GOLDFIELDS GAS PIPELINE

Access Arrangement Revision Proposal

Response to ERA Draft Decision:

Submission

PUBLIC VERSION

February 2016

Contents

1 Introduction

On 17 December 2015, the Western Australian Economic Regulation Authority (ERA) issued a draft decision (Draft Decision) on proposed revisions to the Access Arrangement for the Goldfields Gas Pipeline (GGP). The proposed revisions had been submitted, on 15 August 2014, by Goldfields Gas Transmission Pty Limited (GGT) as complying service provider for the service provider group which owns and controls the GGP.

GGT's proposed revisions to the GGP Access Arrangement were prepared and submitted to the ERA in accordance with the requirements of the access regime of the National Gas Law (NGL) and the National Gas Rules (NGR), which is implemented in Western Australia by the National Gas Access (WA) Act 2009.

The ERA's Draft Decision is not to approve the proposed revisions to the GGP Access Arrangement. Some 22 amendments are required to make the revisions proposal acceptable to the regulator. The amendments required by the Draft Decision are listed in Table 1.

Table 1: ERA required amendments to GGP Access Arrangement revisions proposal

Required amendment	Section
Required amendment 1 The proposed revised access arrangement should be amended to: • Include a website address that links directly to the description of the GGP • Remove the provision to submit revisions to the access arrangement four years from the commencement date of this access arrangement	2
Required amendment 2 ***MDQ and MHQ*** Amend proposed section 2.2.2(a) to clarify precisely how the user is to "establish" a Firm MDQ and Firm MHQ for each contract year. Amend proposed section 2.2.2(b) of the revised access arrangement to clarify precisely how a user with multiple delivery points is to "establish" an MDQ and MHQ for each delivery point. Amend proposed section 2.2.2(c) of the revised access arrangement to reinstate the existing MHQ formula from the definition of MHQ in Appendix 1 to the existing access arrangement. Amend proposed section 2.2.2(d)(i) of the revised access arrangement so as to contain the same exclusion for System Use Gas and User's Linepack as regards receipt of gas (not deliveries) as exists in proposed section 2.2.2(d)(ii)). Amend proposed section 2.2.2(d)(iii) so as to exclude System Use Gas and User's Linepack contributions from the receipt point MHQ restriction. ***Adjustments to MDQ for Gross Heating Value*** Delete section 2.2.3 of GGT's revised access arrangement and reverse all changes to the Gas Specification in Appendix 2 of the proposed revised terms and conditions. ***Overrun*** Amend section 2.2.4(e) to clarify that a user may, but need not, Nominate its Authorised Overrun with its monthly Nomination for the Firm Service (at least 3 Days	2

before the Month start) but must Nominate its Authorised Overrun by no later than the Nomination Deadline of 4.00pm on the day before the relevant gas day. Delete the indemnities for unauthorised overrun in section 2.2.4(k) and section 4.2.2(f) of GGT's revised access arrangement. Reinstate clause 7.3(d) of the existing terms and conditions in place of proposed section 2.2.4(l). ***Minimum Term*** The Authority requires that GGT amend section 2.2.5 of GGT's revised access arrangement so the minimum term of the firm service will be 12 months rather than 5 years. ***Title to Gas*** Delete proposed clauses 57 and 66 of GGT's proposed terms and conditions and reinstate clauses 14.3 and 14.4 of the current terms and conditions. Amend section 2.2.8 of GGT's revised access arrangement accordingly to clarify that title to gas does pass to GGT at the receipt point and will pass from GGT to User at a delivery point. ***Gas specification and commingling*** Amend sections 2.2.7(a),(b) and (c) of GGT's revised access arrangement to align the content with the Authority's required amendments for clause 43 in GGT's proposed terms and conditions set out in Part 1 of Appendix 9. In addition, the following should be added as a new paragraph at the end of section 2.2.7 of GGT's revised access arrangement: "The User's and Service Provider's respective rights and obligations concerning Gas Specification and commingling are more particularly set out in the Terms and Conditions." ***Toll and Capacity Reservation Tariff*** Amend proposed section 2.2.11 to clarify the drafting and remove any doubt that all, not just "any" Conditions must be satisfied. For example, this could be done by amending "any Conditions" to read "all and any Conditions." ***Negotiated Services*** Reinstate section 4.2(c) of the current access arrangement.	
Required amendment 3 The Authority requires that GGT amend the proposed revised access arrangement values for total revenue (nominal) to reflect the values in Table 4.	9
Required amendment 4 GGT must provide an operating expenditure cost per Km KPI in units of $/Km of pipeline to facilitate benchmarking with comparable firms. GGT must provide operational expenditure linked KPIs that relate to pipeline integrity, availability and reliability as shown in its asset management plan.	7.1
Required amendment 5 The Authority requires GGT to amend its forecast operating expenditure to the amounts in Table 14 to account for the Authority's required reductions under rules 91 and 74 of the NGR.	7.2
Required amendment 6 The opening capital base for 1 January 2015 in the proposed revised access arrangement must be amended to reflect the values in Table 26 of this Draft Decision.	3.1
Required amendment 7 The value of capital expenditure for 2015 to 2019 access arrangement period must be	4.3

