—	1.960
Easement upgrade for in-line inspection	0.093	—	—	—	—	0.093
In-line inspection verification digs	—	0.075	0.274	0.001	—	0.350
Additional capacity feasibility load financial year 2018 (39009)	—	—	—	—	—	—
Wiluna lateral cathodic protection surge protection upgrade	0.003	—	—	—	—	0.003
Kalgoorlie south flow computer upgrade	0.081	0.066	0.001	—	—	0.148
GGT Gorgon interconnect	-0.018	—	—	—	—	-0.018
Total conforming AA3 capital expenditure - Pipeline and laterals	**1.766**	**0.492**	**0.276**	**0.001**	**—**	**2.535**

Note: Numbers may not add due to rounding.

Assessment of capital expenditure – Mainline valve and scraper stations

267. As shown in Table 17, GGT proposed $0.111 million of capital expenditure within the mainline valve and scraper stations asset class for the AA3 period. This was $0.426 million less than the capital expenditure for the mainline valve and scraper stations asset class included in the AA3 final decision forecast capital expenditure. The underspend was due to a project that was included in the forecast not being undertaken within AA3. Additionally, for the project that was undertaken during AA3, less costs were incurred than forecast.

268. The AA3 final decision included forecast capital expenditure for a project to install scraper station facilities at the Dampier to Bunbury pipeline interconnection. GGT advised that no capital expenditure was undertaken for this project during AA3, and therefore no capital expenditure for this project was included in the regulatory asset base. GGT advised that this project will eventually need to be undertaken. However, in the interim direct current voltage gradient investigations can be used to identify integrity threats on the interconnection rather than install the scraper station facilities.[91]

269. The proposed capital expenditure for mainline valve and scraper stations for AA3 was mainly for one project, the installation of scraper station facilities at the Apache-GGP interconnection ($0.098 million). GGT advised that the project was delivered for less

[91] Goldfields Gas Transmission Pty Ltd, Goldfields Gas Pipeline, *Response to information request EMCa 22, 19 March 2019.*

than the amount included for this project in the AA3 final decision forecast capital expenditure due to some essential parts being sourced from another site.[92]

270. The conforming capital expenditure proposed for the Apache-GGP pipeline interconnection for AA3 is less than the AA3 final decision forecast amount, while the work covered by this capital expenditure is not significantly different from the original scope. The ERA therefore considers that the conforming capital expenditure proposed for the Apache-GGP pipeline interconnection is in line with the cost that would be incurred by a prudent service provider acting efficiently as required by rule 79(1) of the NGR. The ERA considers the work covered by the Apache-GGP pipeline interconnection project is in accordance with good industry practice.[93] The Apache-GGP pipeline interconnection project therefore satisfies rule 79(1)(a) of the NGR.

271. The Apache-GGP pipeline interconnection project mainline in-line inspection project is justifiable because it covers capital expenditure necessary to maintain and improve the safety of services, to maintain the integrity of services and to comply with a regulatory obligation or requirement.[94] These are justifiable grounds for capital expenditure under rule 79(2)(c)(i), 79(2)(c)(ii) and 79(2)(c)(iii) of the NGR. The Apache-GGP pipeline interconnection project therefore satisfies rule 79(1)(b) of the NGR.

272. The proposed capital expenditure for mainline valve and scraper stations for AA3 also includes $0.012 million for the Leonora offtake battery upgrade. Capital expenditure of $0.033 million for this project was included in the AA3 final decision capital expenditure forecast within the receipt and delivery points asset class.

273. The conforming capital expenditure proposed for the Leonora offtake battery upgrade is less than the AA3 final decision forecast amount, and the work covered by this capital expenditure is not significantly different from the original scope. The ERA therefore considers that the proposed conforming capital expenditure for this project would be incurred by a prudent service provider acting efficiently as required by rule 79(1) of the NGR. The ERA considers the work covered by the Leonora offtake battery upgrade is in accordance with good industry practice.[95] The Apache-GGP pipeline interconnection project therefore satisfies rule 79(1)(a) of the NGR.

274. The ERA maintains its view from the AA3 final decision that there is a business need for the Leonora offtake battery upgrade in order to maintain the integrity of the

92 Goldfields Gas Transmission Pty Ltd, Goldfields Gas Pipeline, *Response to information request EMCa 22, 19 March 2019.*

93 The ERA's conclusion is supported by EMCa's technical opinion that the capital expenditure projects in the mainline valve and scraper stations asset class proposed as conforming capital expenditure are likely to satisfy the capital expenditure criteria. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 140.

94 The advice provided by EMCa as technical advisor for the AA3 final decision supported that the Apache-GGP pipeline interconnection project was necessary to maintain and improve the safety of services, to maintain the integrity of services and to comply with a regulatory obligation or requirement. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* December 2015, paragraph 154.

95 The ERA's conclusion is supported by EMCa's technical opinion that the capital expenditure projects in the receipt and delivery points asset class proposed as conforming capital expenditure, including the Leonora offtake battery upgrade, are likely to satisfy the capital expenditure criteria. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 140.

services, and therefore this project is justifiable capital expenditure under rule 79(2)(c)(ii) of the NGR.[96]

275. The ERA is satisfied that the amount of the expenditure allocated to the covered pipeline for the Apache-GGP pipeline interconnection project and the Leonora offtake battery upgrade has been allocated according to the cost allocation method set out in the AA3 final decision and therefore is properly allocated as required by rule 79(6) of the NGR.

276. Given that the Apache-GGP pipeline interconnection project and the Leonora offtake battery upgrade satisfy the criteria for conforming capital expenditure set out in rule 79(1) of the NGR, the proposed capital expenditure for these projects has been included in the regulatory asset base for AA3.

277. The conforming capital expenditure included in the capital base for AA3 for mainline valve and scraper stations is shown in Table 20 below.

Table 20 ERA Draft Decision conforming capital expenditure for mainline valve and scraper station asset class (AA3) ($ million nominal)

Project / Work item	2015	2016	2017	2018	2019	AA3 total
Leonora Offtake Battery Upgrade	0.012	-	-	-	-	0.012
Install scraper station facilities on Apache interconnect pipeline	0.098	0.001	-	-	-	0.099
Total conforming AA3 capital expenditure – Mainline valve and scraper stations	**0.110**	**0.001**	**-**	**-**	**-**	**0.111**

Assessment of capital expenditure – Compressor stations

278. As shown in Table 17, GGT proposed $2.496 million of capital expenditure within the compressor stations asset class for the AA3 period. This was $0.406 million more than the capital expenditure for the compressor stations asset class included in the AA3 final decision forecast capital expenditure.

279. The ERA has determined that $2.196 million of capital expenditure for compressor station assets during AA3 is conforming capital expenditure.

280. GGT proposed to include $0.453 million of capital expenditure for four compressor station programmable logic controller upgrades that were included in the AA3 final decision forecast capital expenditure and which it pursued as a combined project.[97] The total amount included in the AA3 final decision forecast for these upgrades was $0.265 million combined.

281. The ERA maintains its view from the AA3 final decision that the four compressor station programmable logic controller upgrade projects are in accordance with good

[96] *Economic Regulation Authority*, Final Decision on Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline, *21 July 2016,* paragraph 628.

[97] These are the Yarraloola unit programmable logic controller backplane upgrade, Ilgarari unit programmable logic controller backplane upgrade, Yarraloola gas engine alternator unit programmable logic controller upgrade and Ilgarari gas engine alternator unit programmable logic controller upgrade.

industry practice, as required by rule 79(1)(a) of the NGR, and that these projects are necessary to maintain the integrity of services and therefore satisfy rule 79(1)(b).[98] However, GGT did not supply an explanation when requested for the cost overrun on these projects. As a result, the ERA is not satisfied that the amount of proposed capital expenditure for these projects would be incurred by a prudent service provider acting efficiently, as required by rule 79(1)(a) of the NGR.[99] The amount of proposed capital expenditure in excess of the AA3 final decision combined capital expenditure forecast for the programmable logic controller upgrade projects ($0.188 million) has therefore not been included in the AA3 capital base. In the absence of additional information, the ERA considers that the AA3 final decision capital expenditure forecast for these projects is the best estimate of the capital expenditure for these projects that would be incurred by a prudent service provider acting efficiently.[100]

282. GGT proposed to include $0.111 million of capital expenditure for a project that was not included in the AA3 final decision forecast capital expenditure, the Krausz aftercooler upgrade. GGT did not supply an explanation for this expenditure and therefore the ERA has no basis for evaluating that these costs satisfy the criteria for conforming capital expenditure set out under rule 79 of the NGR. These costs have therefore not been included in the AA3 capital base.

283. GGT proposed $0.127 million of conforming capital expenditure for AA3 for the Yarraloola and Ilgarari lighting towers replacement. The conforming capital expenditure proposed for the lighting towers replacements is slightly less than the AA3 final decision forecast amount for this work ($0.143 million), while the work covered by this capital expenditure is not significantly different from the original scope. The ERA therefore considers that the proposed conforming capital expenditure is in line with what would be incurred by a prudent service provider acting efficiently as required by rule 79(1)(a) of the NGR. The ERA maintains its view from the AA3 final decision that the lighting towers replacements are in accordance with good industry practice, as is also required by rule 79(1)(a) of the NGR, and are justifiable capital expenditure as they are required to maintain and improve the safety of the services and therefore satisfy rule 79(1)(b) of the NGR.[101] This is supported

98 *Economic Regulation Authority*, Final Decision on Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline, *21 July 2016,* paragraphs 622 and 644. The ERA's view is based on a review of background information on the Yarraloola and Ilgarari unit programmable logic controller backplane upgrades and the advice provided by EMCa as technical advisor for the AA3 final decision that there was a business need for the Yarraloola and Ilgarari gas engine alternator unit programmable logic controller upgrades. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* December 2015, paragraph 154.

99 Information request EMCa 22 asked for an explanation of the drivers of expenditure variance for all projects that were forecast to be undertaken in the AA3 period.

100 GGT has also proposed to include some capital expenditure for the Yarraloola gas engine alternator programmable logic controller upgrade, Ilgarari gas engine alternator programmable logic controllerC upgrade and Ilgarari unit backplane upgrade projects in the SCADA, communications and electronic equipment asset class. These components of the proposed capital expenditure and the ERA's conclusions on these are outlined in paragraphs 312 to 314.

101 *Economic Regulation Authority*, Final Decision on Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline, *21 July 2016,* paragraph 626. The advice provided by EMCa as technical advisor for the AA3 final decision supported that the lighting towers replacements were justifiable to maintain and improve the safety of the services, which is a ground for capital expenditure under rule 79(2)(c)(i) of the NGR. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* December 2014, paragraph 154.

by EMCa's technical advice that the lighting towers replacements are likely to satisfy the conforming capital expenditure criteria.[102]

284. GGT proposed $0.180 million of conforming capital expenditure for AA3 for the Paraburdoo unit 1 turbine exchange work. This was significantly below the amount for this work included in the AA3 final decision forecast capital expenditure ($0.503 million). GGT advised that the underspend was due to the unit not reaching the necessary number of hours in service for the work to be required.[103] The ERA is satisfied that the Paraburdoo unit 1 turbine exchange work undertaken during AA3, being significantly less than the AA3 final decision forecast amount, would be incurred by a service provider acting efficiently. The ERA maintains its view from the AA3 final decision that the Paraburdoo unit 1 turbine exchange work is in accordance with good industry practice, as is also required by rule 79(1)(a) of the NGR, and is justifiable capital expenditure as it is necessary to maintain and improve the integrity of the services and therefore satisfies rule 79(1)(b) of the NGR.[104] This is supported by EMCa's technical advice that the Paraburdoo unit 1 turbine exchange work is likely to satisfy the conforming capital expenditure criteria.[105]

285. GGT proposed to include $1.216 million conforming capital expenditure for the Wiluna compressor controls upgrade in the AA4 opening capital base. This was a project that was not included in the AA3 final decision capital expenditure forecast. GGT has provided information which stated that this project was carried out due to obsolescence of the compressor control system at Wiluna, which was commissioned in May 2000. The cards which carried the control system electronics were no longer being manufactured and GGT's interim solution, which was to extend the life of the system by replacing defective cards with second-hand cards, had become unsustainable as second-hand cards were no longer available. GGT advised it was therefore necessary to replace the control system to keep the Wiluna compressor station in operation. GGT stated that failure to replace the control system would have resulted in failure of the compressor, with adverse consequences for the reliability and safety of gas transportation service on the GGP.[106]

286. Based on the explanation supplied by GGT and technical advice received, the capital expenditure for the Wiluna compressor controls upgrade is necessary to maintain the safety of services and to maintain the integrity of services and is therefore justifiable capital expenditure according to rule 79(1)(b) of the NGR.[107] Based on the explanation supplied by GGT and the technical advice received, the capital expenditure for the Wiluna compressor controls upgrade would be incurred by a

102 Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 140.

103 Goldfields Gas Transmission Pty Ltd, Goldfields Gas Pipeline, *Response to information request EMCa 22, 19 March 2019.*

104 *Economic Regulation Authority*, Final Decision on Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline, *21 July 2016,* paragraph 621. The advice provided by EMCa as technical advisor for the AA3 final decision supported that the Paraburdoo unit 1 turbine exchange work was necessary to maintain the integrity of the services, which is a ground for capital expenditure under rule 79(2)(c)(i) of the NGR. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* December 2015, paragraph 154.

105 Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 140.

106 *Goldfields Gas Transmission Pty Ltd, Goldfields Gas Pipeline,* Access Arrangement Revision Proposal Supporting Information, Public Version, 21 December 2018, p. 30.

107 EMCa's advice was that GGT's explanation of the need for the Wiluna compressor controls upgrade is reasonable. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 139.

prudent service provider acting efficiently and in accordance with good industry practice, and therefore satisfies rule 79(1)(a) of the NGR.[108]

287. GGT proposed to include $0.315 million of capital expenditure for the site accommodation upgrade program in the AA4 opening capital base. This was a project that was not included in the AA3 final decision capital expenditure forecast. The proposed capital expenditure for the site accommodation upgrade program in AA4 (discussed in paragraphs 441 to 447) is a continuation of the site accommodation upgrade work carried out during AA3. GGT stated that the upgrade program was necessitated by an enterprise bargaining agreement which required GGT to provide site accommodation which fulfilled certain specifications. GGT considers that the work undertaken during AA3 was justifiable to maintain and improve the safety and integrity of pipeline services.[109]

288. Based on GTT's explanation and the technical advice received, the capital expenditure for the site accommodation programme is necessary to maintain and improve the safety and integrity of the services and is therefore justifiable capital expenditure according to rule 79(1)(b) of the NGR.[110] Based on the explanation supplied by GGT and the technical advice received, the proposed AA3 conforming capital expenditure for the site accommodation upgrade would be incurred by a prudent service provider acting efficiently and in accordance with good industry practice, and therefore satisfies rule 79(1)(a) of the NGR.

289. As shown in Table 21, GGT's proposed conforming capital expenditure also included smaller amounts for other minor items, each of which was below $0.05 million for the period.[111] These items were not included in the AA3 final decision forecast capital expenditure. GGT has described the largest three of these items as follows:[112]

- Wiluna compressor station 40,000 hour upgrade – This turbine unit reached the requisite number of hours for overhaul during AA3 contrary to expectation and overhaul of this unit was, therefore, brought forward and performed during AA3.
- Yarraloola compressor station power management scope of work – Work carried out to enable verification of the capability to meet the power demands at Yarraloola compressor station.
- Yarraloola load bank installation – Low value work under a purchase order.[113]

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108 EMCa's advice was that, based on its experience the incurred capital expenditure for the Wiluna compressor controls upgrade is reasonable. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 139.

109 *Goldfields Gas Transmission Pty Ltd, Goldfields Gas Pipeline,* Access Arrangement Revision Proposal Supporting Information, Public Version, 21 December 2018, p. 33 and 46.

110 EMCa's opinion was that the site accommodation upgrade capital expenditure is likely to satisfy the criteria for conforming capital expenditure. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 145.

111 These are the Yarraloola load bank installation, Yarraloola compressor station power management Scope of Work, Programmable Logic Controller Support Software-Service & Upgrade+2012 Phase 2+I&E Prog Software and Wiluna Compressor Station 40,000 hour Upgrade.

112 GGT did not supply an explanation for the proposed capital expenditure for Programmable Logic Controller Support Software-Service & Upgrade+2012 Phase 2+I&E Prog Software, for which it incurred $1,204 of capital expenditure during AA3.

113 Goldfields Gas Transmission Pty Ltd, Goldfields Gas Pipeline, *Response to information request EMCa 22, 19 March 2019.*

290. Based on the explanations supplied by GGT for the Yarraloola load bank installation, Yarraloola compressor station power management scope of work, Programmable Logic Controller Support Software-Service & Upgrade+2012 Phase 2+I&E Program software and Wiluna Compressor Station 40,000 hour Upgrade and the technical advice received, the capital expenditure for these items is necessary to maintain the integrity of the services and is, therefore, justifiable capital expenditure according to rule 79(1)(b) of the NGR.[114] As stated in paragraph 243, the ERA's review of GGT's investment management processes concluded that these are consistent with common industry practice for businesses of similar complexity and similar levels of capital expenditure. This conclusion was based on technical advice from EMCa which included, among other advice, that GGT's processes for reporting and monitoring small variations in small expenditure items were adequate. Based on GGT's explanations, the technical advice received, and the ERA's conclusions regarding GGT's investment management and governance practices, the proposed AA3 conforming capital expenditure for these four smaller items would be incurred by a prudent service provider acting efficiently and in accordance with good industry practice, and therefore satisfies rule 79(1)(a) of the NGR.

291. The conforming capital expenditure included in the capital base for AA3 compressor station assets is shown in Table 21 below. The ERA is satisfied that the amount of the expenditure allocated to the covered pipeline for each of these items has been allocated according to the cost allocation method set out in the AA3 final decision and therefore is properly allocated as required by rule 79(6) of the NGR and satisfies the criteria for conforming capital expenditure set out by rule 79(1). GGT has subtracted $0.017 million from its proposed 2015 conforming capital expenditure for the GGT reference meter upgrade. The Draft Decision conforming capital expenditure also subtracts this amount as Table 21 shows.

[114] EMCa's opinion was that the Yarraloola load bank installation and the Yarraloola compressor station power management Scope of Work are is likely to satisfy the criteria for conforming capital expenditure. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 145.

Table 21 ERA Draft Decision conforming capital expenditure for compressor stations asset class (AA3) ($ million nominal)

Project / Work item	2015	2016	2017	2018	2019	AA3 total
Compressor station Programmable Logic Controller upgrades	-	-	-	-	0.265	0.265
Yarraloola and Ilgarari lighting towers replacement	-	-	-	-	0.127	0.127
Paraburdoo unit 1 turbine exchange (major servicing)	-	-	-	-	0.180	0.180
Krausz aftercooler upgrade	-	-	-	-	-	-
Site accommodation upgrade programme	-	-	-	-	0.315	0.315
GGT reference meter upgrade	-0.017	-	-	-	-	-0.017
Yarraloola load bank installation	-	-	0.009	0.014	-	0.024
Wiluna compressor controls upgrade	-	-	0.914	0.302	-	1.216
Yarraloola compressor station power management Scope of Work	-	-	-	0.011	0.033	0.043
Programmable Logic Controller Support Software-Service & Upgrade+2012 Phase 2+I&E Prog Software	0.001	-	-	-	-	0.001
Wiluna Compressor Station 40,000 hour Upgrade	-	-	0.042	-	-	0.042
Total conforming AA3 capital expenditure - Compressor control	**-0.016**	**0.000**	**0.966**	**0.327**	**0.920**	**2.196**

Assessment of capital expenditure – Receipt and delivery points

292. As shown in Table 17, GGT proposed $0.331 million of capital expenditure within the receipt and delivery points asset class for the AA3 period. This was $0.703 million less than the capital expenditure for the receipt and delivery points asset class included in the AA3 final decision forecast capital expenditure.

293. The ERA has determined that $0.331 million of capital expenditure for receipt and delivery points assets during AA3 is conforming capital expenditure.

294. The AA3 final decision included forecast capital expenditure for ten projects within the receipt and delivery points asset class.

295. GGT's proposed capital expenditure for the receipt and delivery points asset class did not include capital costs for four projects included in the AA3 final decision capital expenditure forecast.[115] These were the hydrocarbon dewpoint monitoring, Leonora offtake battery upgrade, DBNGP-GGP interconnect C9 gas chromatograph and Apache-GGP interconnect C9 gas chromatograph.

[115] Goldfields Gas Transmission Pty Ltd, Goldfields Gas Pipeline, *Response to information request EMCa 22, 19 March 2019.*

296. GGT advised that the hydrocarbon dewpoint monitoring will not be undertaken within AA3 as no liquids-related issues have arisen at the GGP receipt points. GGT advised that the work for the DBNGP-GGP interconnect C9 gas chromatograph and Apache-GGP interconnect C9 gas chromatographs were to be carried out in association with a larger study for which delivery requirements were yet to be fully determined.[116] The regulatory asset base for AA3, therefore, does not include any conforming capital expenditure for these four projects.

297. As stated in paragraph 260, the AA3 final decision capital expenditure forecast included six separately-identified projects for flow computer upgrades.[117] GGT upgraded the Leonora offtake and Murrin Murrin flow computers during AA3, however, it identified that the latter was attributable to the Eastern Goldfields pipeline and therefore the proposed capital expenditure does not include costs for this flow computer. GGT also upgraded two additional flow computers, at Kalgoorlie south and Jundee, which were not included in the AA3 final decision capital expenditure forecast and it has proposed to include these in the regulatory asset base for AA3.

298. GGT included the proposed capital expenditure for the three flow computers upgraded during AA3 within the pipeline and laterals, receipt and delivery points and SCADA, communications and electronic equipment asset classes. The ERA evaluates the efficiency of the proposed capital expenditure for the three flow computers as a combined amount for this draft decision.

299. As stated in paragraph 264, based on the explanation supplied by GGT and the technical advice received, the ERA considers that the capital expenditure for the three flow computers that were upgraded during AA3 and that was allocated to the covered pipeline is necessary to maintain and improve the safety and integrity of the services and is, therefore, justifiable capital expenditure according to rule 79(1)(b) of the NGR.[118] The ERA also considers that the proposed capital expenditure for the flow computers is consistent with an amount that would be incurred by a service provider acting efficiently and consistent with good industry practice and therefore satisfies rule 79(1)(a) of the NGR. This includes the $0.147 million of capital expenditure included within the receipt and delivery points asset class.

300. GGT proposed $0.167 million capital expenditure for four projects for the GGP's Newman facilities that were not previously considered or included as part of the AA3 final decision capital expenditure forecast.[119] These projects covered work related to replacement of an obsolete flow computer on the site and other smaller work items.

301. Based on the explanations supplied by GGT for the four receipt and delivery point projects for the GGP's Newman facilities and the technical advice received, the capital expenditure for these items is necessary to maintain the integrity of the services and is, therefore, justifiable capital expenditure according to rule 79(1)(b) of

116 Goldfields Gas Transmission Pty Ltd, Goldfields Gas Pipeline, *Response to information request EMCa 22, 19 March 2019.* GGT has not supplied an explanation for why it did not expect to have incurred capital expenditure for the Leonora offtake battery upgrade during AA3.

117 These are the Leonora offtake flow computer upgrade, Murrin Murrin inlet flow computer upgrade, Paraburdoo flow computer 1 (fuel gas) upgrade, Ilgarari flow computer 1 (fuel gas) upgrade, Wiluna flow computer 1 (fuel gas) upgrade and Jeedamya scraper station flow computer 1 upgrade.

118 EMCa's opinion was that the proposed receipt and delivery points capital expenditure is likely to satisfy the criteria for conforming capital expenditure. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 150.

119 These projects were the Newman FC Install, Newman reference run USM install, Newman maintenance base crossover replacement and Newman gas lateral CPU relocation.

the NGR.[120] Based on the explanations supplied by GGT and the technical advice received, the proposed AA3 conforming capital expenditure for these items would be incurred by a prudent service provider acting efficiently and in accordance with good industry practice, and therefore satisfies rule 79(1)(a) of the NGR.

302. GGT also proposed conforming capital expenditure for smaller amounts for four other work items, which when combined total less than $0.020 million as shown in Table 22 below.[121] As stated in paragraph 243, the ERA's review of GGT's investment management processes concluded that these were consistent with common industry practice for businesses of similar complexity and similar levels of capital expenditure. This conclusion was based on technical advice from EMCa which included, among other advice, that GGT's processes for reporting and monitoring small variations in small expenditure items were adequate. Based on the explanations supplied by GGT for these four smaller items, the ERA's conclusions on GGT's investment management and governances processes and the technical advice received, the capital expenditure for these items is necessary to maintain the integrity of the services and is therefore justifiable capital expenditure according to rule 79(1)(b) of the NGR.[122] Further, the proposed AA3 conforming capital expenditure for these items would be incurred by a prudent service provider acting efficiently and in accordance with good industry practice, and therefore satisfies rule 79(1)(a) of the NGR.

303. The ERA is satisfied that the expenditure GGT has proposed to allocate to the covered pipeline for the receipt and delivery points projects has been allocated according to the cost allocation method set out in the AA3 final decision and therefore properly allocated as required by rule 79(6) of the NGR. As outlined in paragraphs 297 to 302, the ERA concludes that all of the projects comprising the proposed AA3 conforming capital expenditure for the receipt and delivery points asset class satisfy rule 79(1)(a) and 79(1)(b) of the NGR. Therefore, all the proposed AA3 conforming capital expenditure for the receipt and delivery points asset class satisfies the criteria for conforming capital expenditure under rule 79(1) of the NGR. The proposed $0.331 million for the receipt and delivery points asset class has, therefore, been included in the regulatory asset base for AA3.

304. The conforming capital expenditure included in the capital base for AA3 for receipt and delivery points assets is shown in Table 22 below.

120 EMCa's opinion was that the Newman facilities projects are likely to satisfy the criteria for conforming capital expenditure. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 150.

121 Murrin inlet flow computer upgrade, Murrin offtake station upgrade, Thunderbox offtake Programmable Logic Controller upgrade and Jundee flow control upgrade.

122 EMCa's opinion was that all the proposed receipt and delivery points capital expenditure is likely to satisfy the criteria for conforming capital expenditure. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 150.

Table 22 ERA Draft Decision conforming capital expenditure for receipt and delivery point asset class (AA3) ($ million nominal)

Project / Work item	2015	2016	2017	2018	2019	AA3 total
Flow computer upgrades (Leonora, Kalgoorlie South, Jundee)	-	-	-	0.147	0.000	0.147
Newman FC install	-	-	-	0.018	0.055	0.073
Newman reference run USM install	-	-	-	0.018	0.055	0.073
Newman maintenance base crossover replacement	-	-	-	0.003	0.008	0.010
Newman gas lateral CPU relocation	-	-	-	0.003	0.008	0.010
Murrin inlet flow computer upgrade	0.090	-0.089	-	-	-	0.000
Murrin offtake station upgrade	0.307	-0.306	-	-	-	0.001
Thunderbox offtake Programmable Logic Controller upgrade	0.015	-	-	-	-	0.015
Jundee flow control upgrade	-	-	0.001	-	-	0.001
Total conforming AA3 capital expenditure - Receipt & delivery points	**0.412**	**-0.395**	**0.001**	**0.188**	**0.126**	**0.331**

Assessment of capital expenditure – SCADA, communications and electronic equipment

305. As shown in Table 17, GGT proposed $2.135 million of capital expenditure within the SCADA, communications and electronic equipment asset class for the AA3 period. This was $1.619 million more than the capital expenditure for the SCADA, communications and electronic equipment asset class included in the AA3 final decision forecast capital expenditure.

306. The ERA has determined that $2.056 million of capital expenditure for SCADA, communications and electronic equipment assets during AA3 is conforming capital expenditure.

307. The capital expenditure included in the forecast in the AA3 final decision covered 18 work items. GGT's proposed AA3 conforming capital expenditure comprised mainly costs for one of these projects, the national satellite SCADA project, and small additional projects not included in the AA3 final decision forecast capital expenditure.

308. The AA3 final decision forecast included $0.201 million for the national satellite SCADA project. GGT proposed to include $1.887 million for this project in the AA3 regulatory asset base, which equated to an excess of $1.686 million above the AA3 forecast costs. GGT advised that these costs were for upgrades to the GGP's IT and communications equipment needed because the vendor for the system stopped supporting the software and satellites. As a result, the operational control of the GGP's SCADA system was moved to the APA Group's platform.

309. The ERA's technical advisor EMCa stated that, due to the critical nature of SCADA systems to pipeline operations, the SCADA services obtained as a result of the national satellite SCADA project needed to be retained.[123]

310. Based on GGT's explanation for the overspend on the national satellite SCADA project, and the technical advice received, the capital expenditure for this project conforms with rule 79(1)(b) of the NGR as it is necessary to maintain the integrity of the pipeline services, which is a ground for justification of capital expenditure under rule 79(2)(c)(ii) of the NGR. Based on review of GGT's explanation for the expenditure and the technical advice received from EMCa,[124] the ERA is satisfied that the work covered by this expenditure would be incurred by a prudent service provider acting efficiently and in accordance with good industry practice and that the capital expenditure therefore satisfies rule 79(1)(a) of the NGR.

311. As shown in Table 23, other than the national satellite SCADA project, GGT's proposed conforming capital expenditure also included smaller amounts for other minor items within the SCADA, communications and electronic equipment asset class, each of which was below $0.100 million for the period.

312. GGT has included the following projects as part of its proposed capital expenditure for the SCADA, communications and electronic equipment asset class which were included in the AA3 final decision forecast capital expenditure under other asset classes:

- Yarraloola gas engine alternator Programmable Logic Controller upgrade, which was included in the AA3 final decision forecast capital expenditure within the compressor stations asset class.
- Ilgarari gas engine alternator Programmable Logic Controller upgrade, which was included in the AA3 final decision forecast capital expenditure within the compressor stations asset class.
- Ilgarari unit backplane upgrade, which was included in the AA3 final decision forecast capital expenditure within the compressor stations asset class.
- Leonora offtake flow computer, which was included in the AA3 final decision forecast capital expenditure within the receipt and delivery point facilities asset class.