amended to reflect the values shown in Table 36 of this Draft Decision.	
Required amendment 8 The projected capital base in the proposed revised access arrangement must be amended to reflect the values in Table 39 of this Draft Decision.	4.4
Required amendment 9 The Authority requires that the rate of return be consistent with the estimates set out in Table 65 of the Draft Decision. The indicative nominal post tax rate of return for 2015 is 6.32 per cent (this estimate will be revised for the Final Decision). The Authority requires an annual adjustment to be applied to the debt risk premium to be incorporated in each subsequent tariff update during the third access arrangement period. The first annual update will apply for the tariff variation for the 2017 calendar year, and should be determined based on the automatic formula set out in Appendix 8 of the Draft Decision. The resulting annual adjustment to the rate of return should be incorporated in the Annual Tariff Variation. The Authority requires that GGT nominate, as soon as practicable, the averaging period for each annual update applying in 2017, 2018 and 2019. The averaging periods for each year must be a nominated 40 trading days in the window 1 June to 31 October in the year prior to the relevant tariff variation, which will allow estimation of the updated DRP for inclusion in the relevant annual tariff variation. The nominated 40 trading day averaging period for each of the four years do not need to be identical periods, only that they occur in the period 1 June to 31 October in each relevant year, and are nominated prior. The nominated averaging periods will remain confidential. For each annual update for 2017, 2018 and 2019, the Authority will estimate the updated rate of return following the relevant annual averaging period and then notify GGT of the outcomes as soon as practicable. Following that notice, GGT is required to respond on any issues as soon as practicable, in order to allow the updated estimate to be finalised prior to submission by GGT of its proposed annual tariff variation within the required timeframe.	4
Required amendment 10 GGT is required to adopt a gamma of 0.4.	6.2
Required amendment 11 The Authority requires GGT to update the calculation of depreciation and the forecast capital base for the third access arrangement period as follows: • Apply straight-line depreciation with the Current Cost Accounting approach to the regulatory asset base from 1 January 2015. • Remove over-depreciation adjustment from the regulatory asset base and total revenue. • Calculate the opening capital base for the GGP for the third access arrangement period by escalating it at the rate of inflation as measured by the CPI All Groups, Weighted Average of Eight Capital Cities.	5
Required amendment 12 The Authority requires GGT to update the calculation of the estimated cost of corporate income tax (net of imputation credits) as per Table 72. The Authority requires that GGT: • Base its taxable income calculation on the smoothed tariff revenue rather than on the building block revenue. • Update the rolled forward TAB to ensure that it includes commissioned assets only. • Update its cost of debt financing to $61.055 million, operating expenditure to $112.204 million and the value of gamma to 0.4.	6.1

Required amendment 13 The total revenue to be allocated for the calculation of reference tariffs for the third access arrangement period must be amended to reflect Table 99 of this Draft Decision.	9
Required amendment 14 The Authority requires that GGT amend its Reference Tariffs and Charges section of the proposed revised access arrangement in accordance with paragraphs 1603 to1618. The Authority requires that GGT update its calculation of the reference tariff for the third access arrangement period, as per Table 103 of this Draft Decision.	9
Required amendment 15 The Authority requires that GGT amend section 4.5 of the proposed revised access arrangement and sections A1 and A2 of Schedule A to the proposed revised access arrangement as set out in paragraphs 1652 to 1684.	9
Required amendment 16 *Section 5.2* Proposed section 5.2.1 should be amended to reflect that all spare capacity will be included in the spare capacity register. Proposed section 5.2.5 should be amended to provide a detailed description of how GGT intends to calculate the NPV of bids from prospective users. *Section 5.3* Proposed section 5.3.1(c) should be amended so that the sharing of costs for the investigation between prospective users is based on their proportionate shares of requested capacity, not MDQ. Section 7.2(h) of the existing access arrangement (prospective user who has paid for investigations may assign its application for service and the investigation information to another party interested in the relevant portion of the developable capacity) should be reinstated. Section 7.2(i) of the existing access arrangement which states that prospective users who have contributed to the cost of an investigation for developable capacity must be provided with an itemisation of the costs incurred in the investigation should be reinstated. Section 7.2(e) of the current access arrangement, which requires GGT to give a higher priority to users who have contributed to the cost of investigations than it does to those who have not contributed to their cost should be reinstated. The final sentence of current section 7.2(e) relating to the requirement for the user to only bear costs of investigations that are reasonably incurred should be reinstated into section 5.3.1 (after section 5.3.1 (d)). Proposed section 5.3.2(a) should be amended to remove GGT's discretion, so that it must be objectively assessed if any Developable Capacity "can" be provided, and if it can be provided then the Service Provider "must" enter into negotiations with prospective users for it. In this regard, if there are certain circumstances known in advance where it is generally accepted that a service provider "cannot" provide developable capacity, then those circumstances should be listed in section 5.3.2(a). Proposed section 5.3.3 should be removed. Section 5.3.3 states that GGT is not bound to undertake development. *Section 5.4* Proposed section 5.4 should be removed. Section 5.4 states that GGT will provide compliance reports to the regulator.	2
Required amendment 17	2

GGT is required to remove section 7.1(c) that requires a user to commit to a negotiated transportation agreement before GGT will incur capital to expand the capacity. Section 7.2 should be amended so that the access arrangement will apply to incremental services to be provided as a result of any extension or expansion in capacity of the GGP, except in instances where GGT can demonstrate to the Authority's reasonable satisfaction that application of the access arrangement to such services is inconsistent with the NGO.	
Required amendment 18 *Section 6.1* The Authority requires that either GGT provides adequate justification for its use of "relevant parties" in proposed section 6.1, and includes in its revised access arrangement an adequate definition of "relevant parties" for use in proposed section 6.1, or proposed section 6.1 should be amended so that "service provider" is used instead of "relevant parties". *Section 6.2* Proposed section 6.2 should be amended to specify the consequences of assignment as set out in rule 105(2) of the NGR and to delete the word "prior". *Section 6.3* Proposed section 6.3 should be amended to specify the consequences of assignment as set out in paragraphs (a) and (b) of rule 105(3). The penultimate paragraph of proposed section 6.3 should be amended to read as follows: "Service Provider must not withhold its consent to an assignment under this section 6.3 unless it has reasonable grounds, based on technical or commercial considerations, for doing so." The conditions in proposed section 6.3 should be amended to include: An explanation as to precisely what the term "subject to any Pre-existing Contractual Rights" is supposed to mean in this context. Justification why "prior written consent" is necessary, meets the NGO and is consistent with efficient operation of a pipeline. Proposed section 6.3(a) should be amended so GGT will only be allowed reimbursement of costs that it has "reasonably and properly incurred". Proposed sections 6.3(b) and 6.3(b)(i) should be amended to require that, in exercising its rights and discretions under the provision, GGT must do so "acting reasonably, based on reasonable commercial or reasonable technical considerations". Proposed section 6.3(c) should be amended so it is clear what the "reasonable requirements" would be if different Receipt Points or Delivery Points are proposed. Proposed section 6.3(f) should be amended to require that, if the assignment requires additional facilities then GGT in exercising its rights and discretions under the provision, must do so "acting reasonably, based on reasonable commercial or reasonable technical considerations". Proposed section 6.3(g) should be amended to clarify what are the "reasonable commercial or technical conditions" referred to in it. The Authority requires GGT to clarify that proposed section 6.3 refers to all or any of a user's contracted capacity that might be traded, and not just capacity that has a nominated throughput associated with it.	2
Required amendment 19 Proposed section 6.4, paragraph 1 should be amended to improve the clarity of GGT's requirements for the substitution of receipt and delivery points. Proposed section 6.4 should also be amended to clearly state it's the notification	2