313. GGT explained that the proposed capital expenditure for the assets listed in paragraph 312 was allocated to more than one asset class because, in operation, these assets interacted with more than one part of the distribution system. For example, the flow computers measure the energy flows at receipt and delivery points and are, therefore, receipt and delivery points facilities. The communication of data to and from the flow computers occurs through the GGP's SCADA system. Part of the receipt and delivery point facilities are the electronic devices which provide communication with the SCADA system and therefore part of the capital expenditure for these assets can be allocated to the SCADA, communications and electronic equipment asset class.[125]

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123 Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 148.

124 Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 148.

125 Goldfields Gas Transmission Pty Ltd, Goldfields Gas Pipeline, *Response to information request EMCa 22, 16 July 2019.*

314. As stated in paragraph 281, the ERA maintains its view from the AA3 final decision that the Yarraloola gas engine alternator Programmable Logic Controller upgrade, Ilgarari gas engine alternator Programmable Logic Controller upgrade and Ilgarari unit backplane upgrade projects are in accordance with good industry practice, as required by rule 79(1)(a) of the NGR, and that these projects are necessary to maintain the integrity of services and therefore satisfy rule 79(1)(b). GGT did not supply an explanation when requested for the cost overrun on these projects. Based on the information reviewed, the ERA considers that the AA3 final decision capital expenditure forecast for these projects is the best estimate of the capital expenditure for these projects that would be incurred by a prudent service provider acting efficiently, as required by rule 79(1)(c). The proposed capital expenditure in excess of the AA3 final decision combined capital expenditure forecast for these projects has therefore been excluded from the AA3 regulatory asset base, including the proposed capital expenditure within the SCADA, communications and electronic equipment asset class for these projects. This includes $0.023 million proposed capital expenditure for the Yarraloola gas engine alternator Programmable Logic Controller upgrade, $0.017 million proposed capital expenditure for the Ilgarari gas engine alternator Programmable Logic Controller upgrade and $0.039 million proposed capital expenditure for the Ilgarari unit backplane upgrade.[126]

315. As stated in paragraph 260 and 298, GGT has included the proposed capital expenditure for the three flow computers upgraded during AA3 within the pipeline and laterals, receipt and delivery points and SCADA, communications and electronic equipment asset classes. The ERA has evaluated the efficiency of the proposed capital expenditure for the three flow computers as a combined amount for this draft decision.

316. As stated in paragraph 264 and 299, based on the explanation supplied by GGT and the technical advice received, the ERA considers that the capital expenditure for the three flow computers that were upgraded during AA3 and that was allocated to the covered pipeline is necessary to maintain and improve the safety and integrity of the services and is, therefore, justifiable capital expenditure according to rule 79(1)(b) of the NGR.[127] The ERA also considers that the proposed capital expenditure for the flow computers is consistent with an amount that would be incurred by a service provider acting efficiently and consistent with good industry practice and therefore satisfies rule 79(1)(a) of the NGR. This includes the $0.099 million of proposed capital expenditure for the Leonora offtake flow computer included within the SCADA, communications and electronic equipment asset class.

317. GGT has included the following projects as part of its proposed capital expenditure for the SCADA, communications and electronic equipment asset class which were not included in the AA3 final decision forecast capital expenditure:

- SCADAPack software ($0.004 million)
- Yarraloola DNP3 computer ($0.067 million)

318. The ERA considers that the proposed capital expenditure items identified in paragraph 317 are of such a nature that the capital expenditure is justifiable to maintain the integrity of the services, which is a justifiable ground for capital

[126] As stated in paragraph XX, $0.188 million of proposed capital expenditure for the programmable logic within the For the same reason, the

[127] EMCa's opinion was that the proposed receipt and delivery points capital expenditure is likely to satisfy the criteria for conforming capital expenditure. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 150.

expenditure under rule 79(2)(c)(ii) of the NGR. These items therefore satisfy rule 79(1)(b) of the NGR. As stated in paragraph 243, the ERA's review of GGT's investment management processes concluded that these are consistent with common industry practice for businesses of similar complexity and similar levels of capital expenditure. This conclusion was based on technical advice from EMCa which included, among other advice, that GGT's processes for reporting and monitoring small variations in small expenditure items were adequate. The ERA is therefore satisfied that the capital expenditure proposed for the SCADAPack software and Yarraloola DNP3 computer would be incurred by a service provider acting efficiently and in accordance with good industry practice. The capital expenditure for these items, therefore, satisfies rule 79(1)(a) of the NGR.

319. The ERA is satisfied that the capital expenditure GGT has proposed to allocate to the covered pipeline for the SCADA, communications and electronic equipment asset class has been allocated according to the cost allocation method set out in the AA3 final decision and therefore properly allocated as required by rule 79(6) of the NGR. As outlined in paragraphs to 310 to 317, the ERA concludes that $2.056 million of the proposed AA3 conforming capital expenditure for the SCADA, communications and electronic equipment asset class satisfies rule 79(1)(a) and 79(1)(b) of the NGR. Therefore, $2.056 million of the proposed AA3 conforming capital expenditure for the SCADA, communications and electronic equipment asset class satisfies the criteria for conforming capital expenditure under rule 79(1) of the NGR and has been included in the regulatory asset base for AA3.

320. The conforming capital expenditure included in the capital base for AA3 for the SCADA, communications and electronic equipment assets is shown in Table 23 below.

Table 23 ERA Draft Decision conforming capital expenditure for SCADA, communications and electronic equipment asset class (AA3) ($ million nominal)

Project / Work item	2015	2016	2017	2018	2019	AA3 total
Yarraloola gas engine alternator Programmable Logic Controller upgrade	-	-	-	-	-	-
Ilgarari gas engine alternator Programmable Logic Controller upgrade	-	-	-	-	-	-
Leonora offtake flow computer	0.093	0.005	0.001	-	-	0.099
Ilgarari unit backplane upgrade	-	-	-	-	-	-
SCADAPack Software	0.004	-	-	-	-	0.004
Yarraloola DNP3 Convertor	-	0.067	-	-	-	0.067
National satellite SCADA project	0.795	0.917	0.064	0.110	-	1.887
Total conforming AA3 capital expenditure – SCADA, communications and electronic equipment	**0.892**	**0.990**	**0.065**	**0.110**	**-**	**2.056**

Assessment of capital expenditure – Cathodic protection

321. As shown in Table 17, GGT proposed $0.075 million of capital expenditure within the cathodic protection asset class for AA3. This was $0.168 million less than the capital

expenditure for the cathodic protection equipment class included in the AA3 final decision forecast capital expenditure.

322. The ERA has determined that $0.075 million of capital expenditure for cathodic protection assets during AA3 is conforming capital expenditure.

323. The AA3 final decision included forecast capital expenditure for four projects within the cathodic protection asset class. GGT expected to have incurred costs allocable to the covered pipeline for one of these projects, cathodic protection power supply replacements, within AA3.

324. The cathodic protection power supply replacements were carried out during AA3 for $0.075 million. GGT advised that the actual costs for this work exceeded the amount included in the AA3 final decision forecast capital expenditure due to the need to avoid power supply failure to the corrosion protection. While the proposed conforming capital expenditure for the cathodic protection power supply replacements exceeds the amount included in the AA3 final decision capital expenditure forecast the variance ($0.017 million) is relatively small. The ERA considers that the total amount incurred, being close to the final decision forecast, would be incurred by a prudent service provider acting efficiently. The ERA considers that carrying out the cathodic protection power supply replacements during AA3 is consistent with good industry practice.[128] The cathodic protection power supply replacements, therefore, satisfy rule 79(1)(a) of the NGR.

325. The cathodic protection power supply replacements are justifiable to maintain the integrity of services, which is a justifiable ground for capital expenditure under rule 79(2)(c)(i) of the NGR. The cathodic protection power supply replacements capital expenditure, therefore, satisfies rule 79(1)(b) of the NGR.

326. The ERA is satisfied that the amount of the expenditure GGT has proposed to allocate to the covered pipeline for the cathodic protection power supply replacements has been allocated according to the cost allocation method set out in the AA3 final decision and, therefore, is properly allocated as required by rule 79(6) of the NGR.

327. Given that the cathodic protection power supply replacement work satisfies the criteria for conforming capital expenditure set out in rule 79(1) of the NGR, the proposed capital expenditure for this has been included in the regulatory asset base for AA3.

328. GGT advised that it did not expect to undertake any work within AA3 for the three other projects included in the AA3 final decision forecast capital expenditure. These were the cathodic protection telemetry for KP670 project, cathodic protection surge diverter upgrades and cathodic protection insulation joint surge protection upgrade. GGT advised that the first project was relatively low priority work which was deferred and the scope of work for the other two projects decreased as GGT identified during AA3 that major surge protection upgrades were not required. No capital expenditure for the above projects has been included in the regulatory asset base for AA3.

329. The conforming capital expenditure included in the capital base for AA3 for cathodic protection assets is shown in Table 24 below.

[128] This conclusion is supported by EMCa's opinion was that all the cathodic protection power supply replacements were likely to satisfy the criteria for conforming capital expenditure. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 161.

Table 24 ERA Draft Decision conforming capital expenditure for cathodic protection asset class (AA3) ($ million nominal)

Project / Work item	2015	2016	2017	2018	2019	AA3 total
Cathodic protection power supply replacements	-	-	-	-	0.075	0.075
Total conforming AA3 capital expenditure - Cathodic protection	**-**	**-**	**-**	**-**	**0.075**	**0.075**

Assessment of capital expenditure – Maintenance bases and depots

330. As shown in Table 17, GGT proposed $0.357 million of capital expenditure within the maintenance bases and depots asset class for the AA3 period. This was $0.190 million more than the capital expenditure for the maintenance bases and depots asset class included in the AA3 final decision forecast capital expenditure.

331. The ERA has determined that $0.357 million of capital expenditure for the maintenance bases and depots asset class during AA3 is conforming capital expenditure.

332. Within the maintenance bases and depots asset class, the AA3 final decision included $0.275 million of capital expenditure for one project, the Karratha maintenance base rebuild. GGT has not incurred any expenditure for the rebuild to date but expected to incur $0.275 million for this work by the end of AA3 and has included this expected amount as proposed conforming capital expenditure for AA3.

333. The conforming capital expenditure proposed for the Karratha maintenance base rebuild for AA3 is the same as the AA3 final decision forecast amount, while the scope of the work is unchanged from the original scope. The ERA, therefore, considers that the conforming capital expenditure proposed for the Karratha maintenance base rebuild for AA3 would be incurred by a prudent service provider acting efficiently as required by rule 79(1) of the NGR. The ERA considers the work covered by the Karratha maintenance base rebuild is in accordance with good industry practice.[129] The proposed Karratha maintenance base rebuild capital expenditure therefore satisfies rule 79(1)(a) of the NGR.

334. The Karratha maintenance base rebuild is justifiable to maintain the integrity of services, which is a justifiable ground for capital expenditure under rule 79(2)(c)(i) of the NGR. The Karratha maintenance base rebuild capital expenditure, therefore, satisfies rule 79(1)(b) of the NGR.

335. GGT sought to include small amounts of capital expenditure totalling $0.072 million[130] in the AA3 regulatory asset base which were not included in the AA3 final decision forecast capital expenditure. GGT advised that these costs were all for work that was unforeseen and therefore not budgeted for previously. These work items were:

- Paraburdoo accommodation upgrade ($0.001 million)
- Newman base vehicle sun protection ($0.015 million)

[129] This conclusion is supported by EMCa's opinion was that the proposed maintenance bases and depots capital expenditure was likely to satisfy the criteria for conforming capital expenditure. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 164.

[130] Nominal dollars.

- Newman base waste oil ($0.020 million)
- Leinster Base workshop recladding ($0.021 million)
- Central Accommodation Upgrade (Leonora) ($0.014 million).

336. The ERA considers that these five items are of such a nature that the capital expenditure is justifiable to maintain the integrity of the services, which is a justifiable ground for capital expenditure under rule 79(2)(c)(ii) of the NGR. These five items, therefore, satisfy rule 79(1)(b) of the NGR.

337. The ERA is satisfied that these five expenditure items would be incurred by a service provider acting efficiently and in accordance with good industry practice. As stated in paragraph 243, the ERA's review of GGT's investment management processes concluded that these are consistent with common industry practice for businesses of similar complexity and similar levels of capital expenditure. This conclusion was based on technical advice from EMCa which included, among other advice, that GGT's processes for reporting and monitoring small variations in small expenditure items were adequate. The capital expenditure for the five expenditure items identified in paragraph 335 therefore satisfies rule 79(1)(a) of the NGR.

338. The ERA is satisfied that the expenditure GGT has proposed to allocate to the covered pipeline for the Karratha maintenance base rebuild and the five smaller items listed in paragraph 253 have been allocated according to the cost allocation method set out in the AA3 final decision and, therefore, is properly allocated as required by rule 79(6) of the NGR.

339. It follows from the conclusions outlined in paragraphs 333 to 338 that all the AA3 capital expenditure proposed by GGT as conforming capital expenditure within the maintenance bases and depots asset class satisfies the criteria for conforming capital expenditure set out at rule 79(1) of the NGR. All the proposed capital expenditure within the maintenance bases and depots asset class has, therefore, been included in the capital base for AA3.

340. The conforming capital expenditure included in the capital base for AA3 for the maintenance bases and depots asset class is shown in Table 25.

Table 25 ERA Draft Decision conforming capital expenditure for the maintenance bases and depots asset class (AA3) ($ million nominal)

Project / Work item	2015	2016	2017	2018	2019	AA3 total
Karratha maintenance base	-0.022	-	-	-	0.297	0.275
Leinster base workshop recladding	-	-	-	0.005	0.016	0.021
Central accommodation upgrade (Leonora)	-	-	-	0.014	-	0.014
Paraburdoo accommodation upgrade	0.001	-	-	-	-	0.001
Newman base vehicle sun protection	0.016	-	-	-	-	0.016
Newman base waste oil storage	0.020	-	-	-	-	0.020
Total conforming AA3 capital expenditure – Maintenance bases and depots	**0.025**	**-**	**-**	**0.019**	**0.313**	**0.357**

Assessment of capital expenditure – Other depreciable assets

341. As shown in Table 17, GGT proposed $0.858 million of capital expenditure within the other depreciable assets asset class for the AA3 period. This was $0.237 million more than the capital expenditure for other depreciable assets included in the AA3 final decision forecast capital expenditure.

342. The ERA has determined that $0.858 million of capital expenditure for other depreciable assets during AA3 is conforming capital expenditure.

343. The AA3 final decision included forecast capital expenditure for two work items, being minor capital items and enterprise asset management.

344. GGT advised that, although the enterprise asset management system was purchased by APA during AA3, the costs of the system were not allocated in the way originally anticipated. Under the allocation method applied within the APA Group, none of the costs of the system have been allocated to the GGP. GGT was, therefore, not proposing to include any costs for the system in its AA3 regulatory asset base and the ERA has likewise not included any.

345. The AA3 final decision included forecast capital expenditure for minor capital items of $0.086 million. GGT proposed to include $0.133 million in the AA3 regulatory asset base for capital expenditure for miscellaneous capital items such as signage, tools and gas detectors. Additionally, GGT also proposed to include small amounts of conforming capital expenditure for seven other separately identified items within the other depreciable assets asset class including the SSIR – GGP upgrade ($0.025 million),[131] On-line SIM ($0.032 million),[132] Newman maintenance base concrete cross overs ($0.024 million), replacement lighting towers ($0.039 million), Yarraloola unit Programmable Logic Controller back plane ($0.015 million), direct current voltage gradient survey ($0.004 million), and miscellaneous capital financial year 2018 ($0.017 million).

346. The ERA considers that these proposed capital expenditure items identified in paragraph 345 are of such a nature that the capital expenditure is justifiable to maintain the integrity of the services, which is a justifiable ground for capital expenditure under rule 79(2)(c)(ii) of the NGR. These items therefore satisfy rule 79(1)(b) of the NGR. As stated in paragraph 243, the ERA's review of GGT's investment management processes concluded that these are consistent with common industry practice for businesses of similar complexity and similar levels of capital expenditure. This conclusion was informed by technical advice from EMCa which included, among other advice, that GGT's processes for reporting and monitoring small variations in small expenditure items were adequate. The ERA is therefore satisfied that these smaller capital expenditure items within the other depreciable assets asset class would be incurred by a service provider acting

131 SSIR is SCADA Satellite Infrastructure Refresh. This was work attributable to the GGP following SCADA system upgrading, and appointment of a new satellite communications service provider. It involved clear delineation of the boundaries between APA's SCADA facilities at critical sites, and the communications service provider's facilities, to ensure the appropriate party responded to equipment faults which caused a loss of data used for the control of pipeline operations.

132 A pipeline simulation model has been purchased for GGP. The model is "real-time", for operations management, and not a static flow model of the type used in pipeline capacity planning. It allows dynamic analysis of gas flow and line pack under different operating conditions, to determine flows to delivery points, and "survival time" in the event of an incident (such as compressor unit failure) disrupting gas flow at any point along the pipeline. Real time flow management has become increasingly important as the capacity of the GGP has been fully contracted, and flow rates have risen.

efficiently and in accordance with good industry practice. It follows that the capital expenditure for these items satisfies rule 79(1)(a) of the NGR.

347. GGT proposed to include larger amounts of capital expenditure for the following projects in the AA3 regulatory asset base which were not included in the AA3 final decision forecast capital expenditure:

- Heavy commercial vehicle replacement (proposed capital expenditure $0.426 million) – Costs for heavy vehicles for the Karratha, Newman, Leinster and Kalgoorlie sites. GGT stated that it overlooked including these vehicles as part of proposed capital expenditure during the AA3 access arrangement preparation.
- Condition-based replacement (proposed capital expenditure $0.145 million) - Initial costs of work on compressor station power supply system replacements identified from reliability and criticality reviews carried out by GGT in 2018.

348. The heavy commercial vehicle replacement is justifiable for the reason that it is necessary to maintain the integrity of the services, which is a justifiable ground for capital expenditure under rule 79(2)(c)(ii) of the NGR.[133] The proposed heavy commercial vehicle replacement capital expenditure therefore satisfies rule 79(1)(b) of the NGR.

349. The heavy commercial vehicle replacement is expenditure that would be incurred by a prudent service provider acting efficiently and in accordance with accepted good industry practice and therefore satisfies rule 79(1)(a) of the NGR.[134]

350. The condition-based replacement capital expenditure is justifiable for the reason that it is necessary to maintain the integrity of the services, which is a justifiable ground for capital expenditure under rule 79(2)(c)(ii) of the NGR.[135] The proposed condition-based replacement capital expenditure therefore satisfies rule 79(1)(b) of the NGR.

351. The condition-based replacement capital expenditure is expenditure that would be incurred by a prudent service provider acting efficiently and in accordance with accepted good industry practice and therefore satisfies rule 79(1)(a) of the NGR.[136]

352. The ERA is satisfied that the proposed capital expenditure for the other depreciable assets asset class has been allocated according to the cost allocation method set out in the AA3 final decision and, therefore, has been properly allocated as required by rule 79(6)(c) of the NGR. As outlined in paragraphs 345 to 351, the ERA concludes that all items of proposed capital expenditure for this asset class satisfy the criteria for conforming capital expenditure set out by rule 79(1)(a) and 79(1)(b) of the NGR. Therefore, all the capital expenditure items proposed by GGT for other depreciable assets for AA3, totalling $0.858 million, satisfy the criteria for conforming capital

133 The ERA's view on this point is supported by EMCa's technical advice, which is that the heavy commercial vehicle replacement is likely to satisfy the conforming capital expenditure criteria. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 162.

134 The ERA's view on this point is supported by EMCa's technical advice, which is that the heavy commercial vehicle replacement is likely to satisfy the conforming capital expenditure criteria. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 162.

135 The ERA's view on this point is supported by EMCa's technical advice view, which is that the condition-based replacement is likely to satisfy the conforming capital expenditure criteria. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 162.

136 The ERA's view on this point is aligned with EMCa's view, which is that the condition-based replacement is likely to satisfy the conforming capital expenditure criteria. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 162.

expenditure set out in rule 79(1) of the NGR and have been included in the regulatory asset base for AA3.

353. The conforming capital expenditure included in the capital base for AA3 for the other depreciable assets asset class is shown in Table 26 below.

Table 26 ERA Draft Decision conforming capital expenditure for the other depreciable assets asset class (AA3) ($ million nominal)

Project / Work item	2015	2016	2017	2018	2019	AA3 total
Condition-based replacement	0.013	—	—	0.059	0.073	0.145
SSIR - GGP upgrade	—	—	—	0.006	0.019	0.025
On-line SIM	—	—	—	—	0.032	0.032
Leinster/Karratha trucks	—	0.317	—	0.027	0.082	0.426
Newman maintenance base concrete cross overs	—	—	—	0.024	—	0.024
Miscellaneous capital - GGT tools, gas detectors etc	-0.000	0.005	0.103	0.006	0.019	0.133
Replacement lighting towers	0.039	—	—	—	—	0.039
Yarraloola unit Programmable Logic Controller back plane	0.015	—	—	—	—	0.015
Direct current voltage gradient survey	—	—	0.004	—	—	0.004
Miscellaneous capital financial year 2018	—	—	0.017	—	—	0.017
Total conforming AA3 capital expenditure - Other depreciable assets	0.067	0.321	0.124	0.122	0.224	0.858

Required amendments

354. Based on the discussion and conclusions outlined in paragraphs 241 to 353, the ERA has determined that the conforming capital expenditure for AA3 is as shown in Table 27.

Table 27 ERA Draft Decision conforming capital expenditure for AA3 ($ million nominal)

Project / Work item	2015	2016	2017	2018	2019	AA3 total
Pipeline and laterals	1.766	0.492	0.276	0.065	-	2.599
MLV and scraper stations	0.110	0.001	-	-	-	0.111
Compressor stations	-0.016	-	0.966	0.327	0.919	2.196
Receipt and delivery points	0.412	-0.395	0.001	0.188	0.126	0.331
SCADA, communications and electronic equipment	0.892	0.990	0.065	0.110	-	2.056
Cathodic protection	-	-	-	-	0.075	0.075
Maintenance bases and depots	0.025	-	-	0.019	0.313	0.357
Other depreciable assets	0.067	0.321	0.124	0.122	0.224	0.858
Non-depreciable assets	-	-	-	-	-	-
Total conforming AA3 capital expenditure - All asset classes	3.255	1.409	1.432	0.831	1.657	8.584

355. Table 28 shows the ERA's amended values for calculating the opening capital base for the fourth access arrangement period. The ERA requires that the opening capital base at 1 January 2020 be amended to $362.929 million.

Table 28 ERA's amended opening capital base at 1 January 2020 ($ million real at 31 December 2018)

	2015	2016	2017	2018	2019
Opening capital base AA3	407.674	403.630	393.541	383.426	372.707
Plus: capital expenditure	3.400	1.393	1.396	0.775	1.588
Less: Depreciation	7.444	11.482	11.511	11.494	11.366
Less: Asset disposals	0.000	0.000	0.000	0.000	0.000
Opening capital base for AA4	403.630	393.541	383.426	372.707	362.929

Source: ERA analysis. Some numbers may not add due to rounding.

Required Amendment 4

GGT must amend the opening capital base at 1 January 2020 to reflect the values set out in Table 28 of this draft decision.

Projected capital base

356. Rule 78 of the NGR establishes how to determine the projected capital base for a particular period.

> **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.

357. Rule 79 of the NGR sets out the new capital expenditure criteria and defines conforming capital expenditure:

> **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; and
>
> (b) the capital expenditure must be justifiable on a ground stated in subrule (2); and
>
> (c) the capital expenditure must be for expenditure that is properly allocated in accordance with the requirements of subrule (6).
>
> (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 two 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.

358. Rule 93 is as follows:

93 Allocation of total revenue and costs

(1) Total revenue is to be allocated between reference and other services in the ratio in which costs are allocated between reference and other services.

(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]…

359. 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.

GGT's Proposal

360. GGT's initial access arrangement revision submission proposed a projected capital base for AA4 of $369.39 million at 31 December 2024.

Table 29 GGT's proposed projected capital base for AA4 ($ million nominal)

	2020	2021	2022	2023	2024
Opening capital base	380.521	383.467	380.467	376.611	371.995
Capital expenditure	7.389	2.558	2.187	1.857	3.162
Depreciation	(4.453)	(5.548)	(6.043)	(6.473)	(5.770)
Asset disposals	-	-	-	-	-
Closing capital base	383.467	380.467	376.611	371.995	369.39

Source: Goldfields Gas Transmission Pty Ltd, PUBLIC AA tariff model 2020-2024 (1-Jan-2019), 21 December 2018.

361. GGT's proposed capital expenditure by asset class for AA4, as included in its initial access arrangement revision submission, is shown in Table 30 in nominal dollars and in Table 31 in real dollars at 31 December 2018.

Table 30 GGT proposed AA4 capital expenditure ($ million nominal)

	2020	2021	2022	2023	2024	Total
Pipeline and laterals	0.40	-	-	-	0.22	0.62
MLV and scraper stations	-	-	-	-	-	-
Compressor stations	1.76	0.34	1.18	0.23	2.03	5.55
Receipt and delivery points	-	-	-	-	-	-
SCADA, communications and electronic equipment	0.99	1.69	0.65	1.14	0.85	5.33
Cathodic protection	0.24	0.19	0.35	0.48	0.06	1.32
Maintenance bases and depots	4.00	0.34	-	-	-	4.33
Other depreciable assets	-	-	-	-	-	0
Non-depreciable assets	-	-	-	-	-	0
Total	**7.39**	**2.56**	**2.19**	**1.86**	**3.16**	**17.15**

Source: Goldfields Gas Transmission Pty Ltd, PUBLIC AA tariff model 2020-2024 (1-Jan-2019), 21 December 2018.

Table 31 GGT proposed AA4 capital expenditure ($ million real at 31 December 2018)

	2020	2021	2022	2023	2024	Total
Pipeline and laterals	0.385	-	-	-	0.200	0.585
MLV and scraper stations	-	-	-	-	-	-
Compressor stations	1.700	0.325	1.100	0.210	1.815	5.150
Receipt and delivery points	-	-	-	-	-	-
SCADA, communications and electronic equipment	0.954	1.599	0.606	1.043	0.759	4.961
Cathodic protection	0.231	0.176	0.325	0.440	0.055	1.227
Maintenance bases and depots	3.850	0.320	-	-	-	4.170
Other depreciable assets	-	-	-	-	-	-
Non-depreciable assets	-	-	-	-	-	-
Total	**7.120**	**2.420**	**2.031**	**1.693**	**2.829**	**16.093**

Source: Goldfields Gas Transmission Pty Ltd, PUBLIC AA tariff model 2020-2024 (1-Jan-2019), 21 December 2018.

362. The ERA requested GGP to confirm whether the proposed capital expenditure included in the initial access arrangement revision submission reflected the forecast capital expenditure for the covered pipeline only, or for the whole GGP including the covered and uncovered pipelines. GGP's response explained that a significant proportion of the proposed capital expenditure for AA4 included in the initial access arrangement revision submission had not been allocated correctly between the covered pipeline and uncovered GGP assets. GGP's response included new proposed amounts for its forecast AA4 capital expenditure which GGP stated reflected the cost allocation method outlined in paragraph 249.[137] These proposed amounts are shown in Table 33 in nominal dollars and in Table 32 in real dollars as at 31 December 2018. The ERA's evaluation of GGP's proposed AA4 capital expenditures is based on these amounts[138], though where relevant may refer to amounts and unit costs based on the initial proposed amounts as part of the analysis.

[137] E-mail from Goldfields Gas Transmission Pty Ltd dated 19 July 2019, *GGP Access Arrangement revision: allocation of CAPEX to Covered Pipeline.*

[138] These are the amounts allocated to the covered pipeline shown in Excel workbook *20190718 AA CAPEX Forecast 2020 – 2024 revised*, attached to the e-mail from Goldfields Gas Transmission Pty Ltd dated 19 July 2019, *GGP Access Arrangement revision: allocation of CAPEX to Covered Pipeline*.

Table 32 GGT proposed capital expenditure for AA4 - Revised submission ($ million real at 31 December 2018)

	2020	2021	2022	2023	2024	Total AA4
Pipeline and laterals	0.266	-	-	-	0.139	0.405
MLV and scraper stations	-	-	-	-	-	-
Compressor stations	1.138	0.183	0.832	0.069	1.219	3.441
Receipt and delivery points	0.204	0.749	0.137	-	-	1.090
SCADA, communications and electronic equipment	0.376	0.170	0.279	0.724	0.527	2.076
Cathodic protection	0.160	0.121	0.224	0.306	0.038	0.848
Maintenance bases and depots	2.662	0.220	-	-	-	2.882
Other depreciable assets	-	-	-	-	-	-
Non-depreciable assets	-	-	-	-	-	-
Total	**4.806**	**1.443**	**1.472**	**1.099**	**1.923**	**10.743**

Source: Workbook *20190718 AA CAPEX Forecast 2020 – 2024 revised*, attached to e-mail from Goldfields Gas Transmission Pty Ltd dated 19 July 2019, *GGP Access Arrangement revision: allocation of CAPEX to Covered Pipeline.*

Table 33 GGT proposed capital expenditure for AA4 - Revised submission (nominal dollars)

	2020	2021	2022	2023	2024	Total
Pipeline and laterals	0.276	-	-	-	0.155	0.431
MLV and scraper stations	-	-	-	-	-	-
Compressor stations	1.181	0.193	0.896	0.076	1.362	3.709
Receipt and delivery points	0.212	0.791	0.148	-	-	1.151
SCADA, communications and electronic equipment	0.390	0.180	0.301	0.795	0.589	2.254
Cathodic protection	0.166	0.128	0.241	0.335	0.043	0.913
Maintenance bases and depots	2.762	0.233	-	-	-	2.995
Other depreciable assets	-	-	-	-	-	-
Non-depreciable assets	-	-	-	-	-	-
Total	**4.987**	**1.525**	**1.585**	**1.206**	**2.149**	**11.453**

Source: Workbook *20190718 AA CAPEX Forecast 2020 – 2024 revised*, attached to e-mail from Goldfields Gas Transmission Pty Ltd dated 19 July 2019, *GGP Access Arrangement revision: allocation of CAPEX to Covered Pipeline.*

363. GGT's proposed capital expenditure comprised the sum of the forecast costs of several capital projects. The proposed capital projects consisted of projects for renewing and upgrading parts of the covered pipeline, rather than growth expenditures. The projects included in the proposed capital expenditure are discussed below as part of the ERA's draft decision considerations.

364. GGT's proposed AA4 capital expenditure is 19.87 per cent higher than its AA3 proposed conforming capital expenditure in real terms, as shown in Table 34 below. There are significant differences between the proposed AA4 capital expenditure and AA3 proposed conforming capital expenditure on an asset class level.

Table 34 GGT proposed AA4 capital expenditure and AA3 proposed conforming capital expenditure ($ million real at 31 December 2018)

	AA4 proposed capital expenditure	AA3 proposed conforming capital expenditure	Difference ($)	Difference (%)
Pipeline and laterals	0.405	2.599	- 2.194	- 84.42%
Main line valve and scraper stations	-	0.111	- 0.111	- 100.00%
Compressor stations	3.441	2.496	0.945	37.87%
Receipt and delivery point facilities	1.090	0.331	0.759	229.40%
SCADA, communications and electronic equipment	2.076	2.135	- 0.059	- 2.74%
Cathodic protection	0.848	0.075	0.773	1031.13%
Maintenance bases and depots	2.882	0.357	2.525	707.22%
Other depreciable assets	-	0.858	- 0.858	- 100.00%
Non-depreciable assets	-	-	-	-
Total	**10.743**	**8.962**	**1.781**	**19.87%**

Source: ERA analysis based on *Workbook 20190718 AA CAPEX Forecast 2020 – 2024 revised,* attached to e-mail from Goldfields Gas Transmission Pty Ltd dated 19 July 2019, *GGP Access Arrangement revision: allocation of CAPEX to Covered Pipeline* and Goldfields Gas Transmission Pty Ltd, *Goldfields Gas Pipeline Proposed Revised Access Arrangement Information,* 21 December 2018, p. 10, Table 7.

Draft Decision

365. The following assessment of GGT's proposed capital expenditure for AA4 has been undertaken in accordance with the NGR using a four-step framework:

- Consider whether the expenditure satisfies the prudent service provider test set out in rule 79(1)(a) of the NGR.

- Evaluate whether the expenditure is justifiable on the grounds set out in rule 79(2) of the NGR, which states that 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 two 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).

- Assess whether forecasts or estimates comply with rule 74(2) of the NGR.

- Ensure that only capital expenditure for the covered pipeline is included as conforming capital expenditure (rule 79 of the NGR).

366. As stated in paragraph 242, the ERA's assessment of GGT's proposed forecast capital expenditure for AA4 also considered GGT's governance and investment management framework and assessed how the framework applied to actual capital expenditure during AA3. The ERA's view is that while GGT has investment management processes in place that are consistent with common industry practice for businesses with similar levels of complexity and capital expenditure, GGT's history of overestimating its capital expenditure forecasts implies that its capital expenditure forecasting processes are not producing reliable forecasts. This was taken into account when evaluating GGT's proposed capital expenditure for AA4.

367. EMCa's technical advice regarding GGT's governance and investment management framework supports the ERA's view. EMCa found that GGT provided evidence of a governance process that provides progressive and iterative review of proposed expenditure in development of its AA4 proposal but was not satisfied that it was an effective process. EMCa found that GGT did not provide information in its AA4 proposal documentation or in its responses to information requests to demonstrate that it had taken effective steps to improve its capital expenditure forecasting accuracy.[139]

368. As stated in paragraph 248, the ERA considers that the allocation of costs between the covered and uncovered pipeline, as set out in the final decision for AA3, provides a means for allocating capital expenditure between services provided by means of the covered and uncovered pipelines of the GGP that is consistent with rule 79(6), and by implication rule 93, of the NGR.[140] The ERA's assessment of the capital expenditure GGT proposes for AA4, therefore, examines whether the forecast capital

[139] Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraphs 62 and 106.

[140] Economic Regulation Authority, Final Decision on Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline, 21 July 2016, paragraphs 1974 – 1991.

expenditure has been allocated to the covered pipeline consistent with this cost allocation method.

369. The ERA considered information provided by GGT and technical advice from EMCa to determine the amount of capital expenditure which meets the requirements of the NGR.

Pipeline and laterals

370. GGT's proposed AA4 conforming capital expenditure includes $0.405 million of capital expenditure in the pipeline and laterals asset class. This comprised capital expenditure for two projects:

- verification digs program
- preparation for inline inspection.

371. Table 35 shows the proposed capital expenditure for pipelines and laterals for AA4.

Table 35 Proposed AA4 capital expenditure for pipelines and laterals asset class ($ million real at 31 December 2018)

	2020	2021	2022	2023	2024	Total
Verification digs	0.266	-	-	-	-	0.266
In-line inspection preparation	-	-	-	-	0.139	0.139
AA4 total proposed capital expenditure – Pipeline and laterals	0.266	-	-	-	0.139	0.405

Source: Workbook *20190718 AA CAPEX Forecast 2020 – 2024 revised*, attached to e-mail from Goldfields Gas Transmission Pty Ltd dated 19 July 2019, *GGP Access Arrangement revision: allocation of CAPEX to Covered Pipeline.*

372. As shown in Table 35, the proposed AA4 capital expenditure for the verification digs program was $0.266 million, which is expected to be incurred in 2020.

373. The proposed verification digs expenditure is for excavation and repair of several features on the GGP where metal loss corrosion was identified. These excavation and repair activities include nine verification digs and in-line inspection of 15 anomalies to be investigated through direct current voltage gradient surveys. GGT considered that these activities were necessary to maintain and improve the safety of pipeline services and to maintain the integrity of services.

374. GGT's cost estimate for the verification digs was based on recent contractor quotes for digs on other APA pipelines plus estimates of materials and equipment costs and internal costs for APA to undertake engineering assessments related to the digs.[141]

[141] GGT supplied a business case for the verification digs and subsequently supplied a revised version of this business case. While the original and revised business cases show the same estimate of total cost for the verification digs, the revised version shows a more detailed scope of work for the verification digs. The assessment of the verification digs in this draft decision is based on the revised business case. The Excel workbook *20190718 AA CAPEX Forecast 2020 – 2024 revised*, attached to e-mail from Goldfields Gas Transmission Pty Ltd dated 19 July 2019, *GGP Access Arrangement revision: allocation of CAPEX to Covered Pipeline*, clarified the amount of the verification digs project cost that GGT proposed to allocate to the covered pipeline.

375. Based on technical advice, the ERA concludes that the verification digs proposed are in accordance with accepted good industry practice as required by rule 79(1)(a).[142]

376. The ERA is not satisfied, however, that the proposed costs are consistent with the amount that would be incurred by a prudent service provider acting efficiently, as is also required by rule 79(1)(a).

377. The initial cost estimate supplied for the program by GGT in the business case for the project equates to an average verification dig cost of $42,778.[143] Applying the cost allocation method set out in paragraph 249 produces an average verification dig cost of $29,573 allocable to the covered pipeline. This is markedly higher than the average capital expenditure per dig incurred by GGT and allocated to the covered pipeline in AA3, which was approximately $10,300.[144]

378. GGT supplied a revised cost estimate after the initial business case for the project was supplied. The revised cost estimate detailed that the verification digs are expected to be undertaken at approximately $20,600 each, and that additionally the verification digs program includes investigation of 15 other pipeline anomalies through direct current voltage gradient surveys for approximately $6,700 each.[145] This revised cost estimate reflects the costs for the whole GGP, rather than the allocated costs for the covered pipeline. Other than the revised cost estimate, GGT did not provide any explanation for the increase in the proposed cost of the digs compared to the AA3 actual costs. Given that the AA3 unit cost of $10,300 is the recent actual cost for the same type of activity, this cost estimate is considered to represent the best estimate possible for the verification digs, as required by rule 74(2) of the NGR, and the cost of the digs that would be incurred by a prudent service provider acting efficiently, as required by rule 79(1)(a).[146]

379. The ERA requires that the capital expenditure forecast for AA4 be amended to reflect a total forecast of $0.214 million for the verification digs program. This forecast was derived by including:

- 14 verification digs being conducted at a unit cost of $10,300, which is the actual unit cost for the digs incurred by GGT during AA3 that was allocable to the covered pipeline as outlined in paragraph 378.[147] The allocation of the cost of the digs was according to the cost allocation method outlined in paragraph 249 and therefore is consistent with rule 79(1)(c) of the NGR.
- An allocation of costs to the covered pipeline of 15 direct current voltage gradient surveys. The unit cost for the surveys was estimated at $6,700, which is the unallocated unit cost estimate provided in the revised cost estimate. Based on EMCa's technical advice, the ERA considers that a unit cost estimate of $6,700 for the direct voltage gradient surveys would be incurred by a prudent service

142 EMCa has supplied its independent technical view that the scope of work for the verification digs is consistent with good industry practice. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 177.

143 Real dollars at 31 December 2018. Average verification dig cost is calculated based on the information in Goldfields Gas Transmission Pty Ltd, *Goldfields Gas Pipeline, Access Arrangement Revision Proposal Supporting Information*, *Attachment 1: CAPEX Business Cases,* 21 December 2018, Business Case 01.

144 Real dollars at 31 December 2018. This is the amount which was allocable to the covered pipeline only.

145 All figures real dollars at 31 December 2018.

146 Real dollars as at 31 December 2018. This is the amount which was allocable to the covered pipeline only.

147 Real dollars at 31 December 2018.

provider acting efficiently.[148] The allocation of the unit cost to the covered pipeline was calculated by applying the cost allocation method outlined in paragraph 249 and therefore is consistent with rule 79(1)(c) of the NGR.

380. As shown in Table 35, GGT's proposed AA4 capital expenditure for inline inspection preparation activities was $0.139 million and is expected to be incurred in 2024.[149]

381. The proposed inline inspection preparation expenditure was for activities to prepare for inline inspection of the GGP. GGP planned to conduct the inspection in 2025, while the preparatory activities were planned for 2024. The scope of the preparatory activities was not yet finalised at the time the business case for the inline inspection preparation was prepared. GGT stated that the project scope may include inspection and upgrade of the easement, liaison with landowners, contracted rectification work, gas flow modelling, liaison with shippers and stakeholders, procedure development and risk assessment and mitigation. GGT considered that these activities were necessary to maintain and improve the safety of pipeline services, to maintain the integrity of services and to maintain GGT's capacity to meet levels of demand for services.

382. GGT's cost estimate for the inline inspection preparation was based on the costs incurred for activities previously conducted by GGT prior to inline inspection.

383. The GGP was last inspected in 2015. The pipeline must be inspected every 10 years and the next inspection is therefore due in 2025.

384. The ERA has received technical advice that the inline inspection preparation activities can be conducted in the same year as the inspection itself, and that the easement grading contemplated under the current scope for the preparation activities is best conducted as close as possible to the inspection itself.[150] It would, therefore, be prudent and efficient for the inline inspection preparation activities to be conducted in 2025, rather than in 2024. Rule 79(1)(a) of the NGR requires that capital expenditure must be such as would be incurred by a prudent service provider acting efficiently, to achieve the lowest sustainable cost of providing services.

385. GGP did not justify why the inline inspection preparation activities needed to be conducted in 2024. The ERA therefore does not consider that the inline inspection preparation activities need to be conducted during AA4 to comply with a regulatory obligation or requirement, as would render the expenditure justifiable according to rule 79(2)(c)(iii).

386. Based on the conclusions outlined in paragraphs 384 to 385, the ERA requires that the capital expenditure forecast for AA4 be amended to exclude the proposed expenditure for the inline inspection preparation activities.

Cathodic protection

387. GGT's proposed AA4 conforming capital expenditure included $0.848 million of capital expenditure in the cathodic protection asset class, comprising capital

[148] EMCa has supplied its independent technical view that a unit cost of $6,700 for the direct current voltage gradient surveys is reasonable based on their experience. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 177.

[149] Real dollars at 31 December 2018.

[150] Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 181.

expenditure for one project for upgrading cathodic protection systems at 14 locations on the GGP.[151]

Table 36 Proposed AA4 capital expenditure for cathodic protection asset class ($ million real at 31 December 2018)

	2020	2021	2022	2023	2024	Total
Cathodic protection unit upgrade program	0.160	0.121	0.224	0.306	0.038	0.848
AA4 total proposed capital expenditure – Cathodic protection	0.160	0.121	0.224	0.306	0.038	0.848

Source: Workbook *20190718 AA CAPEX Forecast 2020 – 2024 revised*, attached to e-mail from Goldfields Gas Transmission Pty Ltd dated 19 July 2019, *GGP Access Arrangement revision: allocation of CAPEX to Covered Pipeline.*

388. The proposed cathodic protection unit upgrade program covers replacement of the existing cathodic protection units on the GGP. GGT stated that the proposed work was driven by the ageing of the existing cathodic protection units. The manufacturer of the existing units was no longer operating, and GGT has maintained the units to date drawing on in-house knowledge and skills. Additionally, the existing units had very limited communication capability and could not be controlled by the SCADA systems on the GGP. GGT stated that for these reasons, maintenance of the cathodic protection units is increasingly difficult, and replacement of the units is needed to maintain the integrity of pipeline services. GGT also stated that the replacement units would be capable of communicating efficiently with the proposed new remote terminal units (see paragraphs 431 to 437) and SCADA system, which would enable remote monitoring, fault finding, switching and routine adjustment where necessary.

389. GGT's cost estimate for the cathodic protection systems upgrade project was developed based on the cost of replacement units from a new vendor and the rates of failure of the existing units.

390. The information supplied by GGT does not demonstrate the full program of cathodic protection unit replacement is justifiable as required by rule 79(2) of the NGR. GGT has not adequately demonstrated why the units should be replaced as it has proposed rather than on failure. GGT has not demonstrated that installing the new units will contribute to maintaining the integrity of services beyond the level of integrity provided by maintaining the existing units.

391. Additionally, the proposed cost of the cathodic protection unit upgrade program is not consistent with what would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice. GGT's Asset Management Plan for the financial years 2017 to 2021 identifies an approximate unit cost for replacement of cathodic protection units of approximately $15,000 whereas the unit cost based on the proposed upgrade program for AA4 is approximately [redacted].[152]

392. The ERA requires that the capital expenditure forecast for AA4 be amended to exclude the cathodic protection systems upgrade.

[151] Real dollars at 31 December 2018.

[152] All figures real dollars at 31 December 2018.

Compressor stations

393. GGT's proposed AA4 conforming capital expenditure included $3.441 million of capital expenditure in the compressor stations asset class.[153] This comprised capital expenditure for three projects:

- gas engine alternator overhauls
- reliability replacement program
- hazardous areas rectification program.

394. The proposed AA4 capital expenditure for the projects within the compressor stations asset class is distributed over AA4 as shown in Table 37.

Table 37 Proposed AA4 capital expenditure for compressor stations asset class ($ million real at 31 December 2018)

	2020	2021	2022	2023	2024	Total
Gas engine alternator overhaul	-	0.114	0.076	-	0.038	0.228
Reliability replacement	1.000	-	0.619	-	1.042	2.660
Hazardous area rectification program	0.138	0.069	0.137	0.069	0.139	0.553
AA4 total proposed capital expenditure – Compressor stations	1.138	0.183	0.832	0.069	1.219	3.441

Source: Workbook *20190718 AA CAPEX Forecast 2020 – 2024 revised*, attached to e-mail from Goldfields Gas Transmission Pty Ltd dated 19 July 2019*, GGP Access Arrangement revision: allocation of CAPEX to Covered Pipeline.*

395. As shown in Table 37, the proposed AA4 capital expenditure for the gas engine alternator overhauls was $0.228 million.[154]

396. The proposed gas engine alternator overhaul project comprises the replacement of the gas engine alternator units in four locations on the GGP.[155] GGT stated that the planned replacements were driven by manufacturer recommendations to overhaul the units after a specified number (60,000) of operating hours, and failure to undertake the overhauls as recommended would increase the risk of compressor station failures. GGT therefore considered that the gas engine alternator overhaul project was justified in order to maintain the integrity of pipeline services.

397. GGT's business case for the gas engine alternator overhauls applied an estimated average unit cost of [redacted] per unit.[156] GGT based its unit cost estimate on the cost of flow computers recently installed at other locations.

153 Real dollars at 31 December 2018.

154 Real dollars at 31 December 2018.

155 These locations are Paraburdoo GEA 1, Paraburdoo GEA 2, Wiluna GEA A and Wiluna GEA B. GGT has proposed to overhaul the gas engine alternators at three additional locations, including Ilgarari GEA A, Ilgarari GEA B and Yarraloola GEA B, however, the expenditure for these three overhauls is included as part of the proposed AA4 expenditure for GGT's reliability replacement program which is discussed in paragraphs 402 to 407.

156 Real dollars at 31 December 2018. This is the cost for the whole GGP, rather than an allocation of cost to the covered pipeline.

398. Due to consistency with manufacturer's recommendations, and based on technical advice received, the ERA accepts that replacement of gas engine alternators is in accordance with accepted good industry practice as required by rule 79(1)(a).[157]

399. Given that GGT's unit cost estimates for replacement of the gas engine alternators is based on actual costs for the same type of activity, this cost estimate is considered to represent the best estimate possible for the unit replacements, as required by rule 74(2) of the NGR. For the same reason the proposed unit costs are consistent with the amount that would be incurred by a prudent service provider acting efficiently, as is also required by rule 79(1)(a).[158]

400. The ERA does not consider, however, that all [redacted] gas engine alternators will require replacement during AA4. Specifically, the ERA is not satisfied that the running hours for the Paraburdoo GEA 1 unit will exceed 60,000 total hours of operation by the end of AA4 as GGT has forecast. This is based on technical advice received that it is more likely than not that Paraburdoo GEA 1 will not reach 60,000 hours of operation by November 2024.[159] The proposed capital expenditure for the gas engine alternator overhaul for Paraburdoo GEA 1 has, therefore, not been included in the revised capital expenditure forecast as the ERA does not consider that incurring this amount during AA4 is justified by any of the reasons outlined in rule 79(2) of the NGR.

401. Based on the reasoning and conclusions outlined in paragraphs 398 to 400, the capital expenditure included in the revised capital expenditure forecast is $0.190 million, which comprises the proposed capital expenditure for the units at Paraburdoo GEA 2, Wiluna GEA A and Wiluna GEA B.[160] The capital expenditure for these units has been allocated to the covered pipeline according to the cost allocation method outlined in paragraph 249 and satisfies rule 79(1)(c) of the NGR. This capital expenditure forecast therefore meets all the criteria for conforming capital expenditure set out at rule 79 of the NGR.

402. As shown in Table 37, the proposed AA4 capital expenditure for the reliability replacement program was $2.660 million.[161]

403. The proposed reliability replacement program is for replacement of older compressor station power supply system equipment on the GGP during AA4. GGT stated that the proposed replacements were driven by equipment failures at some of the GGP's compressor stations, which had the potential to reduce the GGP's transportation service reliability and pipeline capacity available for reference services. GGT, therefore, considered that the reliability replacement program was justified to maintain the integrity of pipeline services.

404. GGT based its proposed expenditure for the reliability replacement program on a quote by a third-party supplier of the replacement equipment and additional internal

157 EMCa has supplied its independent technical view that replacement of the gas engine alternators at 60,000 hours is consistent with good industry practice. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 185.

158 EMCa has supplied its independent technical view that replacement of the gas engine alternators at 60,000 hours is consistent with good industry practice. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 185.

159 The reasoning for the technical advisor's conclusion was based on GGT's significant over-estimation of running hours in its previous forecast for AA3. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraphs 187 - 188.

160 Real dollars at 31 December 2018.

161 Real dollars at 31 December 2018.

labour costs which GGT expected would be incurred to assist with the installation and testing of the new equipment and disposal of the old equipment.

405. The ERA is not satisfied that the proposed capital expenditure for the reliability replacement program for AA4 would be incurred by a service provider acting efficiently and in accordance with accepted good industry practice as is required by rule 79(1)(a). The information supplied regarding the reliability replacement program indicates that the project has not yet been fully scoped or estimated and to date GGT has only undertaken an initial review of the age, condition and maintenance history and requirements of the equipment involved.[162] It follows that the amount proposed for the project is an estimate based on an immature scope which may be subject to substantial further refinement.

406. Some of the proposed expenditure for the reliability replacement program is necessary to maintain the integrity of pipeline services and therefore is justifiable under rule 79(2)(c)(ii) of the NGR. The ERA has received technical advice that due to the age of the compressor stations and the failures experienced at Yarraloola some expenditure on gas engine alternators and control systems will be required during AA4.[163]

407. While the cost of the entire scope of the proposed reliability replacement program is not considered to be an efficient estimate, given that the ERA considers that some of the expenditure for the work included in the program is justifiable, $1.330 million has been included in the revised capital expenditure forecast for the reliability replacements.[164] This is equivalent to 50 per cent of the amount proposed by GGT. This adjustment has been made as GGT's estimate for the work in scope has not been arrived at on a reasonable basis, as is required by rule 74(2)(a) of the NGR. As stated in paragraph 405, the project has not yet been fully scoped or estimated and only an initial review of the assets involved has been undertaken. Given the likelihood of substantial further refinement to the scope of the project, the ERA considers a 50 per cent reduction to the proposed amount is reasonable.

408. The ERA also considers that $1.330 million is the best estimate of the efficient cost of the reliability replacement program, as required by rule 79(1)(a). Given that, based on the ERA's review, the $2.660 million of capital expenditure GGT has proposed for the reliability replacement program has been allocated to the covered pipeline according to the cost allocation method outlined in paragraph 249, the adjusted forecast of $1.330 million satisfies rule 79(1)(c) of the NGR.

409. As shown in Table 37, the proposed AA4 capital expenditure for the hazardous areas rectification program is $0.553 million.

410. The proposed hazardous areas rectification program includes work for inspecting and recording all electrical equipment in hazardous areas on the GGP into hazardous area verification dossiers. The current scope includes auditing four sites across Ilgarari, Wiluna and Yarraloola and unspecified scraper and mainline valve stations and conducting rectification work where the inspected sites and equipment did not comply with applicable standards. As the audits are yet to be conducted, the scope

[162] Goldfields Gas Transmission Pty Ltd, *Goldfields Gas Pipeline, Access Arrangement Revision Proposal Supporting Information*, *Attachment 1: CAPEX Business Cases,* 21 December 2018, Business Case 10 pp. 2-3.

[163] Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 194.

[164] Real dollars at 31 December 2018.

of the proposed rectification work is mainly unknown. GGT stated that the inspections proposed were needed to ensure compliance with Australian standards AS60079 and AS2381 regarding electrical equipment installed in a hazardous area and to maintain a safe working environment on the pipeline and so maintain and improve the safety of pipeline services.

411. GGT based the proposed expenditure for the hazardous areas rectification program on its past experience performing hazardous areas rectification. The proposed cost for the hazardous areas rectification activities included in the business case for this project is $0.10 million per site for two sites and $0.20 million per site for the other two sites.

412. The proposed AA4 capital expenditure for the hazardous areas rectification program does not satisfy all the criteria for conforming capital expenditure set out in rule 79 of the NGR as it is not clear that the proposed expenditure would be incurred by a service provider acting efficiently as is required by rule 79(1)(a).

413. The ERA accepts that some level of expenditure for hazardous areas rectification is justifiable as required by rule 79(2)(c) because activities of this nature are necessary to maintain and improve the safety of reference services, to maintain the integrity of reference services and to comply with GGT's regulatory obligations or requirements. Similarly, conducting hazardous areas rectification activities is in accordance with good industry practice.

414. While the ERA accepts that some level of hazardous areas rectification activities is justifiable, the information supplied by GGT indicates that the proposed expenditure has been estimated based on preliminary information and GGT does not have a clear basis for its estimates. GGT has not provided support that its estimate has been arrived at on a reasonable basis as is required by rule 74(2)(a) of the NGR.

415. The proposed amount for the hazardous areas rectification activities for each of the sites across Ilgarari, Yarraloola and Wiluna exceeds the per site rectification budget shown in the GGP's Asset Management Plan for the financial years 2017 to 2021, which is approximately $50,000 per site.[165] In April 2019, GGT supplied an Asset Management Plan for the financial years 2020 to 2024, however, this version of the plan did not supply a per site rectification budget.

416. In the absence of additional information, the ERA considers that an estimate of $50,000 per site for hazardous areas rectification activities represents the best estimate possible for the hazardous areas rectification activities, as required by rule 74(2)(b) of the NGR. Therefore, the revised capital expenditure forecast includes a total of $0.2 million for hazardous areas rectification activities.

Receipt and delivery point facilities

417. GGT's proposed AA4 conforming capital expenditure included $1.090 million of capital expenditure in the compressor stations asset class.[166] This comprised capital expenditure for two projects:

- flow computer upgrade program
- gas chromatograph replacement program.

[165] Goldfields Gas Transmission Pty Ltd, Goldfields Gas Pipeline Asset Management Plan FY17 – FY21, section 4.5.2.2, p. 24.

[166] Real dollars as at 31 December 2018.

418. As shown in Table 36, the proposed AA4 capital expenditure for the flow computer upgrade program is $0.475 million.

419. The flow computer upgrade program included the replacement of flow computers at four sites on the GGP. GGT proposed to replace these computers because, while they are currently operable, the computer software is no longer supported by the vendor and there was difficulty sourcing spare parts for their repair due to manufacturers no longer keeping supplies. Further, the outputs from the flow computers were incompatible with other IT systems used on the GGP and therefore required manual manipulation of output data, which caused a risk of measurement error. GGP therefore considered that replacement of the computers was necessary in order to maintain the integrity of pipeline services.

420. GGT based the proposed expenditure for the flow computer upgrade on the unit costs of similar flow computers installed at other locations between 2015 and 2019.

421. Based on technical advice received that replacement of aged, obsolete flow computers is good industry practice, the ERA is satisfied that replacement of aged flow computers that are obsolete or near obsolescence is in accordance with good industry practice, as required by rule 79(1)(a) of the NGR.[167] Capital expenditure for the replacement of flow computers is necessary to maintain the integrity of services and therefore is justifiable capital expenditure according to rule 79(2)(c)(ii) of the NGR.

422. The proposed cost per computer is efficient and therefore in accordance with rule 79(1)(a) of the NGR given that it is close to the average actual unit cost for replacements of flow computers conducted during AA3.

423. The $0.475 million of proposed capital expenditure for the flow computer upgrades has been correctly allocated to the covered pipeline according to the cost allocation method outlined in paragraph 249 and therefore satisfies rule 79(1)(c) of the NGR.

424. Based on the conclusions outlined in paragraphs 421 to 423, $0.475 million of the proposed capital expenditure for flow computer upgrades is considered to satisfy rule 79 of the NGR and has been included in the revised capital expenditure forecast for AA4.

425. As shown in Table 36, the proposed expenditure for the gas chromatograph replacement program in AA4 is $0.616 million.

426. The gas chromatograph replacement program included the proposed proactive replacement of five gas chromatograph units on the GGP, which GGT considers to be warranted given their age and recent failure rates. GGT stated that the outputs from these gas chromatographs were incompatible with other IT systems used on the GGP and therefore required manual manipulation of output data, which caused a risk of measurement error and reduces GGT's ability to accurately bill customers. GGT considered that the potential for this outcome represented a reputational risk and that the gas chromatograph replacement program was justifiable to maintain the integrity of pipeline services.

[167] Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 207.

427. GGT conducted options analysis for the project, considering two scenarios. The first was to repair the units upon failure. GGT concluded that this option was not acceptable. The second option was the proposed replacement program.

428. The ERA is not satisfied that replacement of all the gas chromatographs proposed by GGT, as opposed to replacement on failure, is justifiable. Given that GGT has assessed the risk associated with not replacing the chromatographs as low according to its standard risk assessment classification, the ERA considers that the capital expenditure is not necessary during AA4 to maintain the integrity of the services as GGT has proposed and therefore is not justifiable according to rule 79(2)(c) of the NGR.

429. Based on technical advice the ERA considers, however, that replacement of two of the chromatographs will likely be required during AA4 to maintain the integrity of pipeline services and is therefore justifiable according to rule 79(2)(c).[168] The revised capital expenditure forecast therefore includes $0.4 million for gas chromatograph replacement during AA4, which is 40 per cent of the proposed capital expenditure for this project. Given that the total amount ($0.475 million) of proposed capital expenditure for the gas chromatograph replacement project has been correctly allocated to the covered pipeline according to the cost allocation method outlined in paragraph 249, the adjusted amount is also correctly allocated and therefore satisfies rule 79(1)(c) of the NGR.

SCADA and communications

430. GGT's proposed AA4 conforming capital expenditure included $2.076 million of capital expenditure in the SCADA, communications and electronic equipment asset class for one project, the remote terminal unit replacement program. The proposed AA4 capital expenditure for the SCADA and communications asset class is distributed over AA4 as shown in Table 38.

Table 38 Proposed AA4 capital expenditure for SCADA, communications and electronic equipment asset class ($ million real at 31 December 2018)

	2020	2021	2022	2023	2024	Total
Remote terminal unit replacement program	0.376	0.170	0.279	0.724	0.527	2.076
AA4 total proposed capital expenditure – SCADA, communications and electronic equipment	0.376	0.170	0.279	0.724	0.527	2.076

Source: Workbook *20190718 AA CAPEX Forecast 2020 – 2024 revised*, attached to e-mail from Goldfields Gas Transmission Pty Ltd dated 19 July 2019, *GGP Access Arrangement revision: allocation of CAPEX to Covered Pipeline.*

431. The remote terminal unit replacement program included the replacement of 13 remote terminal units on the GGP during AA4 which were approaching obsolescence. GGT advised that during AA3 it had planned to replace 10 of the units due to obsolete software, but maintenance activities, including the use of second-hand cards, enabled GGT to keep the units in operation. The manufacturer of the units informed GGT that the units would be obsolete and no longer supported from 2018. Additionally, the programming language of the units was no longer compatible with other GGP equipment. GGT considered that replacement of the

[168] EMCa's technical opinion was that replacement of two gas chromatographs, rather than five, is likely to satisfy the conforming capital expenditure criteria during AA4. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 215.

remote terminal units was justified to maintain and improve the safety of pipeline services and maintain the integrity of the services. GGT conducted options analysis for the project, considering two scenarios. The first was to repair the units upon failure. GGT concluded that this option was unacceptable because repairs could involve extensive downtime and inconvenience. GGT therefore chose the second option, which was to conduct the proposed replacement program.

432. GGT proposed to undertake the remote terminal unit replacement program in conjunction with the cathodic protection unit upgrade program. The cathodic protection unit upgrade program covers work to replace the cathodic protection units on the GGP to units that would enable the cathodic protection systems to operate independently from the station controller. The capital expenditure proposed for the cathodic protection upgrade program is discussed separately in paragraphs 388 to 392.