timeline requirements for GGT and users are on the basis of calendar days or gas days. Proposed section 6.4 should be amended to state that GGT will respond to the users request to change delivery or receipt points in writing. Paragraph 2 of section 6.4 should be amended to clarify that GGT's commercial and technical requirements with respect to a user's request to change delivery or receipt points will be reasonable. Proposed section 6.4 should be amended to include circumstances under which GGT may choose to impose additional conditions on the changing of delivery or receipt points. Proposed section 6.4 should be amended to include the additional conditions that may be imposed on users who wish to change delivery or receipt points. Proposed section 6.5 should be deleted. Section 6.5 defines the meaning of "reasonable commercial".	
Required amendment 20 Amend the proposed revised terms and conditions for the reference service and the access arrangement so that all terms and conditions for the reference service comply with the NGR and achieve the NGO. Changes consequent on this required amendment are itemised in Appendix 9.	2
Required amendment 21 Amend the proposed revised terms and conditions for the reference service and the access arrangement so that all terms and condition for the reference service are contained in a single document or bundle of documents annexed to the access arrangement. The changes identified in Required Amendment 2 should be reflected in the relevant terms and conditions that GGT is required to reinstate in the terms and conditions for the firm services. Changes consequent on this required amendment are itemised in Appendix 9.	2
Required amendment 22 Amend the proposed revised terms and conditions for the reference service to modify all changes proposed by GGT for the purpose of aligning the terms and conditions to the RBP access arrangement. Changes consequent on this required amendment are itemised in Appendix 9.	2

1.1 Purpose of this submission

GGT may, within the revision period (a period which the ERA has fixed, in accordance with rule 59(3), to end on 29 January 2016), submit additions or other amendments to the access arrangement proposal for the GGP to address matters raised in the Draft Decision.[1] These amendments are to be limited to those necessary to address matters raised in the Draft Decision.[2]

In this submission GGT explains its additions and amendments to the access arrangement proposal for the GGP to address the matters raised in the Draft Decision.

1 NGR, rule 60(1). References to specific rules of the NGR will be designated *rule* [*number*]. All references will be to Version 28 of the NGR.

2 NGR, rule 60(2).

In addition to setting out the required amendments, Table 1 also shows the sections of this submission in which GGT's additions and amendments to address the matters of the Draft Decision are discussed.

1.2 Amended proposed revised Access Arrangement and amended Access Arrangement Information

GGT has provided, with this submission, an amended proposed revised Access Arrangement and amended Access Arrangement Information incorporating the additions and amendments which address the matters raised in the Draft Decision.

1.3 Australian Competition Tribunal Decision

Many of the issues arising from GGT's rate of return proposal, the ERA's Draft Decision, and this response to the Draft Decision, are issues currently being considered by the Australian Competition Tribunal in the context of applications by network service providers ActewAGL Distribution, Ausgrid, Endeavour Energy, Essential Energy and Jemena Gas Networks. The Competition Tribunal's reasoning supporting its decisions on these applications is likely to be directly relevant to the proposed revisions to the GGP Access Arrangement.

Accordingly, if the Australian Competition Tribunal makes decisions on the applications in question before the ERA issues a final decision on the GGP Access Arrangement revisions proposal, GGT considers that it is incumbent upon the ERA to take into account the Competition Tribunal's decisions and reasoning in reaching the GGP final decision.

Moreover, should the ERA's Final Decision be to not approve the revised proposed amendments and for itself to proceed to propose and approve revisions to the access arrangement under Rule 64(1), GGT considers that it is equally incumbent on the ERA to reflect the Competition Tribunal's decisions in those revisions. GGT notes that Rule 64(4) provides for a further period of 2 months for the ERA to draft and approve its own revisions to the Access Arrangement.