433. GGT's proposed capital expenditure for the remote terminal unit replacement program was based on an allocation of the cost estimate for the project for the whole GGP. The cost estimate for the project for the whole GGP was $3.275 million and was based on the cost for replacement units of a newer style from a new equipment vendor. The $3.275 million cost estimate comprises:

- $3.001 million for the replacement of [redacted] Modicon Quantum remote terminal units with newer styles, equivalent to $[redacted] million per unit.
- $0.274 million for work to enable the cathodic protection systems to operate independently of the station controller.

434. Based on the information supplied regarding the remote terminal unit replacement program and the technical advice supplied by EMCa[169] the replacement of the remote terminal units is in line with good industry practice and necessary in order to maintain and improve the safety of services and to maintain the integrity of services. The replacement of the [redacted] remote terminal units is therefore justifiable capital expenditure according to rule 79(1)(b) of the NGR. Based on the information supplied and the technical advice supplied by EMCa[170] the ERA does not, however, consider that the work proposed as part of the remote terminal unit program to enable the cathodic protection systems to operate independently of the station controller is justifiable.

435. The ERA is not satisfied that the amount proposed for the program would be incurred by a prudent service provider acting efficiently given the unit costs applied in the business case for this project compared to previous costings for similar work and GGT's history of overestimating its capital expenditure forecasts.

436. GGT allowed $[redacted] million per unit for the replacement of 15 Quantum remote terminal units in its initial proposed revisions to the access arrangement for AA3. GGT advised that the remote terminal unit replacements proposed for AA3 covered

169 EMCa's opinion was that some capital expenditure for the remote terminal unit program is likely to satisfy the criteria for conforming capital expenditure however the cost estimate provided by GGT for the program is an unreliable forecast. Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 223.

170 Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement,* July 2019, paragraph 222.

a different scope of work to the scope of work for the proposed AA4 replacement program[171]

437. The ERA considers that $1.226 million represents the best possible forecast of capital expenditure for the remote terminal unit program for AA4, as required by rule 74(2)(b) of the NGR and is in line with what would be incurred by a prudent service provider acting efficiently. This has been derived by adjusting the proposed amount of $2.076 million for the project by:

- Excluding the portion of the proposed capital expenditure for the project that is for work to enable the cathodic protection systems to operate independently of the station controller ($0.190 million).
- Reducing the portion of the proposed capital expenditure for the project that is for replacement of the Modicon Quantum remote terminal units ($1.89 million) by 36 per cent ($0.68 million). The 36 per cent reduction is made due to GGT's history of overestimating its capital expenditure forecasts and is equivalent to the percentage difference between GGT's actual capital expenditure and its initial capital expenditure forecast for AA3 (see paragraph 240).

438. The revised capital expenditure forecast therefore includes $1.226 million for the remote terminal unit program in AA4.

Maintenance bases and depots

439. GGT's proposed AA4 conforming capital expenditure included $2.882 million[172] of capital expenditure in the maintenance bases and depots asset class. This covered two projects:

- site accommodation upgrade program
- Karratha maintenance base rebuild.

440. The proposed AA4 capital expenditure for the maintenance bases and depots asset class is distributed over AA4 as shown in Table 39.

Table 39 Proposed AA4 capital expenditure for maintenance bases and depots asset class ($ million real at 31 December 2018)

	2020	2021	2022	2023	2024	Total
Site accommodation upgrade program	2.588	0.220	-	-	-	2.778
Karratha maintenance base rebuild	0.104	-	-	-	-	0.104
AA4 total proposed capital expenditure – Maintenance bases and depots	2.662	0.220	-	-	-	2.882

Source: Workbook 20190718 AA CAPEX Forecast 2020 – 2024 revised, attached to e-mail from Goldfields Gas Transmission Pty Ltd dated 19 July 2019, *GGP Access Arrangement revision: allocation of CAPEX to Covered Pipeline.*

171 Goldfields Gas Transmission Pty Ltd, Goldfields Gas Pipeline, *Response to information request EMCa 14, 13 February 2019.*

172 Real dollars at 31 December 2018.

441. As shown in Table 39, the proposed expenditure for the site accommodation upgrade program is $2.882 million.[173]

442. The proposed site accommodation upgrade program includes the upgrade of on-site employee accommodation at the Wiluna and Ilgarari compressor stations. GGT stated that the planned upgrades are driven by a recent enterprise bargaining agreement which required GGT to provide accommodation at these sites according to certain specifications. GGT considered that the work is justifiable to maintain and improve the safety of pipeline services.

443. The proposed costs of the site accommodation upgrades were based on GGT's previous experience at other locations and two vendor quotes, of which GGT included the cheapest quote to develop its proposed costs. The actual costs of the upgrades will ultimately depend on the finalisation of the site designs and the outcome of a competitive tender which has not yet been conducted.

444. The proposed site upgrades in Ilgarari and Wiluna are justifiable capital expenditure as required by rule 79(2)(c) because the accommodation at these sites enables necessary activities to maintain and improve the safety of reference services, maintain the integrity of reference services and comply with GGT's regulatory obligations or requirements. GGT stated that there was no suitable accommodation in Wiluna for employees requiring access to the compressor station.

445. It is not clear, however, that the proposed costs of the upgrade program are in line with the amount that would be incurred by a prudent service provider acting efficiently, as is required by rule 79(1)(a) of the NGR.

446. The design of the sites and the scope of work are preliminary. Compared to the costs for upgrade of another remote site conducted in AA2, the proposed costs are not efficient. During the second access arrangement period GGT incurred approximately $1.44 million to upgrade the accommodation at the Yarraloola site, $1.15 million of which was allocable to the covered pipeline. The proposed cost of approximately $[redacted] million per site for the AA4 work exceeds the cost per site incurred during AA2.[174]

447. The revised capital expenditure forecast includes $2.222 million of capital expenditure for the site accommodation upgrade program, which equates to approximately $1.111 million of capital expenditure per site.[175] This adjustment is derived by reducing GGT's cost estimate by 20 per cent due to the preliminary nature of GGT's estimate, which is not considered to represent the best forecast or estimate possible in the circumstances as required by rule 74(2)(b) of the NGR, and in light of GGT's history of overestimating its capital expenditure forecasts. The resulting $1.111 million of capital expenditure per site is close to the actual costs incurred by GGT and allocated to the covered pipeline for upgrading the accommodation at the Yarraloola site during the second access arrangement period ($1.15 million). The adjustment is applied to the proposed capital expenditure for the site accommodation program, which was allocated to the covered pipeline according to the cost allocation method outlined in paragraph 249. The $2.222 million capital expenditure for the site accommodation upgrade program included in the revised capital expenditure forecast is therefore considered to satisfy rule 79(1)(c) of the NGR. Based on this and the conclusions in paragraphs 444 and 446, $2.222 million of capital expenditure for the

[173] Real dollars at 31 December 2018.

[174] All figures real dollars at 31 December 2018.

[175] Real dollars as at 31 December 2018.

site accommodation upgrade program satisfies the criteria for conforming capital expenditure.

448. As shown in Table 39, the proposed AA4 expenditure for the Karratha maintenance base rebuild is $0.104 million.[176]

449. The proposed expenditure for the Karratha maintenance base rebuild covered remedial action for damages to the GGP's Karratha maintenance base to ensure the building was suitable for continued occupancy. The proposed remediation addressed a safety risk to employees and visitors if the building continued to deteriorate.

450. GGT's proposed costs for the Karratha maintenance base rebuild were based on a cost estimate from a vendor.

451. The work on the rebuild began in 2019 and was expected to be completed in 2020. The total cost of the project was estimated to be $0.420 million, which was approximately 40 per cent less than GGT's initial AA3 forecast for the work.[177]

452. The proposed Karratha maintenance base rebuild expenditure will maintain and improve the safety of pipeline services and is therefore justifiable capital expenditure according to rule 79(2)(c) of the NGR.

453. The total proposed amount for the Karratha maintenance base rebuild is in line with what would be incurred by a prudent service provider acting efficiently, as required by rule 79(1)(a) of the NGR.

454. The total proposed amount of $0.104 million for the Karratha maintenance base rebuild in AA4 is the capital expenditure allocated to the covered pipeline. This allocation has been estimated in line with the cost allocation method outlined in paragraph 249 and therefore the proposed capital expenditure satisfies rule 79(1)(c) of the NGR.

455. Based on the conclusions stated in paragraphs 452 to 454, the proposed capital expenditure for the Karratha maintenance base rebuild satisfies the criteria for conforming capital expenditure set out in rule 79(1) of the NGR. The revised capital expenditure forecast therefore includes $0.104 million of capital expenditure for the Karratha maintenance base rebuild.[178]

Equity raising costs

456. Equity raising costs reflect the direct transaction costs of raising equity. Equity is assumed to be raised to fund a capital investment program and is used to maintain the benchmark gearing assumption adopted.

457. GGT has not proposed to include any equity raising costs in the capital expenditure building block for AA4. The ERA has also calculated that no equity raising costs are required based on the adjusted revenue and tariff forecasts in this Draft Decision.

Working capital (non-depreciable assets)

458. Working capital refers to a stock of funds that must be maintained by a service provider to pay costs as they fall due. In circumstances where the costs of providing

[176] Real dollars at 31 December 2018.

[177] Real dollars at 31 December 2018.

[178] Real dollars as at 31 December 2018.

services occurs before the revenues from the provision of services are received, a stock of working capital may be needed as part of the capital investment in the business. The cost of this stock of working capital (that is, the required return on the capital investment) is a cost to the service provider of operating its business and providing services.

459. The NGL and NGR do not reference the cost of working capital used by a service provider. Rule 76 of the NGR states that total revenue is to be determined for each regulatory year of the access arrangement period using the building block approach.

460. GGT has included working capital as a separate line item, non-depreciable assets, in its projected capital base. GGT has not proposed any additions to working capital during AA4. Consequently, the amount of working capital included in the regulatory asset base would be unchanged from the amount of working capital included in the regulatory asset base during AA3. The ERA has evaluated this approach and alternative approaches to forecasting working capital and concludes that the approach proposed by GGT is reasonable. The working capital proposed by GGT is calculated consistent with the method used in prior access arrangement periods. The ERA accepted, in principle, that an allowance for working capital was to be included in the capital base upon which a return may be earned through the reference tariffs but working capital should not be subject to depreciation.[179] GGT has continued to apply this method and calculated the amount of working capital accordingly. GGT's proposed working capital is therefore included in the draft decision regulatory asset base for AA4.

Required amendments

461. Following the assessment of GGT's proposed conforming AA4 capital expenditure (paragraphs 370 to 455), the ERA has determined that:

- $6.429 million (59.85 per cent of GGT's proposed expenditure) complies with the criteria set out in rule 79 of the NGR and can be included in the projected capital base for AA4.[180]
- $4.314 million (40.15 per cent of GGT's proposed expenditure) does not comply with the criteria set out in rule 79 of the NGR and should not be included in the projected capital base for AA4.[181]

462. Table 40 shows the capital expenditure which has been included in the revised capital expenditure forecast by asset class.

[179] Economic Regulation Authority, *Final Decision on the Proposed Access Arrangement for the Goldfields Gas Pipeline*, 17 May 2005, p. 52, paragraph 234.

[180] Real dollars at 31 December 2018.

[181] Real dollars at 31 December 2018.

Table 40 Revised AA4 capital expenditure forecast ($ million real at 31 December 2018)

	2020	2021	2022	2023	2024	AA4 Total
Pipeline and laterals						
Verification digs program	0.214	-	-	-	-	0.214
Preparation for in-line inspection	-	-	-	-	-	-
Labour escalation adjustment	- 0.001	-	-	-	-	-0.001
Compressor stations						
Gas engine alternator 60,000hrs overhaul program	-	0.114	0.076	-	-	0.190
Preparation for in-line inspection	0.500	-	0.309	-	0.521	1.330
Hazardous areas rectification program	0.050	0.050	0.050	0.050	-	0.200
Labour escalation adjustment	- 0.001	- 0.001	- 0.003	-	- 0.005	-0.010
Receipt and delivery point facilities						
Flow computer upgrade programme	0.066	0.409	-	-	-	0.475
Gas chromatograph replacement program	0.083	0.204	0.082	-	-	0.369
Labour escalation adjustment	-0.001	-0.004	-0.001	-	-	-0.005
SCADA, communications and electronic equipment						
Remote terminal unit replacement program	0.217	0.092	0.167	0.430	0.321	1.226
Labour escalation adjustment	-0.001	-	-0.001	-0.005	-0.004	-0.011
Cathodic protection						
CPU upgrade program	-	-	-	-	-	-
Labour escalation adjustment	-	-	-	-	-	-
Maintenance bases and depots						
Site accommodation upgrade program	2.046	0.176	-	-	-	2.222
Karratha maintenance base rebuild	0.104	-	-	-	-	0.104
Labour escalation adjustment	-0.008	-0.001	-	-	-	-0.009
Total AA4 revised forecast capital expenditure	**3.269**	**1.038**	**0.679**	**0.475**	**0.832**	**6.293**

463. Table 41 shows the ERA's amended values for calculation of the projected capital base for AA4 in nominal terms.

Table 41 Revised AA4 capital expenditure forecast ($ million nominal)

	2020	2021	2022	2023	2024	AA4 Total
Pipeline and laterals						
Verification digs program	0.222	-	-	-	-	0.222
Preparation for in-line inspection	-	-	-	-	-	-
Labour escalation adjustment	-0.001	-	-	-	-	-0.001
Compressor stations						
Gas engine alternator 60,000hrs overhaul program	-	0.121	0.081	-	-	0.202
Reliability replacement program	0.519	-	0.333	-	0.582	1.434
Hazardous areas rectification program	0.052	0.053	0.054	0.055	-	0.213
Labour escalation adjustment	-0.001	-0.001	-0.003	-	-0.006	-0.011
Receipt and delivery point facilities						
Flow computer upgrade program	0.068	0.432	-	-	-	0.501
Gas chromatograph replacement program	0.086	0.216	0.089	-	-	0.391
Labour escalation adjustment	- 0.001	- 0.004	- 0.001	-	-	- 0.006
SCADA, communications and electronic equipment						
Remote terminal unit replacement program	0.225	0.097	0.179	0.471	0.359	1.332
Labour escalation adjustment	- 0.001	-	- 0.001	- 0.005	- 0.005	- 0.012
Cathodic protection						
CPU upgrade program	-	-	-	-	-	-
Labour escalation adjustment	-	-	-	-	-	-
Maintenance bases and depots						
Site accommodation upgrade program	2.124	0.186	-	-	-	2.310
Karratha maintenance base rebuild	0.108	-	-	-	-	0.108
Labour escalation adjustment	-0.008	-0.001	-	-	-	-0.009
Total AA4 revised forecast capital expenditure	**3.392**	**1.098**	**0.732**	**0.521**	**0.930**	**6.672**

464. Table 42 shows the ERA's amended values for calculating the projected capital base for AA4.

Table 42 ERA's amended projected capital base for AA4 ($ million real at 31 December 2018)

	2020	2021	2022	2023	2024
Opening capital base	362.929	355.704	345.332	334.572	323.589
Plus: Capital expenditure	3.221	0.991	0.633	0.429	0.787
Less: Depreciation	10.446	11.363	11.393	11.411	10.428
Less: Asset disposals	0.000	0.000	0.000	0.000	0.000
Closing capital base	355.704	345.332	334.572	323.589	313.949

Source: ERA, GGP Tariff Model, July 2019. Some numbers may not add due to rounding.

465. The straight-line method is the depreciation method used for calculating the depreciation on GGT's regulatory asset base for AA3. The current cost accounting approach is consistent with the criteria under rule 89(1) of the NGR, and complies with the NGL (see the depreciation chapter of this draft decision on page 121).

466. Table 43 shows the ERA's amended values for calculating the projected capital base for AA4 in nominal dollars.

Table 43 ERA's amended projected capital base for AA4 ($ million nominal)

	2020	2021	2022	2023	2024
Opening capital base	367.575	364.868	358.763	352.034	344.836
Inflation	4.705	4.670	4.592	4.506	4.414
Opening capital base (end of period)	372.280	369.538	363.356	356.540	349.250
Plus: Capital expenditure	3.304	1.030	0.666	0.457	0.849
Less: Depreciation	10.715	11.805	11.988	12.160	11.254
Less: Asset disposals	0.000	0.000	0.000	0.000	0.000
Closing capital base	364.868	358.763	352.034	344.836	338.845

Source: ERA, GGP Tariff Model, July 2019. Some numbers may not add due to rounding.

Required Amendment 5

GGT must amend the projected capital base to reflect the values set out in Table 43 of this draft decision.

Speculative capital expenditure

467. Rule 84 states that a full access arrangement may include a speculative capital expenditure account.

84 Speculative capital expenditure

(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 of 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.*

GGT's Proposal

468. As stated in paragraph 260, GGT requested that $0.064 million[182] of capital expenditure it incurred during AA3 for one project, additional capacity feasibility load financial year 2018, be included as speculative capital expenditure in a speculative capital expenditure account. The capital expenditure incurred for this project during AA3 was for some preliminary engineering design work on a possible expansion of the GGP and for some initial investigations into the land access issues which might arise if such expansion were to proceed. GGT advised that at the date of submission of the access arrangement revision proposal for AA4, there was insufficient commitment to capacity development for GGT to propose an expansion of the GGP.

469. The proposed speculative capital expenditure is shown in Table 44.

Table 44 Proposed speculative capital expenditure for AA3 ($ million nominal)

Project	2015	2016	2017	2018	2019	AA3 total
Additional capacity feasibility load financial year 2018 (39009)	-	-	-	0.064	-	0.064
Total proposed speculative capital expenditure	**-**	**-**	**-**	0.064	**-**	0.064

Draft Decision

470. The capital expenditure for the additional capacity feasibility load financial year 2018 project is for an expansion of the pipeline. This capital expenditure is not justifiable capital expenditure because it is not necessary for any of the reasons outlined in rule 79(2)(c) of the NGR and therefore does not satisfy rule 79(1)(b). Rule 79(1)(b) is one of the criteria for conforming capital expenditure and must be satisfied, in addition to the criteria for conforming capital expenditure set out in rule 79(1)(a) and rule 79(1)(c), in order for capital expenditure to be included in a service provider's capital base. The ERA therefore concludes that the capital expenditure for the additional

[182] Nominal dollars.

capacity feasibility load project was non-conforming capital expenditure at the time this expenditure was made.

471. As the capital expenditure for the additional capacity feasibility load project is non-conforming capital expenditure and will not be recovered through a surcharge on users or a capital contribution it may be added to a speculative capital expenditure account according to rule 84(1) of the NGR.

472. Rule 84(3) states that if non-conforming capital expenditure included in a speculative capital expenditure 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.

473. The ERA considers that the capital expenditure for the additional capacity feasibility load project may become conforming capital expenditure in the event that an expansion of the pipeline is made.

474. Given that the capital expenditure for the additional capacity feasibility load project may become conforming capital expenditure, the ERA considers that the capital expenditure incurred for this project during AA3 may be included in a speculative capital expenditure account. Should GGT propose to roll this capital expenditure into the capital base, the ERA would need to determine at that time whether the capital expenditure satisfies all the criteria for conforming capital expenditure set out in rule 79(1) of the NGR.

475. According to rule 84(2) of the NGR, 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.

476. The allowed rate of return in 2019 is 5.63 per cent. This is the rate of return which is applied to adjust the balance of the speculative capital expenditure account in 2019, the final year of AA3. The speculative capital expenditure for the additional capacity feasibility load project was incurred in 2018 and therefore no adjustments are necessary to the balance of the speculative capital expenditure account for years prior to 2019.

Required amendments

477. Based on the discussion and conclusions outlined in paragraphs 468 to 476, the ERA has determined that the balance of the speculative capital expenditure account for AA3 is as shown in Table 45.

Table 45 Speculative capital expenditure account balance AA3 ($ million nominal)

	2015	2016	2017	2018	2019
Opening balance	-	-	-	-	0.064
Speculative capital expenditure	-	-	-	0.064	-
Adjustment – Allowed rate of return on opening balance	-	-	-	-	0.004
Closing balance	-	-	-	0.064	0.068

Required Amendment 6

GGT must incorporate a speculative capital expenditure account into the access arrangement. The speculative capital expenditure account for AA3 will reflect the closing balance shown in Table 45.

Return on the Regulatory Capital Base

Rate of return

478. The rate of return based on the Weighted Average Cost of Capital (WACC), provides for a return on the regulatory asset base. Rule 87 states the formula for calculating the rate of return:

> **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:
>
> RPCBt= at × vt
>
> where:
>
> at is the allowed rate of return for the regulatory year; and
>
> vt 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)).

479. The ERA published its final rate of return guidelines and explanatory statement on 18 December 2018.

480. Where relevant, as a means of illustration, the ERA set out current indicative estimates of the rate of return and associated parameters in the guidelines. However, the specific values arising from the application of the ERA's approach to estimating the rate of return will be determined at each access arrangement review, by applying the approaches set out in the rate of return guidelines.

481. Further information about the rate of return guidelines and relevant documents can be obtained from the ERA's website.

Binding guidelines

482. The Council of Australian Governments' Energy Council has developed a framework for binding rate of return guidelines.[183] New rate of return rules were published in the South Australian government gazette and the rate of return guidelines have become a binding instrument in Western Australia.[184]

483. The ERA or service providers may not depart from the guidelines when reviewing an access arrangement.

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183 COAG Energy Council, *Binding Rate of Return Guideline*, October 2017 (online) (accessed July 2019).
AER, *Consultation paper: Process for reviewing the rate of return guidelines*, July 2017, p. 7.

184 Government Gazette Western Australia*, National Gas Access (WA) (Act Amendment) Regulations 2019,* , 5 April 2019, pp. 1009-1010.

484. GGT acknowledged that the rate of return guidelines would become a binding instrument.

GGT's Proposal

485. GGT's proposed estimate of the rate of return was 5.56 per cent (vanilla nominal).

486. In preparing this estimate, GGT assumed:

- A binding rate of return instrument will come into effect in Western Australia late in 2018, or early in 2019.
- The rate of return specified in the binding instrument will be the rate of return determined from the ERA's Rate of Return Guidelines (2018), which were issued on 18 December 2018.
- The binding rate of return instrument will apply in relation to any ERA economic regulatory decision made after the date of commencement of the relevant amendments to the NGL in Western Australia, even if the process leading to that regulatory decision commenced before that date.

487. Table 46 details the individual rate of return components proposed by GGT for the current (AA3) access arrangement period and the estimated components that are proposed for AA4.

Table 46: GGT's rate of return estimate for AA4

Component	AA3 Actual*	AA4 Proposed
Return on debt		
5-year interest rate swap (effective yield)	2.12%	2.31%
Debt Risk Premium (DRP) (10-year average)	2.365%	2.32%
Debt issuing cost + hedging cost	0.239%	0.21%
Nominal return on debt	***4.72%***	**4.84%**
Return on equity		
Nominal risk-free rate	1.82%	2.25%
Market Risk Premium (MRP)	7.40%	6.00%
Equity beta	0.70	0.70
Nominal return on equity	**7.00%**	**6.45%**
Other parameters		
Debt proportion	60%	55%
Inflation rate	1.46%	1.87%[185]
Corporate tax rate	30%	30%
Franking credit	0.4	0.5
Nominal after-tax WACC	**5.63%**	**5.56%**
Real after-tax WACC	4.11%	3.63%

** Based on 2018 debt risk premium values.*

Source: GGT, Proposed Revised Access Arrangement Information, 1 January 2019, p. 19, Table 12.

Draft Decision

488. In determining the 2018 rate of return guidelines, the ERA considered all available information including GGT's submissions throughout the rate of return guideline review process, other public submissions and expert reports.

489. The ERA's considerations of the rate of return can be found in the ERA's rate of return guidelines explanatory statement.[186] The rate of return guidelines is a binding instrument in Western Australia.

490. This draft decision is consistent with the 2018 gas rate of return guidelines.

[185] Based on the inflation forecast applied in GGT's submitted AA4 tariff model 2020-2024.

[186] ERA, *Final Gas Rate of Return Guidelines Explanatory Statement*, 18 December 2018.

Overall rate of return approach

491. The rate of return, based on a WACC, provides a service provider with a return on the capital it has invested in its business.

492. The NGR require the ERA to adopt a 'nominal vanilla' WACC to develop the rate of return for the benchmark efficient entity.[187]

493. A vanilla WACC does not include any adjustment for tax impacts, such as the effect of imputation credits on the rate of return. The impact of tax on the returns must be accounted for separately, as an explicit deduction from the relevant cash flows. A vanilla WACC is therefore a 'post-tax' framework.

494. The ERA will adopt a WACC for a benchmark efficient entity in its simplest 'vanilla' form, expressed as:

$$WACC_{vanilla} = E(r_e)\frac{E}{V} + E(r_d)\frac{D}{V}$$

where

$E(r_e)$ is the expected return on equity

$E(r_d)$ is the expected return on debt

E/V is the proportion of equity in total financing (comprising equity and debt)

D/V is the proportion of debt in total financing.

Return on debt approach

495. The estimate of the return on debt is based on a risk premium over and above the risk free rate, combined with an additional margin for administrative costs:

Return on debt = risk free rate + debt risk premium + debt raising costs + hedging costs

Risk free rate (debt)

496. The risk free rate is the return an investor would expect when investing in an asset with no risk.

497. The interbank rate can represent a risk free rate for the purposes of debt financing. Though interbank lending has a cost above that of Commonwealth Government Securities used to calculate the cost of equity, the use of the interbank rate is equivalent to using a Government Security and separately adjusting the debt risk premium. For the purposes of determining the cost of debt the use of the interbank rate is more convenient for businesses and regulators. The ERA therefore considers the five-year bank bill swap rate as a proxy for the risk free rate when calculating the cost of debt.

[187] NGR 87(4).

498. The ERA has used the 20-day averaging period to 29 March 2019 as placeholder. The final decision will be updated for GGT's final averaging period.

499. For this draft decision the ERA estimates a risk free rate for the cost of debt of 1.86 per cent for the 20-day averaging period to 29 March 2019.

Debt risk premium

500. The debt risk premium is the return above the risk free rate that lenders require to compensate them for the risk of providing debt funding to a benchmark business. The debt risk premium compensates holders of debt securities for the possibility of default by the issuer.

501. The ERA's approach to estimating the debt risk premium involves the following steps:

- Step 1: Determining the benchmark sample – identifying a sample of relevant corporate bonds that reflect the credit rating of the benchmark efficient entity.
- Step 2: Collecting data and converting yields to Australian dollar equivalents – converting the bond yields from the sample into hedged Australian dollar equivalent yields inclusive of Australian swap rates.
- Step 3: Averaging yields over the averaging period – calculating an average Australian dollar equivalent bond yield for each bond across the averaging period.
- Step 4: Estimating curves – estimating yield curves on this data by applying the Gaussian Kernel, Nelson-Siegel and Nelson-Siegel-Svensson techniques.
- Step 5: Estimating cost of debt – calculating the simple average of their three yield curves' 10-year cost of debt to arrive at a market estimate of the 10-year cost of debt.
- Step 6: Calculating the debt risk premium – calculating the debt risk premium by subtracting the 10-year interest rate swap rate from the 10-year cost of debt.

502. These steps determine the debt risk premium at a point in time, being the date of calculation. The ERA refers to this method as the 'revised bond yield approach'. The ERA's revised bond yield approach uses international and domestic BBB+ bonds identified by Bloomberg as having Australia as their country of risk to estimate the cost of debt each year.

503. To determine the debt risk premium used to calculate the rate of return, the ERA constructs a 10-year trailing average debt risk premium. This consists of a debt risk premium for the current year and a debt risk premium for each of the nine prior years. The 10-year trailing average debt risk premium is updated each year.

504. The detailed process for the debt risk premium is provided in the 2018 gas rate of return guidelines explanatory statement.[188]

505. Table 47 details GGT's trailing average debt risk premium. Historic annual debt risk premium estimates are unchanged. The current year is updated for the averaging period of 29 March 2019, as a placeholder.

[188] ERA, *Final Gas Rate of Return Guidelines Explanatory Statement*, 18 December 2018, Chapter 10.

Table 47: ERA estimated trailing average debt risk premium for GGP AA4 draft decision

Year	Debt risk premium (%)
2011	2.379
2012	3.168
2013	3.043
2014	2.251
2015	2.070
2016	2.582
2017	2.553
2018	1.862
2019	1.619
2020	1.634
Trailing average debt risk premium	**2.316**

** Debt risk premium estimate for 20-day averaging period to 30 November 2018, as a placeholder.*

506. For the draft decision the ERA estimates a trailing average debt risk premium of 2.316 per cent for the 20-day averaging period to 29 March 2019.

Debt raising and hedging costs

507. Debt raising costs and hedging costs are the administrative costs and other charges incurred by businesses when obtaining and hedging finance.

508. The ERA provides for the recovery of direct debt financing costs and considers that an allowance of 0.100 per cent for debt raising costs appropriate.

509. The ERA also provides for the recovery of an annual swap allowance of 0.114 per cent to compensate for the cost of conducting hedging for exposure to movements in the risk free rate.

Return on equity approach

510. The return on equity is the return that investors require from a firm to compensate them for the risk they take by investing their capital.

511. There are no readily observable proxies for the expected return on equity. While estimates of the cost of debt can be obtained by observing debt instruments, financial markets do not provide a directly observable proxy for the cost of equity, for either individual firms or for the whole market.

512. Estimating a forward-looking return on equity – enough to enable regulated firms to recoup their prevailing equity financing costs – requires the use of models. Generally, these models seek to explain the required return on equity through a relationship with some portfolio of risk factors, or else in terms of the present value of the expected stream of future cash flows.

513. The model most used by Australian regulators for quantifying the return on equity and associated risk has been the Sharpe Lintner CAPM.

514. The ERA determines a single point estimate for the return on equity using the Sharpe Lintner CAPM:

$$R_i = R_f + \beta_i \left(R_m - R_f \right)$$

where:

R_i is the required rate of return on equity for the asset, firm or industry in question

R_f is the risk free rate

β_i is the equity beta that describes how a particular portfolio i will follow the market which is defined as $\beta_i = \text{cov}\left(R_i, R_m\right) / \text{var}\left(R_m\right)$

$\left(R_m - R_f \right)$ is the market risk premium.

Risk free rate (equity)

515. The ERA uses observed yields from five-year Commonwealth Government Security bonds to estimate the risk free rate of return for the purpose of estimating the return on equity.

516. For this draft decision the ERA estimates a risk free rate for the cost of equity of 1.59 per cent for the 20-day averaging period to 29 March 2019.

Market risk premium

517. The market risk premium is the expected rate of return over and above the risk free rate that investors require to invest in a fully-diversified portfolio.

518. The market risk premium compensates an investor for the systematic risk of investing in a fully diversified portfolio. Systematic risk is risk that cannot be diversified away by investors because it affects all firms in the market.[189] Therefore, the market risk premium represents an investor's required expected return, over and above the risk free rate of return, on a fully diversified portfolio of assets. This is a forward-looking concept.

[189] The foundation of the Sharpe Lintner CAPM is the proposition that adding an asset to a portfolio reduces risk via the diversification effect but not beyond the risks that the assets in a portfolio share, that is, their systematic risk. At the limit, when one has invested in all available assets in the market portfolio, there is only systematic risk left. An important assumption of the CAPM is that assets are priced as though it is only their systematic risk that is relevant to investors.

519. Consistent with the 2018 gas rate of return guidelines, the ERA has determined a market risk premium of 6.0 per cent.

Equity beta

520. Equity beta is the 'slope' parameter β_i in the Sharpe Lintner CAPM. The slope parameter β_i correlates the return on the specific asset, in excess of the risk free rate of return, to the rise and fall of the return on the market portfolio.

521. The equity beta is a parameter that measures the systematic risk of a security or a portfolio in comparison to the market as a whole.

522. Consistent with the 2018 gas rate of return guidelines, the ERA has determined an equity beta of 0.7.

Gearing

523. Gearing is the proportion of a business's assets assumed to be financed by debt and equity. Gearing is defined as the ratio of the value of debt to total capital (that is, including debt and equity) and so is generally expressed as follows:

$$Gearing = \frac{Debt}{Debt + Equity}$$

524. This ratio is used to weight the costs of debt and equity when the regulated WACC is determined.

525. Under the NGR, the allowed rate of return for a regulatory year should be a weighted average of the return on equity for the access arrangement period in which that year occurs and the return on debt for that year.[190]

526. Consistent with the 2018 gas rate of return guidelines, the ERA has determined a gearing of 55 per cent.

Inflation

527. Inflation is the rate of change in the general level of prices of goods and services.

528. Forecast inflation can be used to translate the nominal post-tax WACC to a real post-tax WACC.

529. A nominal rate of return incorporates the real rate of return, compounded with a rate that reflects expectations of inflation. In line with the requirements of the NGR, the ERA will use a nominal vanilla rate of return for its decisions.[191]

530. The ERA estimates the expected inflation rate using the Treasury bond implied inflation approach.

[190] NGR 87(4).

[191] NGR 87(4).

531. This approach uses the Fisher equation[192] and the observed yields of:

- Five-year Commonwealth Government Securities, which reflect a market-based estimate of the nominal risk free rate.
- Five-year indexed Treasury bonds, which reflect a market-based estimate of a real risk free rate.

532. The ERA estimates the expected inflation rate consistent with the estimate of the risk free rate by adopting an averaging period of 20 trading days.

533. The approach uses linear interpolation to derive the daily point estimates of both the nominal five-year risk free rate and the real five-year risk free rate, for use in the Fisher equation.[193] The term of the resulting average expected inflation rate is five years, consistent with the length of the access arrangement period.

534. For this draft decision the ERA estimates a forecast inflation of 1.28 per cent as at the 20-day averaging period to 29 March 2019.

Value of imputation credits (gamma)

535. The NGR require the ERA to set out its approach to estimating the value of imputation credits (gamma), a parameter in the post-tax revenue model.

536. The imputation tax system prevents corporate profits from being taxed twice. Prior to the introduction of imputation on 1 July 1987, company profits were taxed once at the corporate level and again at the dividend recipient level (for example, as personal income tax). Under the Australian imputation tax system, franking credits are distributed to investors at the time dividends are paid and provide an offset to those investors' taxation liabilities.

537. The gamma parameter accounts for the reduction in the effective corporate taxation that is generated by the distribution of franking credits to investors. Generally, investors who can utilise franking credits will accept a lower required rate of return, before personal tax, on an investment that has franking credits, compared with an investment that has similar risk and no franking credits.

538. The ERA determines gamma through the Monkhouse formula as the product of the distribution rate and utilisation rate. The distribution rate and utilisation rate are separately estimated.

539. The distribution rate represents the proportion of imputation credits generated by a benchmark efficient entity that is expected to be distributed to investors. The ERA considers that the distribution rate is a firm-specific rather than a market-wide parameter.

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192 The formal Fisher equation is: $1+i=(1+r)(1+\pi^e)$

where: *i* is the nominal interest rate, *r* is the real interest rate and π^e is the expected inflation rate.

193 It is not common to observe a CGS bond with an expiry date that exactly matches that of the regulatory period end. To overcome this, two bonds are selected that fall on either side of the end day of the regulatory period. The dates on these bonds are referred to as the 'straddle' dates. Linear interpolation estimates the yields on the regulatory period end date by assuming a linear increase in yields between the straddle dates on the two bonds observed.

540. In estimating the distribution rate, the ERA relies on 0.9 for the distribution rate from financial reports of the 50 largest ASX-listed firms.[194]

541. The ERA considers that the distribution rate is at least 0.9. As detailed by Lally, the three energy network businesses for which data is available produce a higher distribution rate of one. Addressing the problems of limited available data and ability for firm manipulation, the ERA considers the use of the 50 largest ASX listed firms as the best proxy for the distribution rate for the benchmark efficient entity. Lally also found that the distribution rate may be slightly higher with the removal of foreign operations.[195]

542. The utilisation rate is the weighted average over the utilisation rates of individual investors, with investors able to fully use the credits having a rate of one and those unable to use them having a rate of zero. The ERA considers that the utilisation rate is a market-wide rather than a firm wide parameter.

543. To estimate the utilisation rate, the ERA relies on the equity ownership approach to determine the percentage of domestic investors in the Australian equity market. The utilisation rate is estimated for all Australian equity from the national accounts of the Australian Bureau of Statistics. The ERA considers that an utilisation rate of 0.60 is appropriate.

544. Consistent with the 2018 gas rate of return guidelines, the ERA has determined a gamma of 0.5.

Weighted average cost of capital

545. Based on the 2018 gas rate of return guidelines and the above assessment, the point estimates for each of the parameters that the ERA considers are consistent with the National Gas Law, NGR and national gas objective are shown in Table 48 below.

- The ERA estimates the nominal after tax cost of equity as 5.79 per cent.
- The ERA estimates the nominal cost of debt of 4.39 per cent.
- The ERA's rate of return estimate is 5.02 per cent.

546. The ERA uses a 20-day averaging period to 29 March 2019, as a placeholder. The final decision will be updated for GGT's final nominated averaging period.

[194] Lally M., *Estimating the Distribution Rate for Imputation Credits for the Top 50 ASX Companies*, October 2018, p. 4.

[195] Lally M., *The Estimation of Gamma: Review of Recent Evidence*, December 2018.

Table 48: ERA's draft decision rate of return estimate

Component	AA4 Proposed	Draft Decision
Estimation date	28 September 2018	29 March 2019
Return on debt		
5-year interest rate swap (effective yield)	2.31%	1.86%
Debt Risk Premium (DRP) (10-year average)	2.315%	2.316%
Debt issuing cost (0.100%) + hedging (0.114%)	0.214%	0.214%
Nominal return on debt	**4.84%**	**4.39%**
Return on equity		
Nominal risk-free rate	2.25%	1.59%
Market Risk Premium (MRP)	6.00%	6.00%
Equity beta	0.70	0.70
Nominal return on equity	**6.45%**	**5.79%**
Other parameters		
Debt proportion	55%	55%
Inflation rate	1.87%	1.28%
Corporate tax rate	30%	30%
Franking credit	0.5	0.5
Nominal after-tax WACC	**5.56%**	**5.02%**
Real after-tax WACC	3.63%	3.69%

547. Consistent with the rate of return guidelines, the return on debt will be updated annually, by updating the debt risk premium (which is estimated as a historical trailing average), and the reference tariff will be automatically updated.

Required Amendment 7

Subject to the nomination of a final averaging period, GGT must amend its rate of return estimate to be 5.02 per cent (vanilla nominal after-tax).

Depreciation

548. Rule 88 of the NGR sets out the requirements of 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.

549. Rules 89 and 90 of the NGR specify the depreciation criteria and requirements for the calculation of depreciation for establishing the opening capital base for the subsequent access arrangement.

550. The depreciation criteria specified by rule 89 are as follows.

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.

551. Rule 90 of the NGR specifies that a full access arrangement must contain provisions governing the calculation of depreciation.

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.

GGT's Proposal

552. GGT's forecast regulatory depreciation for AA4 has been calculated using the current cost accounting approach, consistent with the ERA's final decision for the third access arrangement period (AA3).[196]

553. GGT's projected capital base for AA4 includes total forecast depreciation of $28.29 million.[197] GGT's proposed forecast regulatory depreciation (by asset class) for AA4 is shown in Table 49.

Table 49 GGT's proposed forecast regulatory depreciation ($ million nominal)

	2020	2021	2022	2023	2024	Total
Pipeline and laterals	1.377	1.544	1.718	1.898	2.084	8.619
Main line valve and scraper stations	0.125	0.134	0.141	0.148	0.155	0.702
Compressor stations	2.471	2.713	2.828	2.959	2.065	13.036
Receipt and delivery points facilities	-0.285	0.128	0.134	0.139	0.107	0.224
SCADA, communications and electronic equipment	0.505	0.607	0.772	0.842	0.928	3.655
Cathodic protection	0.091	0.140	0.154	0.175	0.158	0.717
Maintenance bases and depots	0.114	0.127	0.136	0.175	0.158	0.674
Other depreciable assets	0.054	0.156	0.162	0.168	0.120	0.660
Forecast regulatory depreciation	**4.453**	**5.548**	**6.043**	**6.473**	**5.770**	**28.288**

Source: GGT, Goldfields Gas Pipeline Access Arrangement Revision Proposal Supporting Information, 21 December 2018, p. 55, Table 31.

554. Table 50 shows the asset lives that GGT used to calculate the forecast depreciation for AA4. These asset lives remain unchanged from AA3.

196 ERA, *Final Decision on Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline*, 30 June 2016 (as amendment on 21 July 2019), pp. 334-390.

197 Nominal Dollars.

Table 50: GGT's proposed asset classes and expected economic lives

Asset Class	Economic Life (years)
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

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

Draft Decision

555. There were no submissions to the ERA addressing GGT's calculation of forecast depreciation for AA4.

556. As indicated by GGT, the ERA required forecast regulatory depreciation for AA3 to be calculated using the current cost accounting approach. GGT has used this same approach to calculate forecast regulatory depreciation for AA4.

557. The current cost accounting approach is consistent with the criteria under rule 89(1) of the NGR and complies with the NGL. The approach:

- Promotes efficient growth in the market for reference services by allowing for efficient use of the GGP.
- Encourages efficient production and investment decisions by the service provider, thereby contributing to efficient growth in the market for reference services.
- Avoids price shocks for consumers when major assets reach the end of their effective life and are replaced.
- Ensures outcomes that are in the long-term interest of consumers with respect to price by avoiding subsidies between current and future consumers.

558. GGT's proposed asset lives for asset classes used in the calculation of depreciation remain unchanged from AA3. The asset lives also correspond with those used and approved for other gas transmission pipelines within Australia.[198] The ERA considers that GGT's proposed asset lives meet the requirements of rule 88 of the NGR and the criteria set by rule 89.

198 Energy Market Consulting Associates, *Review of Technical Aspects of the Proposed Access Arrangement*, July 2019, p. 23.

559. While GGT's method and asset lives used to calculated depreciation meet the requirements of the NGR, the calculation of depreciation will change as a result of required amendments to other aspects of GGT's access arrangement proposal (for example, amendments to capital expenditure). Consistent with the required amendments in this draft decision, the ERA has recalculated total forecast depreciation for AA4 as $55.286 million (Table 51).

Table 51 ERA's draft decision forecast depreciation ($ million real at 31 December 2018)

	2020	2021	2022	2023	2024	Total
Pipeline and laterals	7.140	7.143	7.143	7.143	7.143	35.711
Main line valve and scraper stations	0.186	0.218	0.218	0.218	0.218	1.058
Compressor stations	2.591	2.823	2.828	2.842	1.972	13.056
Receipt and delivery points facilities	-0.286	0.155	0.175	0.178	0.145	0.366
SCADA, communications and electronic equipment	0.465	0.485	0.492	0.496	0.502	2.440
Cathodic protection	0.084	0.127	0.127	0.124	0.083	0.545
Maintenance bases and depots	0.217	0.260	0.263	0.263	0.263	1.266
Other depreciable assets	0.050	0.153	0.148	0.147	0.100	0.599
Forecast depreciation	**10.446**	**11.363**	**11.393**	**11.411**	**10.428**	**55.041**

560. The compressor stations and receipt and delivery points facilities depreciation in 2024 has reduced due to the initial capital base assets being fully depreciated. The cathodic protection and other depreciable capital expenditure depreciation is also forecast to decrease due to the declining capital expenditure in AA5 for those categories. The negative depreciation amount of receipt and delivery points facilities for 2020 is due to over-depreciation in prior years which needs to be corrected.

561. The ERA does not model the asset base by category in nominal terms as GGT has done. In order to derive the nominal regulatory depreciation used for total revenue, the amount by which the asset base has been escalated (i.e. by inflation) is removed from the calculated nominal depreciation to avoid double counting inflation that is inherent in the calculation of the return on assets. The inflationary gain that occurs when a nominal rate of return is applied to a nominal asset base is removed from depreciation. The higher the inflation rate the higher the inflationary gain and therefore the adjusted regulatory depreciation is lower. The ERA's forecast of nominal regulatory depreciation for AA4 is $34.544 million. This value is higher than

GGT's nominal depreciation as the ERA's inflation forecast of 1.28 per cent is lower than GGT's inflation forecast of 1.87 per cent.

Required Amendment 8

GGT must amend the forecast of depreciation for the fourth access arrangement period to reflect the values set out in Table 51 of this draft decision.

Taxation

562. One of the building blocks used to determine GGT's total revenue requirement is the estimated cost of corporate income tax. Rule 87A of the NGR sets out the formula for calculating corporate income tax.

> **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:
>
> $ETC_t = (ETI_t \times r_t)\ (1-\gamma)$
>
> *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.

GGT's proposal

563. GGT estimated its cost of corporate income tax for each year in AA4 using the formula in rule 87A of the NGR.

564. GGT estimated its annual taxable income (ETI_t) for each year in AA4 by removing the cost of debt financing, operating expenses and tax depreciation from total revenue for each year.

565. GGT applied a value for the expected statutory income tax rate for a regulatory year (r_t) of 30 per cent, which is the current statutory corporate income tax rate.

566. GGT applied a value of 0.5 for gamma (γ), the value of imputation credits. This is the value of gamma required by the ERA's Rate of Return Guidelines published in 2018.[199]

567. Table 52 shows GGT's estimated cost of corporate income tax and its components for AA4.

[199] ERA, *Final Rate of Return Guidelines*, 18 December 2018.

Table 52 Estimated cost of tax and value of imputation credits ($ million nominal)

	2020	2021	2022	2023	2024	Total
Forecast revenue from reference service*	49.880	49.744	49.744	49.744	49.880	248.992
less tax expenses:						
- Return on debt	10.131	10.209	10.13	10.027	9.904	50.401
- Tax depreciation	2.605	2.663	2.448	2.522	2.113**	12.351
- Operating expenditure	19.606	20.028	20.619	21.219	21.852	103.324
equals net income	17.538	16.845	16.546	15.977	16.012	82.918
Tax loss carried forward	-	-	-	-	-	-
Taxable income	17.538	16.845	16.546	15.977	16.012	82.918
Estimated cost of tax (tax rate = 30%)	5.261	5.053	4.964	4.793	4.803	24.874
Value of imputation credits	2.631	2.527	2.482	2.396	2.402	12.438

Source: Goldfields Gas Transmission Pty Ltd, *Goldfields Gas Pipeline Proposed Revised Access Arrangement Information 1 January 2020*, p. 22, Table 13.

*Notes: * The forecast revenue from reference service in 2020 and 2024 is higher than the other years in AA4 due to 2020 and 2024 being leap years.*

*** The decline in tax depreciation in 2024 is because certain assets will have been fully written off as at the end of 2023.*[200]

568. GGT used the roll forward method to roll forward the value from the Tax Asset Base (TAB) from the closing value of the AA3 TAB into the AA4 period. Then to calculate the TAB in the AA4 period, it has added forecast capital expenditure and deducted forecast depreciation.

569. Table 53 sets out GGT's proposed TAB over the AA3 period and its closing AA3 balance to be rolled into the AA4 period. GGT determined a closing TAB value of $16.992 million to be rolled forward as the opening value for the AA4 TAB.

[200] Goldfields Gas Transmission Pty Ltd, PUBLIC AA tariff model 2020-2024, 1 January 2019.

Table 53: GGT's proposed tax asset base (AA3) ($ million nominal)

	2015	2016	2017	2018	2019
Opening tax asset base	63.020	41.408	22.621	19.964	18.039
Capital expenditure	3.334	1.409	1.432	1.025	1.761
Tax depreciation	(24.946)	(20.196)	(4.089)	(2.950)	(2.808)
Asset disposals	0.00	0.00	0.00	0.00	0.00
Closing value	41.408	22.621	19.964	18.039	16.992

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

570. Table 54 below sets out GGT's calculation for the TAB for the AA4 period.

Table 54: GGT's proposed tax asset base (AA4) ($ million nominal)

	2020	2021	2022	2023	2024
Opening tax asset base	16.992	21.776	21.671	21.409	20.744
Capital expenditure	7.389	2.558	2.187	1.857	3.162
Tax depreciation	(2.605)	(2.663)	(2.449)	(2.522)	(2.113)
Asset disposals	0.00	0.00	0.00	0.00	0.00
Closing value	21.776	21.671	21.409	20.744	21.793

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

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Tax asset lives

571. For taxation purposes, the life of a depreciating asset can either be determined through self-assessment or by using an effective life determined by the Commissioner of Taxation.

572. Statutory caps on the effective lives of some assets were introduced from 1 July 2002. Capped asset lives are shorter than the effective lives determined by the Commissioner. If a taxpayer uses the Commissioner's determination to determine asset lives, they are required to use the capped life for an asset if it is shorter than the effective life in the Commissioner's determination.[201]

573. The Commissioner's determination TR 2019/5 establishes 20-year capped lives for some assets in the gas transmission industry.[202] Table 55 sets out the tax asset lives proposed by GGT.

201 Australian Taxation Office, *Guide to depreciating assets 2019*, Canberra, June 2019, p. 12.

202 Australian Taxation Office, *TR 2019/5 – Income tax: effective life of depreciating assets (applicable from 1 July 2019)*, 1 July 2019.

Table 55: GGT proposed tax asset lives

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.

574. GGT proposed no assets to have a longer tax asset life than 20 years, which is consistent with the 20-year asset cap for some assets in the gas transmission industry.

575. The ERA reviewed GGT's proposed tax asset lives for AA4 and accepts the proposed tax asset lives, which are consistent with the Commissioner of Taxation's determined asset lives and the 20-year asset cap for gas transmission assets.

Depreciation method

576. GGT used the straight-line method to calculate tax depreciation in the AA3 period and has proposed to continue using straight-line depreciation in its proposed access arrangement for AA4.

577. The AER reviewed its approach to estimating the tax allowance in its regulatory determinations following concerns about material differences between the regulatory forecast of tax costs for regulated electricity networks and gas pipelines and the actual tax payments made to the ATO by these regulated businesses.

578. The AER released a discussion paper in November 2018 that proposed adopting the diminishing value method of tax depreciation. The AER released its final report in December 2018 in which it confirmed its adoption of the diminishing value method for tax depreciation.

579. The AER concluded that it would maintain the current regulatory tax depreciation method of straight-line for existing assets and apply the diminishing value method to all new assets and capital expenditure with the exception of assets qualified under section 40.72 of the *Income Tax Assessment Act 1997* which are required to be depreciated using the straight-line method.

580. The AER considered that it was reasonable to assume that a benchmark efficient entity would select the diminishing value tax depreciation approach because the faster depreciation under the diminishing value method meant that the regulated entity received more in net present value terms after accounting for the cost of capital. A worked example by the AER in its discussion paper showed that the net present value of the tax depreciation over the life of a hypothetical asset was higher under

the diminishing value method than the straight-line method when a rate was applied to reflect inflation and the time value of money (that is, the weighted average cost of capital).

581. Similarly, the AER's consultant, Dr Martin Lally, supported the use of the diminishing value method because it was consistent with the Net Present Value (NPV) = 0 principle. This principle requires that the present value of the revenue earned from an asset in a regulated environment in which output prices are set or capped must be equal to the initial investment to ensure that the total costs incurred are recovered.

> …in respect of the use of Diminishing Value (DV) depreciation by businesses rather than the Straight Line (SL) method used by the AER, the former is superior in present value terms for any asset life and discount rate because it front-loads the depreciation and this always raises the present value. So, adoption of this approach by the AER would reduce the allowed revenues of businesses to the level consistent with the NPV = 0 principle, which is in the long-term interests of consumers. Furthermore, the effect is material, there are no adverse incentive effects on businesses from doing so, and it is as simple for the AER to use DV as it is to use SL. So, there is a clear case for the AER to use DV for all firms.

582. The AER also found that use of the diminishing value method is consistent with the actual practice of regulated entities that are not subject to the National Tax Equivalent Regime (known as non-NTER entities). Analysis by PwC of the tax fixed asset registers of network service providers found that non-NTER entities used the diminishing value approach for 60 per cent of assets by value.

583. The materiality of the differences between a regulated entity's actual tax liability and the tax liability calculated for regulatory purposes is not the determining factor in selecting a depreciation method. Actual tax liabilities and regulatory tax liabilities vary for many reasons, including because of the ownership structure of the regulated entity, the aggregated tax outcomes of the entity (which may include regulated and unregulated activities), and tax losses accrued in previous years.

584. The objective is to try to set tax liabilities to reflect those of a benchmark efficient entity, rather than trying to match the actual tax liability of an entity. If the objective was to match the tax liability of an entity, then the ERA could simply adopt a tax pass-through approach. The ERA agrees with the AER that a tax pass-through approach would not be in the long-term interests of consumers. The AER noted that:

> The tax costs passed through to consumers would likely increase over time, as service providers would have no incentive to minimise their tax costs. This is a pervasive problem under any form of cost-plus regulation and would result in consumers paying more than the efficient costs of providing electricity and gas.

585. The ERA considers that diminishing value method should be applied as the benchmark practice in AA4 because it is consistent with the principle of setting NPV = 0 and will ensure that regulated entities cannot over-recover revenue. The ERA considers that the diminishing value method best meets the long-term interests of consumers as required by the NGO.

586. Sections 40 to 130 of the *Income Tax Assessment Act 1997* prevents asset owners from switching between depreciation methods for a given asset.

587. While the ERA considers that the benchmark efficient entity would now apply the diminishing value method for tax purposes to its new assets (except for buildings which are required to be depreciated using straight-line depreciation), it has not

applied this to the existing assets. This treatment is consistent with the AER's approach. It is also consistent with the ERA's draft decision for the Mid-West and South-West Gas Distribution Systems for its fifth access arrangement period.

588. GGT's asset category of maintenance bases and depots will continue to be depreciated using straight-line depreciation for both existing and new assets.

Immediate expensing of capital expenditure

589. In a recent review of the regulatory tax approach, the AER proposed allowing entities to expense particular types of capital expenditure in the year they are incurred, as entities have the option of doing for actual taxation.

590. One type of capital expenditure the AER proposed to be expensed was expenditure for the refurbishment of network assets. The AER noted that for some costs which were capitalised in the asset base in the regulatory environment, it may be possible for service providers to immediately deduct these expenses for tax purposes if they met certain criteria.

591. Submissions to the AER on its proposal noted that the expensing of refurbishment capital expenditure must not create a perverse incentive to replace assets rather than refurbish them.

592. In its final report, the AER proposed to adopt the immediate expensing of refurbishment capital expenditure. The AER considered that this approach was in the long-term interests of consumers.

593. GGT has not proposed to expense any refurbishment capital expenditure in its proposal and has included all capital expenditure that meets the requirements in the tax asset base.

594. Immediate expensing of refurbishment capital expenditure is not a requirement of the Australian Tax Office and can be at the discretion of a service provider depending on their risk profile.

595. For this draft decision, the ERA has not implemented the immediate expensing of refurbishment capital expenditure. However, in GGT's response to the draft decision it should provide the amount of capital expenditure that would be regarded as refurbishment capital expenditure in the AA4 period. If this refurbishment expenditure is a material part of the capital expenditure, the ERA would immediately expense refurbishment in the calculation of tax.

Tax asset base

596. The ERA has determined the roll forward TAB for the AA3 period in Table 56 below. The TAB has been calculated as follows:

Opening value at 1 January 2015

plus the actual capital expenditure (net of capital contributions) incurred in AA3

less the depreciation based on the actual capital expenditure

less any asset disposals during AA3

Table 56: ERA's draft decision tax asset base for AA3 ($ million nominal)

	2015	2016	2017	2018	2019
Opening tax asset base	63.020	41.329	22.550	19.901	17.789
Capital expenditure	3.255	1.409	1.432	0.831	1.657
Tax depreciation	-24.946	-20.188	-4.082	-2.943	-2.791
Asset disposals	0.000	0.000	0.000	0.000	0.000
Closing value	41.329	22.550	19.901	17.789	16.656

597. GGT's proposed closing TAB for the AA4 period has been amended to update:

- Forecast capital expenditure based on this draft decision.
- Tax depreciation by revising the depreciation method from straight-line to diminishing value for capital expenditure in AA4.

598. Table 57 shows the ERA's estimated closing TAB by year over the AA4 period.

Table 57: ERA's draft decision tax asset base for AA4 ($ million nominal)

	2020	2021	2022	2023	2024
Opening tax asset base	16.656	17.426	15.839	14.233	12.444
Capital expenditure	3.353	1.079	0.715	0.506	0.898
Tax depreciation	2.582	2.666	2.321	2.295	1.772
Asset disposals	0.000	0.000	0.000	0.000	0.000
Closing value	17.426	15.839	14.233	12.444	11.570

Accrued Tax Losses

599. In the ERA's AA3 final decision, tax losses were forecast in the final three years of the AA3 period resulting in a total tax loss carried forward of $1.134 million (nominal).[203]

600. GGT has not carried forward its AA3 tax losses in its AA4 corporate income tax calculations. GGT should include the carried forward tax losses calculated in the AA3 final decision in the AA4 corporate income tax calculations.

601. As a result of the annual reference tariff variation process, the estimated cost of corporate income tax was recalculated to update the debt risk premium and to add additional operating expenditure during AA3. After the reference tariff revision that came into effect on 1 January 2019, the total tax losses to be brought into the AA4 period by GGT have been revalued to $1.132 million (nominal).

[203] Economic Regulation Authority, *Amended Final Decision on Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline*, 21 July 2016, Table 104, p. 402.

602. The $1.132 million in tax losses have been offset against net income to reduce GGT's taxable income in the first year of AA4 which is when they are exhausted. This is set out in Table 58.

Estimated cost of corporate income tax

603. The ERA has estimated the cost of corporate income tax base based on its considerations above.

604. The ERA has calculated taxable income as assessable income less tax-deductible costs that are recognised by the ATO, as follows:

- Smoothed tariff revenue
- ***minus*** Approved forecast operating expenditure
- ***minus*** Depreciation of the TAB
- ***minus*** Debt servicing costs
- ***add*** Tax losses carried forward
- ***equals*** Estimated taxable income

605. The estimated cost of corporate income tax will be recalculated in each year of AA4 as part of the tariff variation process. This includes the change to reflect the annually updated debt risk premium.

606. Table 58 breaks down the calculation of the ERA's estimated cost of corporate income tax net of imputation credits for AA4.

Table 58: ERA's draft decision estimated cost of corporate income tax net of imputation credits for AA4 ($ million nominal)

	2020	2021	2022	2023	2024
Revenue					
Tariff revenue (smoothed)	45.207	45.084	45.084	45.084	45.207
Expenses					
Operating expenditure	17.243	17.433	17.910	17.691	18.298
Debt servicing costs	8.763	8.588	8.338	8.078	7.813
Tax depreciation	2.582	2.666	2.321	2.295	1.772
Total Expenses	28.588	28.687	28.569	28.064	27.883
Tax					
Net Income	16.619	16.397	16.515	17.020	17.324
Tax losses carried forward	(1.132)	0.000	0.000	0.000	0.000
Taxable income	15.488	16.397	16.515	17.020	17.324
Income tax expense	4.646	4.919	4.955	5.106	5.197
Value of imputation credits	-2.323	-2.459	-2.477	-2.553	-2.599
ERA-estimated cost of corporate income tax net of imputation credits	2.323	2.459	2.477	2.553	2.599

Required Amendment 9

GGT must amend its calculation of income tax and tax depreciation methods as follows:

- Amend the depreciation method to the diminishing value method for new assets from 1 January 2020.
- Amend the estimated cost of corporate income tax in accordance with Table 58 of this draft decision.

Allocation of Total Revenue

607. The NGR require total revenue to be allocated between reference services and other services on an allocation of cost basis. Rule 93(2) states how costs are to be allocated between reference and other services.

> **93 Allocation of total revenue and costs**
>
> (1) Total revenue is to be allocated between reference and other services in the ratio in which costs are allocated between reference and other services.

(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]…

608. The rules further allow some services, other than reference services, to be classed as *rebateable* services, with part of the revenue from the sale of these services to be rebated or refunded to users of reference services.

609. In March 2019, the National Gas Rules were amended to provide clarity on the allocation of costs between reference services and other services. Rule 79(6) and 91(2) were added to the rules governing the determination of conforming capital and operating expenditure.

GGT's Proposal

610. GGT has made no allocation of total revenue between reference and other services. GGT has allocated costs between covered and uncovered services prior to the calculation of total revenue as required by rule 79(6) for capital expenditure and rule 91(2) for operating expenditure. That allocation is discussed in those sections of the draft decision.

Draft Decision

611. GGT noted that it could provide other pipeline services which include ancillary haulage services. However, all the current gas transportation agreements with users of the covered pipeline are for the provision of firm services (the reference service). There is no forecast use of other pipeline services on the covered pipeline. As a result, there is no need to allocate revenue and costs between reference and non-reference services.