GGT acknowledges that the Tribunal's decisions may be complex. The ERA may require time to complete analyses of the decisions, and may also require time to examine the impact of the decisions on the total revenues and revised reference tariffs of those regulated assets in respect of which there are access arrangement revision proposals before the ERA for approval. In these circumstances, GGT believes the only procedurally fair approach open to the regulator is to defer the final decision, to consult with stakeholders (as the ERA did in the final stages of decision making on the access arrangement revisions proposal submitted by ATCO Gas Australia), and to undertake a thorough analysis of the Australian Competition Tribunal's decision, before making a final decision on the GGP Access Arrangement revisions proposal.

2 Access Arrangement and terms and conditions applying to firm service

Required Amendment 1

The proposed revised access arrangement should be amended to:

- include a website address that links directly to the description of the GGP;
- remove the provision to submit revisions to the access arrangement four years from the commencement date of this access arrangement.

GGT accepts this Required Amendment.

Required Amendment 2

MDQ and MHQ

Amend proposed section 2.2.2(a) to clarify precisely how the user is to "establish" a Firm MDQ and Firm MHQ for each contract year.

GGT accepts this Required Amendment.

Amend proposed section 2.2.2(b) of the revised access arrangement to clarify precisely how a user with multiple delivery points is to "establish" an MDQ and MHQ for each delivery point.

GGT accepts this Required Amendment.

Amend proposed section 2.2.2(c) of the revised access arrangement to reinstate the existing MHQ formula from the definition of MHQ in Appendix 1 to the existing access arrangement.

GGT accepts this Required Amendment.

Amend proposed section 2.2.2(d)(i) of the revised access arrangement so as to contain the same exclusion for System Use Gas and User's Linepack as regards receipt of gas (not deliveries) as exists in proposed section 2.2.2(d)(ii)).

GGT does not accept this Required Amendment. See discussion in Attachment 1.

Amend proposed section 2.2.2(d)(iii) so as to exclude System Use Gas and User's Linepack contributions from the receipt point MHQ restriction.

GGT does not accept this Required Amendment. See discussion in Attachment 1.

Adjustments to MDQ for Gross Heating Value

Delete section 2.2.3 of GGT's revised access arrangement and reverse all changes to the Gas Specification in Appendix 2 of the proposed revised terms and conditions.

Section 2.2.3 has been deleted, and Minimum Gross Heating Value set at 35.5MJ/m3.

Overrun

Amend section 2.2.4(e) to clarify that a user may, but need not, Nominate its Authorised Overrun with its monthly Nomination for the Firm Service (at least 3 Days before the Month start) but must Nominate its Authorised Overrun by no later than the Nomination Deadline of 4.00pm on the day before the relevant gas day.

GGT accepts this Required Amendment.

Delete the indemnities for unauthorised overrun in section 2.2.4(k) and section 4.2.2(f) of GGT's revised access arrangement.

GGT does not accept the Required Amendment to s2.2.4(k). See discussion in Attachment 1.

GGT accepts the Required Amendment to s4.2.2(f).

Reinstate clause 7.3(d) of the existing terms and conditions in place of proposed section 2.2.4(l).

GGT accepts this Required Amendment.

Minimum Term The Authority requires that GGT amend section 2.2.5 of GGT's revised access arrangement so the minimum term of the firm service will be 12 months rather than 5 years.

The Authority requires that GGT amend section 2.2.5 of GGT's revised access arrangement so the minimum term of the firm service will be 12 months rather than 5 years.

GGT has not made this amendment on the basis that it considers a minimum one year term to be inappropriately short. In particular:

- Risk sharing – The Reference Tariff reflects a low risk assumption on the part of the Service Provider. That low risk profile is predicated on Users making a firm commitment to pay capacity charges for an appropriate period of time. If that period is shortened to only 12 months, the risk profile faced by the Service Provider is increased. It is unreasonable to require the Service Provider to assume that higher level of risk by requiring a shorter minimum term.

- May encourage inefficient "strategic" contracting behaviour – A shorter minimum term may enable Users to hoard capacity so as to prevent other Users from accessing capacity. For example, the User at the front of the capacity queue may take up capacity for 12 months with a view to preventing the User second place in the queue from contracting for that capacity, albeit that the second place User may be prepared to contract for a longer term so as to support a major project. Setting a longer minimum term for Reference Services will mitigate this risk.

- System set up costs – The Service Provider's contract administration and system configuration costs (associated with the setup of new Users and new contracts into the User interface system), are not immaterial. The shorter the contract term and the higher the turnover of contracts and Users, the higher the Service Provider's system configuration and contract management costs.