Reference Tariffs

612. Rule 92 of the NGR requires the equalisation (in terms of present values) of the portion of total revenue allocated to reference services and the forecast revenue from reference services over the access arrangement period.

613. 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 AER.

(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 AER.

614. Rule 96 of the NGR allows the service provider to propose a discount for a particular user or prospective user, or a particular class of users or prospective users. The ERA may approve a discount only if it is necessary to respond to competition from other providers of pipeline services or other sources of energy or maintain efficient use of the pipeline. The provision of the discount must also likely lead to reference or equivalent tariffs being lower than they would otherwise have been.

GGT's Proposal

615. Section 4.1 of the access arrangement details the reference tariff and charges for the Firm Service – the only reference service offered under the access arrangement.

616. GGT did not make any changes to the approach used to set the reference tariff. The approach remains the same as the approach used to set the reference tariff for the current (AA3) access arrangement, which is a three-part tariff comprising:

- A toll tariff – a capacity-based charge
- A capacity reservation tariff – a capacity and distance-based charge
- A throughput tariff – a throughput and distance-based charge.

617. GGT submitted:[204]

> The toll tariff and the capacity reservation tariff are effectively access fees recovering the fixed costs of the Covered Pipeline. The throughput tariff recovers variable costs.
>
> By structuring the capacity reservation and throughput tariffs as distance-related prices, [GGT] has sought to make the reference tariff reflective of the costs of the resources used to provide pipeline service to individual users at different locations along the GGP.

618. GGT calculated the proposed reference tariff assuming the allocation of its total revenue requirement in the following proportions:[205]

[204] GGT, *Proposed Revised Access Arrangement Information*, 1 January 2019, p. 24.

[205] GGT, *Proposed Revised Access Arrangement Information*, 1 January 2019, pp. 24 and 25.

- Toll tariff: 11.3%
  - 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 discount rate used to calculate the present values was the proposed allowed rate of return (5.56%).
- Capacity reservation tariff: 72.2%
  - 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 discount rate used to calculate the present values was the proposed allowed rate of return (5.56%).
- Throughput tariff: 16.5%
  - 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. The discount rate used to calculate the present values was the proposed allowed rate of return (5.56%).

619. GGT's proposed tariffs, using the approach set out above, are shown in Table 59.

Table 59: GGT's proposed reference tariffs for AA4

Component / Charge	Unit of Measure*	Tariff
Toll tariff	$/GJ MDQ	0.139646
Capacity reservation tariff	$/GJ MDQ km	0.000846
Throughout tariff	$/GJ km	0.000231

Source: GGT, Proposed Revised Access Arrangement Information, 1 January 2019, p. 25, Table 15.

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

620. GGT noted its proposed tariff was about 26 per cent higher than the tariff that applied during the period 1 July 2016 to 31 December 2019. GGT submitted:[206]

> [The tariff increase] is a consequence of the higher (December 2014) tariff continuing to apply until 30 June 2016, when the ERA made its Final Decision on the last proposed revisions to the GGP Access Arrangement. If there had been no interval of delay (1 January 2015 to 30 June 2016), the reference tariff for the period 2015 to 2019 would have been lower, and the tariff for 2020 to 2024 would have been around 10% lower than that lower tariff. That is, if there had been no interval of delay, the GGP reference tariff would have fallen, in real terms, by about 6%.

Draft Decision

621. There were no submissions to the ERA addressing GGT's proposed reference tariff for the Firm Service. GGT has retained the same three-part tariff structure that currently exists for AA4. For the purposes of this draft decision, the ERA has applied the proposed percentage allocation of total revenue to the three tariff components.

[206] GGT, *Access Arrangement Revision Proposal Supporting Information*, 1 January 2019, p. 97.

These allocation percentages have been used since the first access arrangement for the GGP.

622. In the absence of any reason to amend the tariff structure and allocation of total revenue between tariff components, the ERA considers GGT's proposed tariff structure is consistent with the requirements of the NGR.

623. GGT's proposed toll, capacity reservation and throughput tariffs for AA4 are 21.85, 38.92, and 3.13 per cent higher than the current (1 July to 30 September 2019) approved tariffs for the GGP (Table 60).[207]

Table 60: Comparison of GGT's proposed tariff and current tariff for the GGP ($ nominal)

Tariff Component	Current Tariff (1 July 2019 to 30 September 2019)	GGT Proposed AA4 Tariff	Percentage Change
Toll ($/GJ)	0.114604	0.139646	21.85%
Capacity reservation ($/GJ MDQ km)	0.000609	0.000846	38.92%
Throughout ($GJ/km)	0.000224	0.000231	3.13%

624. The ERA has assessed GGT's proposed tariff with reference to rules 92 and 95 of the NGR and the revenue and pricing principles in the NGL. The ERA must approve an access arrangement that includes tariffs that comply with rule 92, which allows GGT to recover the portion of total revenue allocated to reference services.

625. Table 61 shows the reference tariffs calculated by the ERA for AA4, consistent with the ERA's calculation of total revenue (see paragraph 94) and the allocation of that revenue to reference services (see paragraph 611). The calculated tariffs will vary based on the tariff variation mechanism (see paragraph 628).

Table 61: ERA's draft decision reference service tariff ($ nominal)

Tariff Component	Tariff
Toll ($/GJ)	0.126564
Capacity reservation ($/GJ MDQ km)	0.000767
Throughout ($GJ/km)	0.000210

626. The revised toll and capacity reservation reference tariffs are 10.44 and 25.87 per cent higher while the throughput reference tariff is 6.42 per cent lower than the current (1 July 2019 to 30 September 2019) approved tariffs for the GGP (Table 62).

[207] As published on the ERA's website (online) (accessed July 2019).

Table 62: Comparison of ERA draft decision tariff and current tariff for the GGP ($ nominal)

Tariff Component	Current Tariff (1 July 2019 to 30 September 2019)	Draft Decision AA4 Tariff	Percentage Change
Toll ($/GJ)	0.114604	0.126564	10.44%
Capacity reservation ($/GJ MDQ km)	0.000609	0.000767	25.87%
Throughout ($GJ/km)	0.000224	0.000210	-6.42%

627. As noted by GGT in its proposal, the interval of delay during AA3 (18 months) has resulted in tariffs that were lower at the end of that access arrangement period than they would have otherwise been.[208] This was due to the continuation of AA2 tariffs, during the interval of delay, that were higher than those needed to recover the approved AA3 revenue. There is only a 0.35 per cent difference between the total revenue in the final year of AA4 (2024) and the tariff revenue for that year which should reduce the likelihood of a large tariff change for the next access arrangement period (AA5).

Required Amendment 10

GGT must amend Schedule A of the access arrangement with the reference service tariffs in Table 61 of this draft decision.

Tariff Variation Mechanism

628. Rule 92 of the NGR requires GGT to include a "reference tariff variation mechanism" to vary reference tariffs over the course of the access arrangement period.

> **92 Revenue equalisation**
>
> (1) A full access arrangement must include a mechanism (a reference tariff variation mechanism) for variation of a reference tariff over the course of an access arrangement period.
>
> (2) Except to the extent that subrule (3) applies, the reference tariff variation mechanism must be designed to equalise (in terms of present values):
>
> (a) forecast revenue from reference services for the access arrangement period; and
>
> (b) the portion of total revenue allocated to reference services for the access arrangement period.
>
> (3) If there is an interval between a revision commencement date stated in a full access arrangement and the date on which revisions to the access arrangement actually commence (the interval of delay):
>
> (a) reference tariffs, as in force at the end of the previous access arrangement period, must continue without variation for the interval of delay; but
>
> (b) the operation of this subrule must be taken into account in fixing reference tariffs for the new access arrangement period, such that

[208] The interval of delay is the period between the intended start date of the access arrangement (1 January 2015) and the actual commencement date (1 July 2016). The interval of delay was 18 months.

there may be an adjustment for any under-recovery or over-recovery by the service provider as a result of the continuation of reference tariffs from the previous access arrangement period during the interval of delay.

(4) For the avoidance of doubt, once the revisions to an access arrangement actually commence the access arrangement period to which the revised access arrangement applies includes the interval of delay.

629. Rule 97 of the NGR specifies the required "mechanics" for a reference tariff variation.

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

(c1) as a result of the application of a portion of the revenue generated from the sale of rebateable services to reduce the reference tariff as contemplated under rule 93(3); 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

(d1) the risk sharing arrangements implicit in the access arrangement; 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.

GGT's Proposal

630. The reference tariff variation mechanism for the GGP is detailed in section 4.5 and Schedule A of the access arrangement and comprises:

- A scheduled reference tariff variation mechanism, which provides for quarterly variations and an annual variation of the reference tariff.
- A cost pass-through variation of the reference tariff.

631. For AA4, GGT proposed to simplify the reference tariff variation mechanism by removing the quarterly scheduled variations of the reference tariff but retaining the annual scheduled variation and cost pass-through variation mechanisms.[209]

632. GGT proposed that the quarterly adjustment would be unnecessary if, during the access arrangement period, inflation was not expected to rise or fall significantly from the level assumed at the time of the reference tariff determination. GGT observed that the Reserve Bank of Australia had forecast relatively stable inflation up to mid-2020.[210] Even if inflation were to vary significantly from the assumed level of inflation built into GGT's reference tariff model, GGT expected that the reference tariff would be adjusted for the effect of that variation through the inflation adjustment in the annual scheduled variation.

633. GGT also proposed that the removal of the quarterly adjustment from the reference tariff variation mechanism should: [211]

- Not change the efficiency of the GGP tariff structure. The adjustment for price change would continue to be made, but less frequently.
- Reduce administrative costs for GGT, the ERA and pipeline users because the reference tariff would only be adjusted once (annually) for inflation instead of four times (quarterly).
- Align the reference tariff variation with the annual variation of tariffs for negotiated services provided using the GGP.
- Align the reference tariff variation for the GGP with the variation of tariffs for reference services provided using the Dampier to Bunbury Natural Gas Pipeline (DBNGP), from which gas was delivered into the GGP.

Draft Decision

634. GGT's proposed tariff variation mechanism for AA4 removes the quarterly variations (adjustments) from the mechanism. The remaining components of the mechanism – the annual variation of the reference tariff and cost pass-through of the reference tariff – are unchanged from AA3.

635. GGT submitted that quarterly adjustments of the reference tariffs were unnecessary. The effect of actual inflation on the reference tariff can be dealt with through the

209 Goldfields Gas Transmission Pty Ltd, *Goldfields Gas Pipeline Revised Access Arrangement Revision Proposal Supporting Information*, 21 December 2018, p. 100.

210 Reserve Bank of Australia, *Statement on Monetary Policy*, August 2018, p. 63 cited in GGT, *Goldfields Gas Pipeline Revised Access Arrangement Revision Proposal Supporting Information*, 21 December 2018, p. 100.

211 GGT, *Goldfields Gas Pipeline Revised Access Arrangement Revision Proposal Supporting Information*, 21 December 2018, p. 100.

inflation adjustment in the annual scheduled variation. The removal of the quarterly adjustment from the tariff variation mechanism simplifies the mechanism and, as claimed by GGT:

- Does not change the efficiency of the tariff structure.
- Reduces administrative work and costs.
- Aligns the reference tariff with the annual variation of tariffs for:
  - negotiated services that are provided by the GGP
  - the DBNGP that delivers gas into the GGP.

636. There were no submissions concerning GGT's proposed amendments to the tariff variation mechanism, or other components of the mechanism that remain unchanged from AA3.

637. GGT's proposed amendments to the tariff variation mechanism removing the quarterly tariff variations will reduce the administrative burden on both GGT and the ERA with no loss in the efficiency of the tariff structure. For these reasons, and in the absence of any opposing reason from stakeholders, the ERA considers that GGT's proposed amendments meet the requirements of the NGR and are consistent with the national gas objective.

638. There are only three minor matters that need to be addressed in the formulae in Schedule A of the access arrangement. The value of forecast inflation ("Z") needs to be updated to the value to be used for the final decision and there is a definition for a parameter "Y" in the 'limit on movement of the weighted average tariff basket' formula which needs to be deleted. Also, the calculation of the X factor parameter needs to be revised to use the present value of tariff revenue and tariffs that are calculated by the tariff model. Those values in the X factor parameter need to be revised as follows:

PVR^i is the present value of tariff revenue as calculated by the tariff model for tariff component i and is calculated as:

$$\left(\sum_{j=1}^{t-1} \frac{p_j^i q_j^i}{(1+r_j)} + \sum_{j=t}^{4} \frac{p_t^i q_j^i}{(1+r_j)} \right);$$

p_j^i is the tariff component i in period j as calculated by the tariff model;

Required Amendment 11

GGT must amend the tariff variation formulas in Schedule A of the access arrangement (pages 40 and 41) to update the definition of inflation ("Z") to reflect the value of inflation used in this draft decision, and ultimately the value used in the ERA's final decision. The 'limit on movement of the weighted average tariff basket' formula must delete the definition of "Y" because this component is not used in that formula. The X factor parameter must be revised to use the present value of tariff revenue and tariffs that are calculated by the tariff model.

Fixed Principles

639. The NGR allow for an access arrangement to include fixed principles (rule 99). Fixed principles may be fixed for a stated period that extends over two or more access arrangement periods.

> **99 Fixed principles**
>
> (1) A full access arrangement may include a principle declared in the access arrangement to be fixed for a stated period.
>
> (2) A principle may be fixed for a period extending over 2 or more access arrangement periods.
>
> (3) A fixed principle approved before the commencement of these rules, or approved by the [ERA] under these rules, is binding on the [ERA] and the service provider for the period for which the principle is fixed.
>
> (4) However:
>
> (a) the [ERA] may vary or revoke a fixed principle at any time with the service provider's consent; and
>
> (b) if a rule is inconsistent with a fixed principle, the rule operates to the exclusion of the fixed principle.

GGT's Proposal

640. There are no fixed principles in the current access arrangement for the GGP. GGT did not proposed to include any fixed principles in the access arrangement for the fourth access arrangement period (AA4).

Draft Decision

641. GGT has not proposed any fixed principles for AA4 and there were no submissions from interested parties seeking any amendments to introduce fixed principles in the access arrangement. As such, the ERA has not given any further consideration to the matter of fixed principles.

Terms and Conditions

642. The NGR require an access arrangement to detail, in addition to the reference tariff, the other terms and conditions on which each reference service will be provided.[212]

643. Rule 100 of the NGR details the requirements for consistency, which the ERA must take into consideration when assessing any proposed amendment to the terms and conditions.

> **100 General requirement for consistency**
>
> (1) The provisions of an access arrangement must be consistent with:
>
> (a) the national gas objective; and
>
> (b) these rules and the procedures as in force when the terms and conditions of the access arrangement are determined or revised.
>
> (2) In deciding whether the non-tariff terms and conditions of an access arrangement are appropriate, the [ERA] must have regard to the risk-sharing arrangements implicit in the reference tariff.

GGT's Proposal

644. The terms and conditions applying to the Firm Service (the only reference service offered) are set out in Schedules D[213] and T[214] of the proposed revised access arrangement. GGT proposed several amendments to these terms and conditions, which are detailed in supporting information to the access arrangement and shown in a marked-up copy of the access arrangement.

645. Table 63 summarises GGT's proposed amendments, which comprise:

- Formatting, referencing and typographical corrections.
- Amendments to specific clauses, including the deletion of some clauses and the addition of new clauses.
- Amendments to the defined terms, including the deletion of some terms and the addition of new terms.

[212] Rule 48(1)(d)(ii). Under transitional provisions, modified rule 48(1)(e)(ii), as set out in Schedule 1 (rule 62), applies to the access arrangement for the GGP.

[213] Schedule D (Terms and Conditions applying to the Firm Service).

[214] Schedule T (C1 Definitions and Interpretation).

Table 63: Summary of GGT's proposed amendments to the terms and conditions for the Firm Service

Clause reference	Description of and reason for proposed amendment
D.8 A.4 D.8 A.5 D.9.2 D.9.3 D.9.4 D.12.1(b) D.32.2(e) D.34.3 T C1.1 Developable Capacity T C1.1 Extension T C1.1 Receipt Point MHQ	Amendments are proposed to these clauses to correct a formatting, referencing or typographical error. These amendments are administrative in nature and do not substantially alter the terms and conditions applying to the Firm Service. For example: • The reference in clause D.8 A.4 to "clause D.5.45" is incorrect. The amended reference is to "clause D.5.5". • The words "If the user request an…" in clause D.8 A.5 is grammatically incorrect and is changed to "If the user requests an…". • The words "applicable Toll Tariff" in clause D.9.2 have changed to "Applicable Toll Tariff" to reflect the amended term in T C1.1 (Definitions). Similar changes are made to words in clauses D.9.3 and D.9.4.
D.9.5	Clause D.9.5 is deleted. This clause is made redundant by the new definitions of "applicable toll tariff", "applicable capacity reservation tariff" and "applicable throughput tariff".
D.24.5 D.25.4	Clause D.24.5 is deleted. This clause is made redundant by the new definition of "receipt point". Consequently, the words "at the receipt facilities referred to in clause D.24.5" in clause D.25.4 are deleted.
D.34.5	Clause D.34.5 is deleted. The deleted clause is redundant given clause D.42, which substantively reproduces the clause with the exception of references to clauses D.34.1 and D.35.6.
D.40	Clause D.40 is amended to include provision for notices by email. Email has largely replaced communications formerly made by mail and facsimile.
D.48	New clause D.48 (Counterparts) is proposed to allow the transportation agreement to be executed in counterparts.
T C1.1 [new defined terms]	New definitions are proposed for the following terms. • Applicable Capacity Reservation Tariff • Applicable Throughput Tariff • Applicable Toll Tariff The definitions are the same definitions used in the access arrangement and are included to clarify that the tariff which applies is the tariff as varied from time-to-time in accordance with the reference tariff variation mechanism.
T C1.1 As Available Service	Defined term deleted from T C1.1. No such service is offered by means of the Goldfields Gas Pipeline. An "as available service" is a form of interruptible service, which can be provided as a non-reference service.

T C1.1: Delivery Point MDQ[215] Firm MDQ Firm MHQ[216] Receipt Point MDQ	In each of these defined terms the words "Order Form/Form of Agreement" are replaced with the words "Transportation Agreement". The "delivery point MDQ", "firm MDQ", "firm MHQ" and "receipt point MDQ" are all specified in the user's transportation agreement.
T C1.1 Receipt Point	Defined term has been expanded to clarify and more accurately reflect that there are two receipt points on the Goldfields Gas Pipeline, both located upstream of the Yarraloola Compressor Station. The extended definition is the same definition used in the access arrangement.
T C1.1 Relevant Date	Defined term has been updated to change the date from 1 August 2014 to 1 January 2019. This reflects the review submission date for the fourth access arrangement period.

Source: GGT, Access Arrangement Revision Proposal Supporting Information (Public), 1 January 2019, Table 48, pp. 111-114.

Draft Decision

646. The ERA has considered GGT's proposed amendments to the terms and conditions for the Firm Service. In summary, GGT's proposed amendments comprise:

- Minor corrections throughout the terms and conditions.
- Amendments to the drafting of specific clauses.
- Amendments to some of the defined terms that are used.

647. GGT's proposed amendments that comprise minor formatting, referencing or typographical corrections, unless otherwise stated, are administrative in nature and do not materially alter the agreement. The amendments do not materially affect consistency with the national gas objective or requirements of the NGR.

648. The ERA has separately considered GGT's proposed amendments to the drafting of specific clauses and defined terms.

Clause D.9 (reference tariff and charges)

649. Clause D.9 sets out terms and conditions for the reference tariff and charges. Subclause D.9.5 states:

> D.9.5 Toll, Capacity Reservation and Throughput Tariffs
>
> The Toll, Capacity Reservation and Throughput Tariffs to apply in the first Year of the Access Arrangement Period are set out in the Details, and will be adjusted each Year in accordance with the Reference Tariff Variation Mechanism set out in section 4.5.

650. GGT has deleted clause D.9.5 because it considered the clause redundant following proposed amendments to introduce three new defined terms: "applicable toll tariff", "applicable capacity reservation tariff" and "applicable throughput tariff". The ERA has considered GGT's proposed amendments to the terms and conditions to introduce new defined terms and delete clause D.9.5 at paragraph 668.

[215] Maximum Daily Quantity (MDQ).

[216] Maximum Hourly Quantity (MHQ).

Clause D.24 (connection to the pipeline) and clause D.25 (receipt pressures)

651. Clause D.24 sets out terms and conditions for the connection to the pipeline. Subclause D.24.5 states:

> D.24.5 The Pipeline has Receipt Facilities at Yarraloola for receiving Gas from:
>
> (a) the Harriet and East Spar Joint Ventures' pipelines at Yarraloola in the vicinity of the inlet to the Pipeline; and
>
> (b) the DBNGP in the vicinity of the inlet to the Pipeline.

652. GGT has deleted clause D.24.5 (and words referencing "clause D.24.5" in clause D.25.4) because it considered the clause redundant following proposed amendments to the definition of "receipt point". The ERA has considered GGT's proposed amendment to the definition of receipt point at paragraph 676.

Clause D.34 (limitation of liability and indemnity)

653. Clause D.34 sets out terms and conditions for the limitation of liability and indemnity. GGT submitted that clause D.34.5 is redundant and can be deleted from the terms and conditions because clause D.42 substantively reproduces the provisions of this clause.

654. Clause D.34.5 details provisions for the service provider to provide a refund or credit to the user in circumstances where the Firm Service is not provided such that the user does not receive gas for more than 48 consecutive hours, and the failure to provide gas is directly or indirectly caused by the service provider.

655. Clause D.42 sets out the terms and conditions for refunds and credits. The clause is substantively the same as clause D.34.5, except for references to clauses D.34.1 and D.35.6 (Table 64).

Table 64: Terms and conditions applying to the firm service – comparison of clauses D.34.5 and D.42

Clause D.34.5	Clause D.42
Notwithstanding clauses D.14.2, D.14.4, ***D.34.1*** or ***D.35.6***: ***[emphasis added]***	Notwithstanding clauses D.14.2, D.14.4 and D.35:
(a) where the Firm Service is not provided such that the User does not receive Gas for more than 48 consecutive hours and the failure or continuation of the failure to provide Gas is directly or indirectly caused by Service Provider, Service Provider will, refund or credit to the User for each period of 24 hours for which the failure continues beyond the 48 consecutive hours; and	(a) where the Firm Service is not provided such that the User does not receive Gas for more than 48 consecutive hours and the failure or continuation of the failure to provide Gas is directly or indirectly caused by Service Provider, Service Provider will, refund or credit to the User for each period of 24 hours for which the failure continues beyond the 48 consecutive hours; and
(b) the refund or credit will be calculated as "the sum of the Capacity Reservation Charge and the Toll Charge payable for each 24 hour period in excess of the initial 48 consecutive hours."	(b) the refund or credit will be calculated as "the sum of the Capacity Reservation Charge and the Toll Charge payable for each 24 hour period in excess of the initial 48 consecutive hours."

Source: GGT, Goldfields Gas Pipeline Revised Access Arrangement 1 January 2020, Schedule D (Terms and Conditions applying to the Firm Service).

656. Simplifying the terms and conditions, by deleting duplicate and unnecessary provisions, supports and is consistent with the national gas objective. Given the

provisions of clauses D.34.5 and D.42 both cover refunds and credits, it is reasonable for the provisions to be included once in the terms and conditions at the point where refunds and credits are considered, being clause D.42 (Refunds and Credits).

Reference to clause D.34.1

657. Unlike clause D.34.5, clause D.42 does not refer to clause D.34.1. Clause D.34.1 states:

> Subject to clause D.34.2, unless otherwise agreed by the Parties and expressly set out in the Order Form, but otherwise despite any other provision to the contrary in the Transportation Agreement, to the extent permitted by law, neither Party (including Service Provider's and the User's Related Bodies Corporate and their respective directors, officers, employees, agents and contractors) is liable to the other Party for Consequential Loss or for punitive or exemplary damages arising in respect of the Transportation Agreement except where such Consequential Loss or punitive or exemplary damage arises out of:
>
> (a) Gross Negligence or Wilful Misconduct by either the Service Provider or the User; or
>
> (b) the Service Provider's or the User's liability relating to payment liabilities arising under the Transportation Agreement.

658. Pursuant to clause D.34.1, a party's liability to the other for "consequential loss or for punitive or exemplary damages" arising in respect of the transportation agreement is limited to circumstances where the loss or damage arises out of:

- GGT's or the user's gross negligence or wilful misconduct, or
- GGT's or the user's liability relating to the payment of liabilities arising under the transportation agreement.

659. It is unlikely that a refund or credit payable under clause D.42 would constitute consequential loss or punitive or exemplary damage under clause D.34.1, and hence, the reference to clause D34.1 is not necessary. In any event, GGT's obligation under clause D.42 to give a refund or credit to the user where the user does not receive gas for more than 48 consecutive hours is a "liability relating to payment liabilities arising under the transportation agreement". Accordingly, GGT's liability to give a refund or credit in the circumstances covered by clause D.42 is carved out of the exclusion for consequential loss in clause D.34.1.

660. For the above reasons, a user's position in respect of the provision of refunds and credits is not likely to be adversely affected if clause D.42 does not refer to clause D.34.1. Furthermore, the absence of this reference does not materially affect consistency with the national gas objective or requirements of the NGR.

Reference to clause D.35.6

661. No specific reference to clause D.35.6 is made in clause D.42. Clause D.42 does, however, refer to "clause D.35" (Force Majeure), which encompasses all subclauses including clause D.35.6.

662. The reference to clause D.35 (rather than D.35.6) broadens the scope of clause D.42 beyond that of clause D.34.5. The broader scope does not adversely affect GGT's position as the service provider, or the position of users under the agreement. It also does not materially affect consistency with the national gas objective or requirements of the NGR.

Clause D.40 (notices)

663. Clause D.40 sets out the terms and conditions for notices. GGT amended clause D.40 to include the provision of notices by email, in addition to postal mail and facsimile.

664. As submitted by GGT, email communication has largely replaced postal mail and facsimile communications. Allowing the provision of notices by email is beneficial for parties and is consistent with the national gas objective.

Clause D.48 (counterparts)

665. GGT amended the terms and conditions to include a new clause D.48 (Counterparts).

> **D.48 Counterparts**
>
> This Transportation Agreement may be executed in any number of counterparts. All counterparts will be taken to constitute one instrument.

666. Allowing the transportation agreement to be executed in counterparts is a common feature of commercial agreements and is often beneficial for parties. Including a counterparts provision in the terms and conditions is consistent with the national gas objective.

Clause T C1 (definitions and interpretation)

667. Clause T C1 details the definitions and interpretation used in the terms and conditions. GGT amended the definitions (clause T C1.1) to include some new defined terms and amend the definition of some existing terms.

New defined terms

668. GGT added the following new terms to the definitions. GGT submitted these terms were the same terms used in the proposed revised access arrangement and were included to clarify that the tariff which applies is the tariff as varied from time-to-time in accordance with the reference tariff variation mechanism.

> **Applicable Capacity Reservation Tariff** means the Capacity Reservation Tariff specified in the GGP Access Arrangement, as varied from time to time in accordance with the Reference Tariff Variation Mechanism of the GGP Access Arrangement.
>
> **Applicable Throughput Tariff** means the Throughput Tariff specified in the GGP Access Arrangement, as varied from time to time in accordance with the Reference Tariff Variation Mechanism of the GGP Access Arrangement.
>
> **Applicable Toll Tariff** means the Toll Tariff specified in the GGP Access Arrangement, as varied from time to time in accordance with the Reference Tariff Variation Mechanism of the GGP Access Arrangement.

669. GGT submitted that its proposed new definitions made clause D.9.5 (reproduced below) redundant and that the clause should be deleted from the terms and conditions.

> D.9.5 Toll, Capacity Reservation and Throughput Tariffs
>
> The Toll, Capacity Reservation and Throughput Tariffs to apply in the first Year of the Access Arrangement Period are set out in the Details, and will be adjusted each Year in accordance with the Reference Tariff Variation Mechanism set out in section 4.5.

670. GGT's proposed definitions clarify that each of the respective tariffs are specified in the access arrangement and are varied from time-to-time in accordance with the reference tariff variation mechanism. The inclusion of these new definitions makes clause D.9.5 redundant. The new definitions and deletion of clause D.9.5 do not materially affect consistency with the national gas objective or requirements of the NGR.

"As available service"

671. GGT deleted the term "as available service" from the definitions. GGT submitted that there is no such service offered by means of the GGP. An as available service (that is, a service provided by GGT on an as available basis) is a form of *interruptible service*,[217] which can be provided as a non-reference service.

672. Given there is no *as available service* offered as a reference service, the definition of "as available service" is not required. Simplifying the terms and conditions, by deleting unnecessary provisions, is consistent with the national gas objective.

"Delivery point MDQ" / "Firm MDQ" / "Firm MHQ" / "Receipt point MDQ"

673. GGT amended the definitions for the following defined terms to replace the words "Order Form / Form of Agreement" with the words "Transportation Agreement":

- "delivery point MDQ"[218]
- "firm MDQ"
- "firm MHQ"[219]
- "receipt point MDQ".

674. GGT submitted that each of the above quantities are specified in the users "transportation agreement", which means:

> [A]ny contract entered into between the Service Provider and a User for Services for that User (including a Service Agreement where applicable) and, as regards the Firm Service, means a contract entered into between the Service Provider and a User using the Order Form and the Terms and Conditions, and where used in relation to such a User, means that User's contract for the Firm Service.

675. GGT's proposed amendments clarify where the delivery point, firm and receipt point quantities are detailed (i.e. in the transportation agreement) and do not materially affect consistency with the national gas objective or requirements of the NGR.

"Receipt point"

676. GGT amended the definition of "receipt point" to clarify and more accurately reflect that there are two receipt points on the GGP, which are both located upstream of the Yarraloola Compressor Station. The amended definition is the same definition that is used in the proposed revised access arrangement.

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217 "Interruptible Service" is defined to mean "the provision of Gas pipeline services by Service Provider, on a basis which in the sole discretion of Service Provider acting reasonably may be curtailed or interrupted from time to time".

218 Maximum Daily Quantity (MDQ).

219 Maximum Hourly Quantity (MHQ).

> **Receipt Point** is a point in the Pipeline where gas is received into the Pipeline. In respect of the Reference Service, the Receipt Points are:~~Receipt Point is the existing Receipt Point at Yarraloola;~~
>
> (a) the point located within the site of the meter station on the Varanus Island-DBNGP onshore pipeline (Pipeline Licence 17) which is the start of the GGP interconnect pipeline which terminates within the site of the Yarraloola Compressor Station (Varanus Receipt Point);
>
> (b) the point on the DBNGP-GGP interconnect pipeline 446 metres upstream of its termination within the site of the Yarraloola Compressor Station, this point being at the boundary of the DBNGP pipeline corridor and the Pipeline Licence 24 easement (upstream of this point the DBNGP-GGP interconnect pipeline is licenced by Pipeline Licence 40 (DBNGP); downstream of this point the DBNGP-GGP interconnect pipeline is licenced by Pipeline Licence 24 (GGP)) (DBNGP Receipt Point).

677. As submitted by GGT, the amended definition of receipt point has made clause D.24.5 (reproduced below) redundant. That is, the description of where gas is received into the GGP is covered by the new definition of "receipt point". GGT has therefore deleted clause D.25.4 from the terms and conditions, and has deleted a reference to the (now deleted) clause in clause D.25.4.[220]

> D.24.5 The Pipeline has Receipt Facilities at Yarraloola for receiving Gas from:
>
> (a) the Harriet and East Spar Joint Ventures' pipelines at Yarraloola in the vicinity of the inlet to the Pipeline; and
>
> (b) the DBNGP in the vicinity of the inlet to the Pipeline.

678. GGT's amended definition of receipt point provides users with a more detailed explanation of the receipt points on the GGP. The amended definition, and consequential deletions, do not materially affect consistency with the national gas objective or requirements of the NGR.

"Relevant date"

679. The term "relevant date" is used within the access arrangement and the terms and conditions applying to the Firm Service. The term is established in the definition of "pre-existing contractual right" and refers to the date that the access arrangement (or revisions to the access arrangement) was submitted, or was required to be submitted, for approval.

> **Pre-existing Contractual Right** has the meaning given to 'relevant protected contractual right' in section 321 of the National Gas Law, and the date referred to therein as the "date that (proposed) access arrangement was submitted (or required to be submitted) for approval" for the purposes of the Access Arrangement is the ***Relevant Date [emphasis added]***, and for avoidance of doubt includes any contractual right (other than a 'relevant exclusivity right' as defined in section 321 of the National Gas Law, as evidenced by the Initial Customers Agreements and the Existing Contracts.

680. GGT amended the definition of "relevant date" from 1 August 2014 to 1 January 2019 to reflect the review submission date for the fourth access arrangement period (AA4). That is, the date GGT was required to submit proposed revisions to the access arrangement for AA4. GGT's amended definition is consistent with the review

[220] GGT has deleted the words *"at the receipt facilities referred to in clause D.24.5"* in clause D.25.4.

submission date for AA4, as detailed in section 1.7 of the current (AA3) access arrangement.

Other Access Arrangement Provisions

Application Procedures and Queuing Requirements

681. Rule 112 of the NGR details the requirements for requesting access to a pipeline service. As outlined at paragraph 23, changes to the NGR occurred in March 2019 (and after GGT's access arrangement proposal submission to the ERA). These changes have affected the requirements for requesting access. The new requirements are as follows.

> **112 Requests for access**
>
> (1) A prospective user may request a scheme pipeline service provider to provide a pipeline service for the prospective user. For the purposes of this rule 112, the date that the prospective user's access request is received by the service provider is referred to as the "access request date".
>
> (2) The request must be made in writing and must:
>
> (a) state the time or times when the pipeline service will be required and the capacity that is to be utilised; and
>
> (b) identify the entry point where the user proposes to introduce natural gas to the pipeline or the exit point where the user proposes to take natural gas from the pipeline or, if the requested service is a haulage service, both entry and exit point; and
>
> (c) state the relevant technical details (including the proposed gas specification) for the connection to the pipeline, and for ensuring safety and reliability of the supply of natural gas to, or from, the pipeline.
>
> (3) The service provider must:
>
> (a) within 5 business days after the access request date, acknowledge receipt of the request; and
>
> (b) within 10 business days after the access request date, inform the prospective user:
>
> (i) that it is able to provide the requested pipeline service;
>
> (ii) that it needs to carry out further investigation to determine whether it can provide the requested pipeline service and provide the prospective user with a statement of the nature of the investigation and the reasonable costs of the investigation the prospective user would be required to meet; or
>
> (iii) that it is unable to provide the requested pipeline service.
>
> (4) If the service provider is unable to provide the requested pipeline service, it must:
>
> (a) provide the prospective user with written reasons explaining why the requested pipeline service cannot be provided; and
>
> (b) if there is some prospect that it will become possible to provide the requested service at some time in the future – give details (which must be as specific as the circumstances reasonably allow) of when capacity to provide the requested service is likely to become available and, if possible, nominate a specific date.
>
> (5) If the service provider is able to provide the service, it must, within 25 business days of the access request date, provide the terms and conditions

on which the service provider is prepared to provide the requested pipeline service (the access proposal).

(6) If the service provider needs to carry out further investigation to determine whether it can provide the requested pipeline service and the prospective user agrees to the reasonable costs specified by the service provider under subrule 3(b)(ii), it must carry out the investigation and then, within 25 business days of the access request date, inform the prospective user:

(a) that it is able to provide the requested service; or

(b) that it is unable to provide the requested service.

(7) If the service provider is unable to provide the requested pipeline service it must include in its notification under subrule (6) the information specified in subrule (4).

(8) If the service provider is able to provide the service, it must, within 15 business days of providing the notice under subrule (6)(a), provide the terms and conditions on which the service provider is prepared to provide the requested pipeline service (the access proposal).

(9) If the prospective user:

(a) wants to seek access to the pipeline service based on the access proposal provided by the service provider under subrules (5) or (8), it must notify the service provider within 15 business days of receiving the access proposal; or

(b) wants to request amendments to the access proposal provided by the service provider under subrules (5) or (8), it must notify the service provider within 15 business days of receiving the access proposal and provide its requested amendments.

(10) Following the prospective user's response under subrule (9)(b), the service provider must respond within 15 business days. If the parties have not agreed on the service provider's proposal (or some negotiated modification of it) within a further 20 business days after the date of the service provider's response under this subrule, then the service provider is taken to have rejected the prospective user's request.

(11) The timeframes specified in subrules (5) to (11) may be extended if the relevant service provider and prospective user agree in writing.

682. In addition to requirements for access, the NGR require an access arrangement for a transmission pipeline to set out queuing requirements.[221]

683. Rule 103 of the NGR details the specific provisions for queuing requirements.

103 Queuing requirements

(1) An access arrangement must contain queuing requirements if:

(a) the access arrangement is for a transmission pipeline; or

(b) the access arrangement is for a distribution pipeline and the [ERA] notifies the service provider that the access arrangement must contain queuing requirements.

(2) If the [ERA] gives a notification under subrule (1), the access arrangement must contain queuing requirements as from the commencement of the first access arrangement period to commence after the date of the notification

[221] NGR 48(1)(e) and 103(1). Under transitional provisions, modified rule 48(1)(f), as set out in schedule 1 (rule 62) applies to the access arrangement for the GGP.

(but this requirement lapses if the [ERA], by notice to the service provider, withdraws the notification).

(3) Queuing requirements must establish a process or mechanism (or both) for establishing an order of priority between prospective users of spare or developable capacity (or both) in which all prospective users (whether associates of, or unrelated to, the service provider) are treated on a fair and equal basis.

(4) Queuing requirements might (for example) provide that the order of priority is to be determined:

(a) on a first-come-first-served basis; or

(b) on the basis of a publicly notified auction in which all prospective users of the relevant spare capacity or developable capacity are able to participate.

(5) Queuing requirements must be sufficiently detailed to enable prospective users:

(a) to understand the basis on which an order of priority between them has been, or will be, determined; and

(b) if an order of priority has been determined – to determine the prospective user's position in the queue.

GGT's Proposal

684. Section 5 of GGT's access arrangement contains both the application procedures and queuing requirements that are applicable when a prospective user seeks access to a pipeline service. GGT made several amendments to correct formatting, typographical and grammatical errors. Other amendments were made to simplify and clarify drafting. Apart from these amendments, the proposed procedures and requirements for the fourth access arrangement period (AA4) are unchanged from the current (AA3) access arrangement period.

Draft Decision

685. GGT's proposed amendments to the application procedures and queuing requirements are administrative in nature and do not materially alter the current procedures and requirements. There were no submissions from interested parties seeking any amendments to the procedures or requirements.

Changed requirements of the NGR for requesting access

686. As mentioned above (paragraph 681), changes to the NGR occurred in March 2019. These changes affect the provisions of rule 112, which cover the requirements for requesting access to pipeline services.[222] The amended provisions require:

- GGT to acknowledge receipt of the prospective user's access request within five business days of receiving it (otherwise referred to as the "access request date").
- GGT to inform the prospective user, within 10 business days of the access request date, that it: (i) can provide the requested service, (ii) needs to carry out further investigation to determine whether it can provide the requested service, or (iii) it cannot provide the requested service.

[222] The requirements for queuing in rule 103 remain unchanged.

- Where GGT cannot provide the requested service, GGT must provide the user with written reasons as to why and, if is there is some prospect of being able to provide the requested service in the future, indicate when this is likely.
- Where GGT can provide the requested service, GGT must, within 25 business days of the access request date, provide the terms and conditions on which it is prepared to provide the requested service.
- Where GGT needs to carry out further investigation to determine whether it can provide the requested service, GGT must carry out the investigation and, within 25 business days of the access request date, inform the user that it can or cannot provide the requested service.
  - Where it cannot provide the service, GGT must include reasons as to why and whether there is any prospect of being able to provide the service in the future.
  - Where it can provide the service, GGT must, within 15 business days of giving notice of this, provide the terms and conditions on which it is prepared to provide the service.

687. The amended provisions of rule 112 have also established requirements and timeframes on the user once it receives an access proposal for the requested pipeline service from GGT.

- The user must notify GGT whether it wants to seek access to the service in GGT's access proposal within 15 business days of receiving it.
- The user may otherwise request (and propose) amendments to the access proposal within 15 business days of receiving it. GGT must respond to the user's request for amendments within 15 business days.

688. While rule 112 prescribes the timeframes in which certain procedures need to be completed, these timeframes may be extended if GGT and the prospective user agree to this in writing.

689. As the changes to the NGR occurred after GGT's submission to the ERA, the ERA asked for and allowed GGT to provide additional information to clarify, substantiate and/or amend its proposal for requesting access to pipeline services in the access arrangement for AA4.

690. In response to the ERA's request, GGT advised that the scheme for gaining access to the GGP (as set out in section 5 of the access arrangement) relied on a spare capacity register, which was established and maintained in accordance with the requirements of rule 111 of the NGR.[223] The March 2019 changes to the NGR deleted rule 111. Hence, GGT's proposed further amendments to section 5 of the proposed revised access arrangement was based on the new requirements of rule 112 and the deletion of rule 111.

691. GGT's proposed amendments are detailed in Appendix 5 of this draft decision and include:

- A new section 5.1 to provide an overview of the procedures to be followed when requesting access to pipeline services, with separate procedures for requesting

[223] GGT, *'GGP Access Arrangement Revision: ERA Information Requests 2, 3, 4 and 5'* [email], 30 May 2019.

services that *are* and *are not* provided by spare capacity or developable capacity.[224]

- A new section 5.2 to outline the procedures for requesting access to services not provided by spare capacity or developable capacity.
- Amendments to the current (AA3) procedures for registrations of interest for services to be provided by spare capacity or developable capacity.
- Amendments to the current (AA3) procedures for requesting access to services provided by spare capacity, with separate procedures depending on whether there is a spare capacity open season and auction.[225]
- Amendments to the current (AA3) procedures for determining whether developable capacity is available and the procedures to be followed when it has been determined that capacity can be made available with investment in developable capacity.

Assessment of GGT's further amendments to address rule changes

692. GGT proposes to amend the requirements for requesting access to a pipeline service in section 5 of the access arrangement based on the new requirements of rule 112 of the NGR and the deletion of rule 111. GGT's amendments require a prospective user to submit an access request for any service that GGT can reasonably provide using the GGP. The procedures that must be followed vary depending on whether the access request is for a service to be provided by spare capacity or developable capacity.

- An access request for a service not provided by spare capacity or developable capacity must be made following the procedures set out in section 5.2 of the access arrangement.
- An access request for a service to be provided by spare capacity or developable capacity must be made following the procedures set out in sections 5.3 to 5.6 of the access arrangement.

693. Section 5.2 of the access arrangement is a new section proposed by GGT to meet the requirements of rule 112 of the NGR. GGT's proposed procedures within this section are considered to meet the requirements of rule 112 (see paragraphs 681 and 686). However, it is noted that GGT's proposed meaning of "access request date" differs from the NGR.

- GGT specifies the access request date to be the date that the prospective user's written access request is dated (section 5.2(a) of the access arrangement).
- The NGR specify the access request date to be "the date that the prospective user's access request is received by the service provider" (rule 112(1)).

694. The effect of this difference in meaning is unlikely to be significant in circumstances where the access request is prepared, dated and sent electronically (by email). However, the use of postal mail may disadvantage GGT and its ability to meet its

[224] The National Gas Law (section 2) defines "**spare capacity**" to mean "[the] unutilised capacity of a pipeline" and "**developable capacity**" to mean "the difference between the current capacity of a covered pipeline and the capacity of a covered pipeline which would be available if a new facility was constructed, but does not include any new capacity of a covered pipeline resulting from an extension to the geographic range of a covered pipeline".

[225] Under the access arrangement, GGT may elect not to conduct an open season and auction where the spare capacity available is, or is likely to be, less than two terajoules per day (2 TJ/d).

obligations to acknowledge receipt of the access request within five business days after the access request date (as specified by GGT). For this reason, GGT should amend the meaning of "access request date" in its further proposal to be the same as the NGR (rule 112(1)).

695. Sections 5.3 to 5.6 of the access arrangement are existing sections of the (AA3) access arrangement that GGT proposes to amend following the deletion of rule 111 from the NGR. As indicated by GGT, the existing procedures for gaining access to the GGP utilise a spare capacity register that was established and maintained under the requirements of rule 111. While the requirements for a such a register no longer exist, GGT proposes to retain a spare capacity register in the access arrangement and make the following amendments.

- The provisions for the registration of interest (section 5.3) have been amended:
  - To clarify that a request is an "access request".
  - To introduce timeframes and information requirements for GGT when responding to registrations of interest from prospective users.
- The provisions for spare capacity (sections 5.4 and 5.5) have been amended:
  - To create separate procedures for when the volume of spare capacity is, or is likely to be, less than two terajoules per day (2 TJ/d). In these circumstances, GGT may elect not to run a spare capacity open season and auction for that spare capacity.
    - Where spare capacity is less than 2 TJ/d, the procedures to be followed are outlined in section 5.4 of the access arrangement and are generally consistent with the procedures outlined in section 5.2 (which meet the requirements of rule 112 of the NGR).
    - Where spare capacity is more than 2 TJ/d, GGT will run an open season and auction for that spare capacity in accordance with the procedures set out in section 5.5 of the access arrangement. These procedures have been amended to be consistent with the process, timeframes and information requirements of rule 112 of the NGR.
- The provisions for developable capacity (section 5.6) have been amended:
  - To clarify what information must be provided by either GGT or the prospective user and the timeframe to do so.
  - To introduce new provisions to establish procedures for when GGT needs to carry out an investigation and prospective users agree to meet the reasonable costs of the investigation. These procedures are generally consistent with the procedures outlined in section 5.2 (which meet the requirements of rule 112 of the NGR).

696. While there is no longer a requirement for a spare capacity register, the ERA considers GGT's proposal to amend and retain the provisions for a register supports the national gas objective. Furthermore, GGT's proposed amendments to the existing sections of the access arrangement cover (and meet) the queuing requirements set out in rule 103 and are generally consistent with the procedures for requesting access in rule 112.

697. Subject to amending the meaning of "access request date" and any submissions from interested parties in response to this draft decision on GGT's further (May 2019) proposed amendments, the ERA considers that GGT's amended proposal for

application procedures and queuing requirements is consistent with the national gas objective and meets the (new) requirements of the NGR.[226]

Required Amendment 12

GGT must incorporate the proposed changes to section 5 (Queuing) of the access arrangement as detailed in Appendix 5 of this draft decision.

Capacity Trading Requirements

698. The NGR requires a full access arrangement to set out capacity trading requirements.[227] As outlined at paragraph 23, changes to the NGR occurred in March 2019. These changes did not, however, affect the requirements for capacity trading.

699. Rule 105 of the NGR prescribes the capacity trading requirements.

> **105 Capacity trading requirements**
>
> (1) Capacity trading requirements must provide for transfer of capacity:
>
> (a) if the service provider is registered as a participant in a particular gas market – in accordance with rules or Procedures governing the relevant gas market; or
>
> (b) if the service provider is not so registered, or the relevant rules or Procedures do not deal with capacity trading – in accordance with this rule.
>
> (2) A user may, without the service provider's consent, transfer, by way of subcontract, all or any of the user's contracted capacity to another (the third party) with the following consequences:
>
> (a) the transferor's rights against, and obligations to, the service provider are (subject to paragraph (b)) unaffected by the transfer; but
>
> (b) the transferor must immediately give notice to the service provider of:
>
> (i) the subcontract and its likely duration; and
>
> (ii) the identity of the third party; and
>
> (iii) the amount of the contracted capacity transferred.
>
> (3) A user may, with the service provider's consent, transfer all or any of the user's contracted capacity to another (the third party) with the following consequences:
>
> (a) the transferor's rights against, and obligations to, the service provider are terminated or modified in accordance with the capacity trading requirements; and

[226] The ERA notes some further administrative amendments may be required to correct typographical and referencing errors (for example, section 5.4(j) is missing the word "section"; section 5.5.2 retains a reference to "Gas Days" when other references have been amended to "Business Day"; and section 5.5.4(b) has the words "New Present Value" rather than "Net Present Value").

[227] Rule 48(1)(f). Under transitional provisions, modified rule 48(1)(g), as set out in Schedule 1 (rule 62), applies to the access arrangement for the GGP.

(b) a contract arises between the service provider and the third party on terms and conditions determined by or in accordance with the capacity trading requirements.

(4) The service provider must not withhold its consent under subrule (3) unless it has reasonable grounds, based on technical or commercial considerations, for doing so.

(5) An adjustment of rights and liabilities under subrule (3) does not affect rights or liabilities that had accrued under, or in relation to, the contract before the transfer took effect.

(6) The capacity trading requirements may specify in advance conditions under which consent will or will not be given, and conditions to be complied with if consent is given.

GGT's Proposal

700. Section 6 of GGT's access arrangement sets out the capacity trading requirements that are applicable for the transfer of contracted capacity. GGT did not make any amendments to these requirements. The requirements proposed for AA4 remain unchanged from AA3.

Draft Decision

701. The capacity trading requirements remain unchanged from the current requirements. There were no submissions from interested parties seeking any amendments to these requirements. For these reasons, and in the absence of any other reason to make amendments, the capacity trading requirements are considered to meet the requirements of the NGR.

Extension and Expansion Requirements

702. The NGR requires a full access arrangement to set out extension and expansion requirements.[228] As outlined at paragraph 23, changes to the NGR occurred in March 2019 (and after GGT's access arrangement proposal submission to the ERA). These changes have affected the requirements for extensions and expansions.

703. The requirements for extensions and expansions are detailed in rule 104.

104 Extension and expansion requirements

(1) Extension and expansion requirements may state whether the applicable access arrangement will apply to incremental services to be provided as a result of a particular extension to the pipeline made during the access arrangement period or may allow for later resolution of that question on a basis stated in the requirements.

(2) Extension and expansion requirements may, if the service provider agrees, state that the applicable access arrangement will apply to incremental services to be provided as a result of a particular extension to the pipeline made before the revision commencement date for the applicable access arrangement.

(3) Extension and expansion requirements must state that the applicable access arrangement will apply to incremental services to be provided as a result of

[228] Rule 48(1)(g). Under transitional provisions, modified rule 48(1)(h), as set out in Schedule 1 (rule 62), applies to the access arrangement for the GGP.

any expansion to the capacity of the pipeline during the access arrangement period and deal with the effect of the expansion on tariffs.

(4) Extension and expansion requirements included in a full access arrangement must, if they provide that an applicable access arrangement is to apply to incremental services provided as a result of an extension to the pipeline:

(a) in the case of extensions made before the revision commencement date for the applicable access arrangement deal with:

(i) the effect of the extension on the opening capital base under rule 77(2)(c1); and

(ii) the effect of the extension on the description of reference services specified in the access arrangement proposal; and

(b) in all cases, deal with the effect of the extension on tariffs.

(5) The extension and expansion requirements cannot require the service provider to provide funds for work involved in making an extension or expansion unless the service provider agrees.

GGT's Proposal

704. Section 7 of GGT's access arrangement sets out the extensions and expansions requirements that are applicable to the access arrangement. GGT did not make any amendments to these requirements. The requirements proposed for AA4 remain unchanged from AA3.

Draft Decision

705. GGT's proposed extensions and expansions requirements remain unchanged from the current (AA3) requirements. There were no submissions from interested parties seeking any amendments to these requirements.

Changed requirements of the NGR for pipeline and reference services

706. As mentioned above (paragraph 702), changes to the NGR occurred in March 2019. These changes affect the requirements for extensions and expansions. Under new rule 104 the extension and expansion requirements:

- May state whether the access arrangement will apply to incremental services to be provided as a result of a particular *extension to the pipeline* made *during* the access arrangement period or allow for a later resolution of that question on a basis as stated in the requirements.
- May, if GGT agrees, state that the access arrangement will apply to incremental services to be provided as a result of a particular *extension to the pipeline* made *before* the revision commencement date for the access arrangement.
- Must state that the access arrangement will apply to incremental services to be provided as a result of *any expansion to the capacity of the pipeline* during the access arrangement period and deal with the effect of the expansion on tariffs.

707. If the extension and expansion requirements provide that the access arrangement is to apply to incremental services provided as a result of an *extension to the pipeline*:

- In the case of extensions made *before* the revision commencement date for the access arrangement, the requirements must deal with the effect of the extension on the opening capital base (under rule 77(2)(c1), as well as the effect of the extension on the description of reference services.

- In all cases, the requirements must deal with the effect of the extension on tariffs.

708. The extension and expansion requirements cannot require GGT to provide funds for work involved in making an extension or expansion unless GGT agrees.

709. As the changes to the NGR occurred after GGT's submission to the ERA, the ERA asked for and allowed GGT to provide additional information to clarify, substantiate and/or amend its proposal for extension and expansion requirements in the access arrangement for AA4.

710. In response to the ERA's request, GGT proposed further amendments to section 7 of the proposed revised access arrangement to redraft:[229]

- Section 7.2(b) to align it with the new wording of rule 104(3) of the NGR.
- Section 7.3[230] to remove references to "the service provider and the owners" because there are four service providers for the GGP (as detailed in section 1.4 of the access arrangement), with GGT being the complying service provider, and the other three service providers being the owners of the GGP.

711. GGT's further amendments are detailed in Appendix 6 of this draft decision.

Assessment of GGT's further proposed amendments to address rule changes

712. GGT has proposed to amend the extension and expansion requirements in section 7 of the access arrangement to align them with the new requirements of rule 104 of the NGR.

713. For *extensions*, GGT has retained the requirement for it to apply to the ERA for a decision on whether a proposed extension will be taken to form part of the covered pipeline so that the access arrangement applies to incremental services provided by means of the extension. GGT must make the application when the extension is first considered and prior to making a final investment decision.

714. For *expansions*, section 7.2(b) of the access arrangement has been amended to state that, if there is an expansion during the access arrangement period, the access arrangement will apply to the incremental services that are provided after the expansion comes into operation. This is consistent with the requirements of rule 104(3) of the NGR, which requires all expansions to the capacity of the pipeline during the access arrangement period to be covered by the access arrangement.

715. Section 7.3 of the access arrangement deals with the effect of extensions and expansions on tariffs. GGT has proposed further amendments to this section to remove references to "the service provider and the owners". As indicated by GGT, there are four service providers for the GGP. GGT controls and operates the GGP and is the complying service provider for the pipeline. The other three service providers[231] are the owners of the GGP. GGT's proposal to only refer to the "service provider" simplifies the drafting and reflects the information in section 1.4 (Service Providers) of the access arrangement.

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229 GGT, *'GGP Access Arrangement Revision: ERA Information Requests 2, 3, 4 and 5'* [email], 30 May 2019.

230 In its response, GGT has referred to "section 7.4". However, the proposed amendments have been made to "section 7.3" of the access arrangement.

231 Southern Cross Pipelines Australia Pty Limited, Southern Cross Pipelines (NPL) Australia Pty Ltd and Alinta Energy GGT Pty Ltd.

716. GGT's proposal to deal with the effect of extension and expansions on tariffs is considered to meet the requirements of rule 104(4).

- GGT has not stated that the access arrangement will apply to incremental services provided by means of an extension made before the revision commencement date for the applicable access arrangement (being 1 January 2020 for the current (AA3) access arrangement).[232] Hence, rule 104(4)(a) does not apply and the access arrangement does not need to deal with the effect of the extension:
  - on the opening capital base (under rule 77(2)(c1))
  - on the description of reference services.
- GGT has stated (in section 7.3 of the access arrangement) that it will deal with the effect of extensions/expansions in following way.
  - There will be no change to the reference tariff applied to a user when the extension (or expansion) has been fully funded by that user's capital contribution, except to contribute to GGT's operating costs in connection with the extension (or expansion).
  - Any change to reference tariffs may only occur pursuant to the processes set out in Part 8 of the NGR.
  - Users of incremental services, who have not made a capital contribution to the investment needed to provide the services that they use and which have been funded by others, may be liable to pay a surcharge (as provided for under rule 83 of the NGR).
  - Extensions (or expansions) funded by GGT may result in a surcharge on users, subject to GGT providing written notice to the ERA and the ERA approving this notice in accordance with rule 83 of the NGR.

717. Consistent with rule 104(5), section 7.1 of the access arrangement states that GGT "will not be required to provide funds for work involved in making an extension or expansion unless [GGT] agrees to do so".

718. Subject to any submissions from interested parties in response to this draft decision on GGT's further (May 2019) proposed amendments, the ERA considers that GGT's amended proposal for extension and expansion requirements is consistent with the national gas objective and meets the (new) requirements of the NGR.

Required Amendment 13

GGT must incorporate the proposed changes to section 7 (Extension and Expansion) of the access arrangement as detailed in Appendix 6 of this draft decision.

[232] As provided for under rule 104(2) of the NGR.

Receipt and Delivery Points

719. The NGR requires a full access arrangement to state the terms and conditions for changing receipt and delivery points.[233] These terms and conditions must be in accordance with the principles listed in rule 106.

> **106 Change of receipt or delivery point by user**
>
> (1) An access arrangement must provide for the change of a receipt or delivery point in accordance with the following principles:
>
> (a) a user may, with the service provider's consent, change the user's receipt or delivery point;
>
> (b) the service provider must not withhold its consent unless it has reasonable grounds, based on technical or commercial considerations, for doing so.
>
> (2) The access arrangement may specify in advance conditions under which consent will or will not be given, and conditions to be complied with if consent is given.

GGT's Proposal

720. Section 6.4 of GGT's access arrangement and clause D.6 of the terms and conditions applying to the Firm Service[234] detail the terms and conditions for changing receipt and delivery points. GGT did not make any amendments to these terms and conditions. The terms and conditions proposed for AA4 remain unchanged from AA3.

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721. The terms and conditions for changing receipt and delivery points remain unchanged from the current terms and conditions. There were no submissions from interested parties seeking any amendments to these terms and conditions. For these reasons, and in the absence of any other reason to make amendments, the terms and conditions are considered to meet the requirements of the NGR.

[233] Rule 48(1)(h). Under transitional provisions, modified rule 48(1)(i), as set out in schedule 1 (rule 62), applies to the access arrangement for the GGP.

[234] Schedule D of the access arrangement.

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Appendix 3 Abbreviations

AA3	Third Access Arrangement Period
AA4	Fourth Access Arrangement Period
AAI	Access Arrangement Information
AEMC	Australian Energy Market Commission
CAM	Cost Allocation Method
DRP	Debt Risk Premium
GGP	Goldfields Gas Pipeline
GGT	Gas Transmission Pty Ltd
MEJ	Major Expenditure Jobs
NGL	National Gas Law
NGR	National Gas Rules
TAB	Tax Asset Base
TJ/d	Terajoule per day
WACC	Weighted Average Cost of Capital

Appendix 4 Pipeline and Reference Services

Given the changes to the National Gas Rules that occurred after GGT's (December 2018) submission to the ERA, the ERA asked for and allowed GGT to provide additional information to clarify, substantiate and/or amend its access arrangement proposal to specify only one reference service.

GGT's further (May 2019) proposed amendments to section 2.1 of the proposed revised access arrangement to address the new requirements of modified rule 48[235] are reproduced below.[236]

2 Pipeline Services

2.1 Services under Access Arrangement

Service Provider may provide the following Services on the Covered Pipeline:

(a) Firm Service;

(b) Interruptible Service;

(c) Firm parking service:

(i) a service whereby Gas received from a User, at a Receipt Point, on a day, is stored in the GGP up to an amount not exceeding the parking allowance specified in the User's Transportation Agreement, without interruption or curtailment, except in the specific and limited circumstances set out in the User's Transportation Agreement; and

(ii) User can withdraw Gas which it has stored in the Covered Pipeline by nominating, and having scheduled, transportation to a Delivery Point, without making a corresponding Receipt Point nomination, in accordance with the terms of a transportation service specified in the User's Transportation Agreement;

(d) Firm loan service:

(i) a service whereby Gas is delivered to a User, at a Receipt Point, on a day, up to a quantity not exceeding the loan allowance specified in the User's Transportation Agreement, without interruption or curtailment, except in the specific and limited circumstances set out in the User's Transportation Agreement; and

(ii) User can withdraw Gas which it has stored in the Covered Pipeline by nominating, and having scheduled, transportation to a Delivery Point, without making a corresponding receipt point nomination, in accordance with the terms specified in the User's Transportation Agreement;

235 As set out in schedule 1 (rule 62) of the NGR

236 GGT, *'GGP Access Arrangement revision: ERA Information Requests 2, 3, 4 and 5'*, [email] 30 May 2019.

(e) Interruptible parking service:

(i) a service whereby Gas received from a User is stored in the Covered Pipeline, on a day, up to a quantity not exceeding the interruptible parking allowance specified in the User's Transportation Agreement; and

(ii) User nominates a quantity of Gas for storage on the day, and that quantity is scheduled subject to pipeline capacity being available, and subject to any interruption or curtailment of capacity in the Covered Pipeline;

(f) Interruptible loan service:

(i) a service whereby Gas is delivered from the Covered Pipeline, to a User, at a Receipt Point, on a day, up to a quantity not exceeding the interruptible loan allowance specified in the User's Transportation Agreement; and

(ii) User nominates a quantity of Gas for delivery on a day, and that quantity is scheduled subject to pipeline capacity and Line Pack being available, and subject to any interruption or curtailment of capacity in the Covered Pipeline;

(g) In-pipe trade service: a service whereby a Transportation Agreement recognises the User's delivery of Gas, on a day, to a notional point (in-pipe delivery point) in the Covered Pipeline, and receipt of that gas, at a notional point (in-pipe receipt point) in the Covered Pipeline, is recognised in a second User's Transportation Agreement, thereby facilitating the trade of gas between Covered Pipeline Users; and

(h) Interconnection service: a service providing, or facilitating, pipeline interconnection.

Service Provider offers Firm Service, as described in section 2.2, as a Reference Service.

Other services which Service Provider may provide are non-Reference Services, and are offered as Negotiated Services, as described in section 2.3.

~~Service Provider offers the following Services on the Covered Pipeline under this Access Arrangement:~~

~~(a) Firm Service – Reference Service, as described in section 2.2;~~

~~(b) Negotiated Service – non-Reference Service, as described in section 2.3.~~

Appendix 5 Application Procedures and Queuing Requirements

Given the changes to the National Gas Rules that occurred after GGT's (December 2018) submission to the ERA, the ERA asked for and allowed GGT to provide additional information to clarify, substantiate and/or amend its access arrangement proposal for requesting access to pipeline services.

GGT's further (May 2019) proposed amendments to section 5 of the proposed revised access arrangement to address the new requirements of rule 112 are reproduced below.[237]

5 Queuing

5.1 Access request

(a) A Prospective User must submit an access request for access to any Service which Service Provider can reasonably provide using the Covered Pipeline.

(b) An access request for a Service not provided by Spare Capacity or Developable Capacity must be made in the way set out in section 5.2 below.

(c) An access request for a Service to be provided by Spare Capacity or Developable Capacity must be made in the way set out in sections 5.3 to 5.6 below.

5.2 Access request for a Service not provided by Spare Capacity or Developable Capacity

(a) An access request for a Service not provided by Spare Capacity or Developable Capacity must be made in writing, be dated (the date being the **access request date**), and must:

(i) specify the Service and state the time or times when the Service will be required;

(ii) identify the Receipt Point at where the Prospective User proposes that Gas be received into the Covered Pipeline or any Delivery Point at which the Prospective User proposes that Gas be delivered from the Covered Pipeline;

(iii) state the relevant technical details (including Gas specification) for connection to the Covered Pipeline, and for ensuring the safety and reliability of gas supply into, or Gas supply from, the Covered Pipeline.

(b) On receipt of an access request for a Service not provided by Spare Capacity or Developable Capacity, Service Provider must:

(i) acknowledge receipt of the access request within 5 Business Days after the access request date;

(ii) inform the Prospective User, within 10 Business Days after the access request date, that:

[237] GGT, *'GGP Access Arrangement revision: ERA Information Requests 2, 3, 4 and 5'*, [email] 30 May 2019.

(A) Service Provider is able to provide the Service; or

(B) Service Provider is unable to provide the Service, in which case the Service Provider must:

a) provide the prospective user with written reasons explaining why the Service cannot be provided; and

b) if the Service may be provided at some time in the future, give details (to the extent circumstances reasonably allow) of when the Service is likely to become available; or

(C) Service Provider needs to carry out an investigation to determine whether the Service can be provided, in which case Service Provider must provide a statement of the nature of the investigation, and the reasonable costs of the investigation that the Prospective User would be required to meet.

(c) If Service Provider is able to provide the Service, Service Provider must, within 25 Business Days of the access request date, provide the Prospective User with the terms and conditions on which the Service Provider is prepared to provide the Service (the access proposal).

(d) If Service Provider needs to carry out an investigation to determine whether the Service can be provided, and the Prospective User agrees to meet the reasonable costs, Service Provider must carry out the investigation and, within 25 Business Days of the access request date, inform the Prospective User that:

(i) Service Provider is able to provide the Service; or

(ii) Service Provider is unable to provide the Service, in which case the Service Provider must:

(A) provide the Prospective User with written reasons explaining why the Service cannot be provided; and

(B) if the Service may be provided at some time in the future, give details (to the extent circumstances reasonably allow) of when the Service is likely to become available.

(e) If, after carrying out an investigation, Service Provider informs the Prospective User that the Service is able to be provided, Service Provider must, within 15 days of informing the Prospective User, provide the Prospective User with the terms and conditions on which the Service Provider is prepared to provide the Service (the **access proposal**).

(f) If Prospective User intends to access the Service based on the access proposal provided by the Service Provider under (c) or (e) above, then the Prospective User must notify the Service Provider of its intention within 15 Business Days of receiving the access proposal.

(g) If the Prospective User wants to request amendments to the access proposal provided by Service Provider under (c) or (e) above, the Prospective User must provide Service Provider with requested amendments within 15 Business Days of receiving the access proposal.

(h) Service Provider must respond to the Prospective User's requested amendments to the access proposal within 15 Business Days.

(i) If the parties have not agreed on the access proposal, or some negotiated modification of it, within a further 20 Business Days of Service Provider's response under (h), then Service Provider is taken to have rejected the Prospective User's access request.

(j) Service Provider and the Prospective User may extend the periods specified in this section 5.2 by written agreement.

5.3~~5.1~~ Registration of interest

5.3.1~~5.1.1~~ Registration of interest for Services to be provided by Spare Capacity or Developable Capacity

(a) Prospective Users may lodge with Service Provider a registration of interest for Services to be provided by Spare Capacity and/or Developable Capacity. A registration of interest must be made in the form set out in Schedule B.

(b) A registration of interest is valid for 12 months from receipt of the registration of interest by Service Provider.

(c) A Prospective User may submit a revised registration of interest at any time and the registration of interest as revised will be valid for a period of 12 months.

(d) The order of receipt of registrations of interest does not determine and is not relevant to the priority of any access request.

5.3.2~~5.1.2~~ Service Provider to respond to registrations of interest

(a) Within 20 Business Days of receipt of a registration of interest pursuant to section 5.3.1~~5.1.1~~, Service Provider must:

(i) notify the Prospective User that the registration of interest has been received and the date of its receipt;

(ii) subject to section 5.3.2~~5.1.2~~ (a)(iii), advise the Prospective User of any existing Spare Capacity, or if no Spare Capacity is currently available, why Spare Capacity is not available, and the Service Provider's estimate of when the capacity sought may become available;

(iii) if Service Provider determines that an investigation~~s are~~is required to determine whether Spare Capacity may be available, Service Provider must provide the Prospective User with a proposal for carrying out ~~further~~the investigation~~s~~ within 10 Business Days of receiving the registration of interest, and must provide a statement of the nature of the investigation, and the reasonable costs of the investigation that the Prospective User would be required to meet~~in accordance with Rule 112(3)(b) of the NGR~~;

(iv) if ~~a~~the Prospective User wishes Service Provider to ~~conduct~~carry out an investigation~~s~~ in accordance with Service Provider's proposal under 5.3.2~~5.1.2~~(a)(iii) (or a modified proposal agreed between Service Provider and the Prospective User), it must provide Service

Provider with written acceptance of that proposal ~~in accordance with Rule 112(5) of the NGR~~;

(v) if the registration of interest is for Spare Capacity, advise the Prospective ~~user~~User whether the Service sought may be able to be provided by Developable Capacity and, if there is some prospect that capacity may be developed at some time in the future, give details (to the extent circumstances reasonably allow) of when the Developable Capacity is likely to become available~~any estimate of when that capacity may become available~~; and

(vi) provide details of the other registrations of interest Service Provider has received that are valid (without identifying the Prospective Users who have lodged those registrations of interest), including the capacity sought, whether that capacity is sought in relation to Spare Capacity and/or Developable Capacity, and the ~~time~~ period in which the Services are being sought.

5.3.3~~5.1.3~~ Service Provider to keep registrations of interest for Services under review

Service Provider will keep registrations of interest under review in order to determine whether there is likely to be sufficient demand for Services that could be provided by means of Developable Capacity.

5.4~~5.2~~ Spare Capacity – less than 2TJ/d

~~5.2.1 Spare Capacity~~

~~(a) Service Provider will include all Spare Capacity in the Spare Capacity Register, and will add a note on the Register describing the process for access to Spare Capacity.~~

(a)~~(b)~~ Where the volume of Spare Capacity that is, or is likely to become, available is less than 2 TJ/d, Service Provider may elect not to run an open season and auction for that Spare Capacity~~, and if so, Service Provider must make that Spare Capacity available by placing it on the Spare Capacity Register~~.

(b)~~(c)~~ Service Provider will make that Spare Capacity available on a first come, first served basis to those Prospective Users who make access requests for Services which will use that capacity~~enter into an agreement for that Spare Capacity within 2 months of seeking access to the Spare Capacity and at a rate which is at or above the Reference Tariff and sections 5.2.2 to 5.2.6 will not apply to such of that Spare Capacity as is so taken up~~.

(c) An access request for any a Service provided by Spare Capacity must be made in writing, be dated (the **access request date**), and must:

(i) specify the Service and state the time or times when the Service will be required;

(ii) identify the Receipt Point at where the Prospective User proposes that Gas be received into the Covered Pipeline or any Delivery Point at which the Prospective User proposes that Gas be delivered from the Covered Pipeline;

(iii) state the relevant technical details (including Gas specification) for connection to the Covered Pipeline, and for ensuring the safety and reliability of Gas supply into, or gas supply from, the Covered Pipeline.

(d) On receipt of an access request for a Service provided by Spare Capacity, Service Provider must:

(i) acknowledge receipt of the access request within 5 Business Days after the access request date;

(ii) inform the Prospective User, within 10 Business Days after the access request date, that:

(A) Service Provider is able to provide the Service; or

(B) Service Provider is unable to provide the Service, in which case the Service Provider must:

a) provide the prospective user with written reasons explaining why the Service cannot be provided; and

b) if the Service may be provided at some time in the future, give details (to the extent circumstances reasonably allow) of when the Service is likely to become available.

(e) If Service Provider is able to provide the Service, Service Provider must, within 25 Business Days of the access request date, provide the Prospective User with the terms and conditions on which the Service Provider is prepared to provide the Service (the **access proposal**).

(f) If Prospective User intends to access the Service based on the access proposal provided by the Service Provider under (c) or (e) above, then the Prospective User must notify the Service Provider of its intention within 15 Business Days of receiving the access proposal.

(g) If the Prospective User wants to request amendments to the access proposal provided by Service Provider under (c) or (e) above, the Prospective User must provide Service Provider with requested amendments within 15 Business Days of receiving the access proposal.

(h) Service Provider must respond to the Prospective User's requested amendments to the access proposal within 15 Business Days.

(i) If the parties have not agreed on the access proposal, or some negotiated modification of it, within a further 20 Business Days of Service Provider's response under (h), then Service Provider is taken to have rejected the Prospective User's access request.

(j) Service Provider and the Prospective User may extend the periods specified in this [section] 5.4 by written agreement.

5.5~~5.2.2~~ Spare Capacity – open season

(a) Where Spare Capacity is or is likely to become available Service Provider must:

(i) provide all Prospective Users who have submitted a registration of interest ~~for Capacity~~ with a Spare Capacity Notice; and

(ii) publish in a local and national daily newspaper a copy of the Spare Capacity Notice.

(b) The Spare Capacity Notice must advise that Expressions of Interest for Services to be provided by Spare Capacity are to be received by Service Provider by a date not less than 30 ~~Gas~~Business Days after the date that the Spare Capacity Notice is published in the national daily newspaper.

(c) For the avoidance of doubt, where Service Provider and a User have agreed to enter into a new agreement for a Service that is currently being provided to that User pursuant to an agreement or to otherwise extend the term of the existing agreement, Spare Capacity will not be considered likely to become available merely because a current agreement for Capacity is nearing its end date.

5.5.1 Expressions of Interest met with available Spare Capacity

(a)~~(d)~~ Where all Expressions of Interest for Services to be provided by Spare Capacity can be met with the available Spare Capacity, Service Provider will treat each Expression of Interest as an access request with Access Request Date the date 30 Business Days after the date that the Spare Capacity Notice is published in a national daily newspaper.

(b) Service Provider will enter into negotiations with all Prospective Users that lodge Expressions of Interest~~,~~ for the provision of Services using the available Spare Capacity. Service Provider may deal with complying Expressions of Interest in any order provided that Service Provider uses reasonable endeavours to ensure that no complying Expression of Interest is ultimately disadvantaged as a result.

(c) Service Provider must:

(i) acknowledge receipt of an Expression of Interest within 5 Business Days after the access request date;

(ii) inform the Prospective User, within 10 Business Days after the access request date, that:

(A) Service Provider is able to provide the Service; or

(B) Service Provider is unable to provide the Service, in which case the Service Provider must:

a) provide the prospective user with written reasons explaining why the Service cannot be provided; and

b) if the Service may be provided at some time in the future, give details (to the extent circumstances reasonably allow) of when the Service is likely to become available.

(d) If Service Provider is able to provide the Service, Service Provider must, within 25 Business Days of the access request date, provide the Prospective User with the terms and conditions on which the Service Provider is prepared to provide the Service (the **access proposal**).

(e) If Prospective User intends to access the Service based on the access Proposal provided by the Service Provider under (d) above, then the Prospective User must notify the Service Provider of its intention within 15 Business Days of receiving the access proposal.

(f) If the Prospective User wants to request amendments to the access proposal provided by Service Provider under (d) above, the Prospective User must provide Service Provider with requested amendments within 15 Business Days of receiving the access proposal.

(g) Service Provider must respond to the Prospective User's requested amendments to the access proposal within 15 Business Days.

(h) If the parties have not agreed on the access proposal, or some negotiated modification of it, within a further 20 Business Days of Service Provider's response under (g), then Service Provider is taken to have rejected the Prospective User's access request.

(i) Service Provider and the Prospective User may extend the periods specified in this 5.5.1 by written agreement.

5.5.2~~5.2.3~~ Auction for Spare Capacity

(a) In the event Service Provider determines that there is sufficient demand to proceed with an auction for the Spare Capacity (and that the available Spare Capacity is not sufficient to meet the Expressions of Interest for Services to be provided by Spare Capacity), Service Provider will notify all Prospective Users that lodged Expressions of Interest for Spare Capacity in response to the Spare Capacity Notice that Service Provider will accept bids for Spare Capacity (**Notice of Auction for Spare Capacity**).

(b) The Notice of Auction for Spare Capacity must identify the Capacity that will be the subject of the auction and specify the date by which bids must be lodged. The date for the lodgement of bids must be at least 30 Gas Days after the date of the Notice of Auction for Spare Capacity.

(c) Service Provider may provide the following documents or information together with the Notice of Auction for Spare Capacity:

(i) an auction application registration form;

(ii) the form of financial security required to participate in the auction, which may take the form of a parent company guarantee, bank guarantee or similar security as reasonably determined by Service Provider and in the amount reasonably determined by Service Provider. The form and amount of security required may vary as between Users, with any variation to be reasonably based; and

(iii) the terms and conditions upon which the Spare Capacity may be made available. These terms and conditions may vary depending on the category or categories of Services that may be provided by the Spare Capacity. Where a Prospective User is seeking access to the Firm Service the Terms and Conditions will be those in Schedule D.

(d) In order to submit a complying bid, a Prospective User must provide to Service Provider by the date specified in the Notice of Auction for Spare Capacity:

(i) the completed auction application registration;

(ii) the required financial security in the form and amount specified by Service Provider; and

(iii) the terms and conditions relevant to the Service to which the bid applies in a form that is capable of immediate acceptance by Service Provider.

(e) A Prospective User may consult with Service Provider on potential alternative terms and conditions prior to submitting a bid under section 5.5.2~~5.2.3~~(d).

(f) A bid submitted under section 5.5.2(d) is an access request, and the date specified in the Notice of Auction for Spare Capacity as the date by which bids must be lodged is the access request date for that access request.

(g) Each complying bid for Spare Capacity will be deemed to be an irrevocable access request for Spare Capacity capable of immediate acceptance.

5.5.3~~5.2.4~~ If complying bids do not exceed Spare Capacity

(a) This section 5.5.3~~5.2.4~~ applies only if the aggregate of all complying bids for Spare Capacity in the auction referred to in 5.5.2~~5.2.3~~ does not exceed the Spare Capacity stated in the Notice of Auction for Spare Capacity.

~~(b) In such case, each complying bid for Spare Capacity will be deemed to be an irrevocable request for Spare Capacity capable of immediate acceptance.~~

(b) Service Provider must inform Prospective User, within 15 Business Days after the access request date, that Service Provider accepts provision of the Service requested on the terms and conditions relevant to that Service which were provided in the Prospective User's bid.

(c) Service Provider may deal with complying bids for Spare Capacity in any order provided that Service Provider uses reasonable endeavours to ensure that no complying bid is ultimately disadvantage as a result.

~~(d) Spare Capacity that has not been taken up in the auction will be placed on the Spare Capacity Register and will be made available on a first come first served basis to Prospective Users who will contract for that Capacity within 2 months of it becoming unutilised.~~

5.5.4~~5.2.5~~ If complying bids exceed Spare Capacity

(a) This section 5.5.4~~5.2.5~~ applies if the aggregate of all complying bids received on or before the auction cannot be satisfied by the Spare Capacity stated in the Notice of Auction for Spare Capacity.

(b) Immediately after the auction, Service Provider will rank the applications on the basis of its assessment of the Net Present Value of the respective applications, from highest to lowest. The New Present Value *[sic]* will be calculated using:

i. The Prospective User's nominated tariff;

ii. The Prospective User's requested capacity requirement;

iii. The Prospective User's requested contract term;

iv. The Prospective User's requested contract commencement date; and

v. The Service Provider's allowed rate of return as a discount rate.

As there are a number of variables to the NPV calculation (price, volume, term, commencement date), it is not possible to provide an advance determinative ranking of bids. However, Service Provider will include information to the effect that, all other things remaining equal:

i. A bid at a higher offer price will outrank a bid at a lower price;

ii. A bid for a larger volume will outrank a bid for a lower volume;

iii. A longer term contract will outrank a shorter term contract;

iv. A contract with an earlier commencement date will outrank a contract with a later commencement date.

Owing to the nature of present value calculations, an application featuring a large volume, long term contract could outrank a higher priced lower volume, shorter term application.

All applications will be discounted at the same discount rate.

(c) Service Provider will then allocate the Spare Capacity amongst the auction participants on the basis of the ranking performed pursuant to section 5.5.4~~5.2.5~~ (b).

(d) Within 25 Business Days after the access request date, Service Provider must:

(i) inform each Prospective User of whether the Prospective User has been allocated Spare Capacity in the auction; and

(ii) for those Prospective Users allocated Spare Capacity in the auction, inform each Prospective User that Service Provider accepts provision of the Service requested on the terms and conditions relevant to that Service which were provided in the Prospective User's bid.

5.5.5~~5.2.6~~ Reserve price

Service Provider may set a reserve price for the auction. For the provision of the Firm Service the reserve price will not exceed the Reference Tariff. If a reserve price applies this must be stated in the Notice of Auction for Spare Capacity.

5.6~~5.3~~ Developable Capacity

5.6.1~~5.3.1~~ Service provider to undertake investigations to determine if Developable Capacity is available

(a) If

(i) a Prospective User requests Service Provider to prepare a proposal to perform an investigation under ~~Rule 112 of the NGR~~section 5.3.3(a) above; or

(ii) Service Provider determines on the basis of the registrations of interest for Services received under section 5.3~~5.1~~ and any other available information that there is likely to be sufficient demand for a category or categories of Services that could be provided by means of

Developable Capacity, and an investigations ~~are~~is required to determine whether Developable Capacity can be made available,

Service Provider will notify each Prospective User that has lodged a registration of interest that Service Provider ~~may commence to undertake such investigations~~needs to carry out an investigation.

(b) Service Provider may:

(i) notify Prospective Users that have not lodged ~~a~~ registrations of interest that it may ~~be commencing~~carry out an investigations ~~to~~ determine whether Developable Capacity can be made available, and advise those Prospective Users that they should lodge registrations of interest in accordance with section 5.3 above within 20 Business Days; and~~,~~

(ii) where the circumstances allow, ~~will~~ publish in a local and national daily newspaper, a Developable Capacity Notice stating that Service Provider may ~~commence to undertake such~~carry out an investigations~~,~~ and that ~~if a~~ Prospective Users ~~may~~who want to acquire Services provided by ~~that~~ Developable Capacity in the event that it becomes available~~, that the Prospective User~~ should lodge a registration of interest in accordance with section 5.3~~5.1 with Service Provider~~above within 20 ~~Gas~~Business Days.

(c) Where Service Provider ~~decides that it will~~needs to undertake an investigations ~~to~~ determine whether Developable Capacity can be made available, Service Provider ~~will advise~~must provide each of Prospective User that has lodged a registration of interest ~~of the nature, likely duration and cost of the investigations~~with a statement of the nature of the investigation, and the reasonable costs of the investigation that the Prospective User would be required to meet. Where there is more than one Prospective User considering participating in the investigations~~,~~ Service Provider will advise each Prospective User of its share of the estimated cost of the investigations~~.~~ This will be determined as the proportion that their requested capacity bears to the total requested capacity of all Prospective Users participating in the investigations~~.~~ ~~The Prospective User may then determine whether it wants Service Provider to undertake the investigations.~~

(d) Service Provider is only obliged to undertake an investigations ~~if~~ one or more Prospective Users agree to ~~bear~~meet the reasonable costs of the investigations~~.~~ The Service Provider will conduct any investigations ~~to~~ the standard of a reasonable and prudent pipeline operator.

(e) Agreement by a Prospective User to meet the reasonable costs of an investigation, which must be within 5 Business Days of the Service Provider providing a statement of the nature of the investigation and of the costs to be met, is an access request, and the date on which the Service Provider is notified of the Prospective User's agreement is the access request date for the Prospective User's access request.

(f) If Service Provider needs to carry out an investigation, and Prospective Users agree to meet the reasonable costs, Service Provider must carry out the investigation and, within 25 Business Days of the access request date, inform Prospective Users that:

(i) Service Provider can make available Developable Capacity; or

(ii) Service Provider is unable to make available Developable Capacity, in which case the Service Provider must:

(A) provide the Prospective User with written reasons explaining why the Developable Capacity cannot be made available; and

(B) if Developable Capacity may be made available at some time in the future, give details (to the extent circumstances reasonably allow) of when the Developable Capacity is likely to become available.

(g) If, after carrying out an investigation, Service Provider informs Prospective Users that Developable Capacity can be made available, Service Provider must, within 15 days of informing the Prospective User, provide the Prospective User with the terms and conditions on which the Service Provider is prepared to provide Service using the Developable Capacity (the **access proposal**).

(f) If Prospective User intends to access a Service based on the access proposal provided by the Service Provider under (g) above, then the Prospective User must notify the Service Provider of its intention within 15 Business Days of receiving the access proposal.

(g) If the Prospective User wants to request amendments to the access proposal provided by Service Provider under (g) above, the Prospective User must provide Service Provider with requested amendments within 15 Business Days of receiving the access proposal.

(h) Service Provider must respond to the Prospective User's requested amendments to the access proposal within 15 Business Days.

(i) If the parties have not agreed on the access proposal, or some negotiated modification of it, within a further 20 Business Days of Service Provider's response under (h), then Service Provider is taken to have rejected the Prospective User's access request.

~~(e) Where a Prospective User declines to meet the cost of investigations that Prospective User's Application will have lower priority than Applications where the Prospective Users have agreed to bear the costs of the investigations, and will maintain relative priority with other Applications where the Prospective Users have not agreed to bear the costs of the investigations. For the purpose of sub-section 5.3.1(d) a Prospective User is only obliged to bear those costs of the investigations that are reasonably incurred.~~

~~(f) A Prospective User who has paid for investigations will, on entering into appropriate confidentiality arrangements, receive a written report that:~~

~~(i) describes the options considered to provide the Developable Capacity; and~~

~~(ii) describes Service Provider's preferred option to provide the Developable Capacity or provides reasons why no recommendation is made.~~

~~(g) Where a Prospective User bears the costs of investigations and the Prospective User decides not to proceed with the Application that Prospective User may assign:~~

~~(i) the Application to which the investigations relate; and~~

~~(ii) information in the possession of that Prospective User relevant to the investigations,~~

~~to a bona fide assignee and that assignee may use the results of the investigations provided that the assignment does not disclose confidential information without the consent of persons to whom such information relates including GGT.~~

~~(h) Where a Prospective User bears the costs of investigations GGT must provide that Prospective User with an itemisation of the costs incurred by GGT as soon as reasonably practicable following the completion of the investigations and prior to a Prospective User being obliged to pay those costs.~~

5.6.2~~5.3.2~~ Procedures when Capacity can be made available with investment in Developable Capacity

(a) Where Service Provider has, acting as a reasonable and prudent pipeline operator, reasonably determined on the basis of ~~the~~an investigation~~s~~ undertaken and the registrations of interest for Services that have been lodged that technically and economically feasible Developable Capacity can be made available, Service Provider will enter into negotiations with any Prospective Users with respect to any part of the Developable Capacity.

(b) Where there is more than one Prospective User requesting Developable Capacity, concurrent negotiations will be held with all relevant Prospective Users to determine the appropriate scale and scope of any potential investment for any part of Developable Capacity.

(c) In accordance with Rule 103(3), the outcome and timing of the conclusion of negotiations with each Prospective User will determine the order of priority between Prospective Users in respect of Developable Capacity, and may result in more than one Prospective User gaining access to Developable Capacity at the same time.

5.6.3~~5.3.3~~ Service Provider is bound to undertake certain developments of capacity

(a) Subject only to paragraphs (b), (c) and (d) below, Service Provider must undertake an Expansion to ~~provide~~make available Developable Capacity if requested by a ~~User or~~ Prospective User where it is:

(i) technically and economically feasible; and

(ii) consistent with the safe and reliable operation of the Pipeline.

(b) Service Provider may elect, but cannot be required, to fund, in whole or part, an Expansion unless the extension and expansion requirements of the applicable access arrangement provide for the relevant funding.

(c) Where an Expansion is proposed, Service Provider is not required to extend the geographical range of the Pipeline unless otherwise agreed by Service Provider.

(d) A ~~User or~~ Prospective User acquires no interest in a Pipeline by funding an Expansion unless the Service Provider agrees.

Appendix 6 Extension and Expansion Requirements

Given the changes to the National Gas Rules that occurred after GGT's (December 2018) submission to the ERA, the ERA asked for and allowed GGT to provide additional information to clarify, substantiate and/or amend its access arrangement proposal for extension and expansion requirements.

GGT's further (May 2019) proposed amendments to section 7 of the proposed revised access arrangement to address the new requirements of rule 104 are reproduced below.[238]

7 Extensions and Expansions

7.1 Extensions/Expansions

Other than as required under the National Gas Rules and the GGP State Agreement, the Service Provider will not be required to provide funds for work involved in making an Extension or Expansion, unless the Service Provider agrees to do so.

7.2 Application of Access Arrangement to Pipeline Extensions/Expansions

(a) Extensions

If Service Provider proposes an Extension of the Covered Pipeline, it must apply to the Regulator for the Regulator to decide whether the proposed Extension will be taken to form part of the Covered Pipeline such that this Access Arrangement would apply to the Incremental Services provided by means of the proposed Extension.

The application given by the Service Provider must be submitted to the Regulator when the Extension is first being considered, prior to making its final investment decision.

The Regulator's decision, may be made on such reasonable conditions as determined by the Regulator consistent with the National Gas Objective and will have the effect stated in its decision on the Service Provider's proposed pipeline Extension.

(b) Expansions

If there is an Expansion ~~at any time~~during the Access Arrangement Period, this Access Arrangement will apply to all and any Incremental Services provided after the Expansion comes into operation~~, except to the extent (if any) that the Service Provider proposes (by application to the Regulator) and the Regulator agrees that this Access Arrangement will not apply to all or any of those Incremental Services~~.

~~Any such application by the Service Provider must be submitted to the Regulator when the Expansion is first being considered, prior to making its final investment decision.~~

7.3 Pipeline Extensions/Expansions and Tariffs

(a) Pipeline Extensions or Expansions which form part of the Covered Pipeline such that this Access Arrangement will apply under section 7.2 to any

[238] GGT, *'GGP Access Arrangement revision: ERA Information Requests 2, 3, 4 and 5'*, [email] 30 May 2019.

Incremental Service provided by means of them, will result in no change to the Reference Tariff applied to a User when those Extensions or Expansions have been fully funded by that User's capital contributions except to contribute to Service Provider's operating costs in connection with those Extensions and Expansions. Any change to Reference Tariffs may occur only pursuant to the processes set out in Part 8 of the NGR. To avoid doubt, and without limiting the above in any way, ~~neither the Service Provider nor any of the Owners~~Service Provider will not benefit through a change to Reference Tariffs (except as regards any contributions to Service Provider~~'s~~ operating costs) to the extent that:

(i) any such Extension or Expansion is undertaken for or in relation to any adjustments to Capacity occurring (or which, but for the Extension or Expansion, would occur) as a result of the application of the provisions of the Gas Supply (Gas Quality Specifications) Act 2009 (WA); and

(ii) the funding of that Extension or Expansion was made by someone other than ~~the~~ Service Provider or any ~~of the Owners or any~~ Related Body Corporate of Service Provider ~~or any of the Owners~~.

(b) Users of Incremental Services which have not made capital contributions towards capacity investment needed to provide those Incremental Services which they use and which have been funded by others may be liable to pay a Surcharge as provided under Rule 83 of the National Gas Rules.

(c) Pipeline Extensions or Expansions funded by Service Provider and which form part of the Covered Pipeline such that this Access Arrangement will apply under section 7.2 to any Incremental Services provided by means of them, may result in the application of a Surcharge on Users subject to Service Provider providing written notice to the Regulator, and the Regulator approving the same, in accordance with Rule 83 of the NGR.

Appendix 7 Tariff Model – Public Version

This appendix is published separately on the ERA's website.