Accordingly, GGT requests that the Authority reconsider its requirement for a reduction in minimum term from 5 years. If the Authority maintains the position that a five year minimum term is too long, then GGT asks the Authority to approve a three

year minimum term. This would be consistent with the AER's approval of a three year minimum term for the 2011-2016 access arrangement for the Amadeus Gas Pipeline.

Title to Gas
Delete proposed clauses 57 and 66 of GGT's proposed terms and conditions and reinstate clauses 14.3 and 14.4 of the current terms and conditions.

GGT does not accept this Required Amendment. See discussion in Attachment 1.

Amend section 2.2.8 of GGT's revised access arrangement accordingly to clarify that title to gas does pass to GGT at the receipt point and will pass from GGT to User at a delivery point.

GGT does not accept this Required Amendment. See discussion in Attachment 1.

Gas specification and commingling
Amend sections 2.2.7(a),(b) and (c) of GGT's revised access arrangement to align the content with the Authority's required amendments for clause 43 in GGT's proposed terms and conditions set out in Part 1 of Appendix 9.

GGT accepts this Required Amendment.

In addition, the following should be added as a new paragraph at the end of section 2.2.7 of GGT's revised access arrangement:
"The User's and Service Provider's respective rights and obligations concerning Gas Specification and commingling are more particularly set out in the Terms and Conditions."

GGT does not accept this Required Amendment. GGT does not consider this amendment necessary.

Toll and Capacity Reservation Tariff
Amend proposed section 2.2.11 to clarify the drafting and remove any doubt that all, not just "any" Conditions must be satisfied. For example, this could be done by amending "any Conditions" to read "all and any Conditions."

GGT accepts this Required Amendment.

Negotiated Services
Reinstate section 4.2(c) of the current access arrangement.

Required Amendment 16
Section 5.2
Proposed section 5.2.1 should be amended to reflect that all spare capacity will be included in the spare capacity register.
Proposed section 5.2.5 should be amended to provide a detailed description of how GGT intends to calculate the NPV of bids from prospective users
Section 5.3
Proposed section 5.3.1(c) should be amended so that the sharing of costs for the investigation between prospective users is based on their proportionate shares of requested capacity, not MDQ.

Section 7.2(h) of the existing access arrangement (prospective user who has paid for investigations may assign its application for service and the investigation information to another party interested in the relevant portion of the developable capacity) should be reinstated.

Section 7.2(i) of the existing access arrangement which states that prospective users who have contributed to the cost of an investigation for developable capacity must be provided with an itemisation of the costs incurred in the investigation should be reinstated.

Section 7.2(e) of the current access arrangement, which requires GGT to give a higher priority to users who have contributed to the cost of investigations than it does to those who have not contributed to their cost should be reinstated.

The final sentence of current section 7.2(e) relating to the requirement for the user to only bear costs of investigations that are reasonably incurred should be reinstated into section 5.3.1 (after section 5.3.1 (d)).

Proposed section 5.3.2(a) should be amended to remove GGT's discretion, so that it must be objectively assessed if any Developable Capacity "can" be provided, and if it can be provided then the Service Provider "must" enter into negotiations with prospective users for it. In this regard, if there are certain circumstances known in advance where it is generally accepted that a service provider "cannot" provide developable capacity, then those circumstances should be listed in section 5.3.2(a).

Proposed section 5.3.3 should be removed. Section 5.3.3 states that GGT is not bound to undertake development.

Section 5.4

Proposed section 5.4 should be removed. Section 5.4 states that GGT will provide compliance reports to the regulator.

Required Amendment 16 is addressed in section 2.4 below.

Required Amendment 17

GGT is required to remove section 7.1(c) that requires a user to commit to a negotiated transportation agreement before GGT will incur capital to expand the capacity.

Section 7.2 should be amended so that the access arrangement will apply to incremental services to be provided as a result of any extension or expansion in capacity of the GGP, except in instances where GGT can demonstrate to the Authority's reasonable satisfaction that application of the access arrangement to such services is inconsistent with the NGO.

See section 2.3 of this submission.

Required Amendment 18

Section 6.1

The Authority requires that either GGT provides adequate justification for its use of "relevant parties" in proposed section 6.1, and includes in its revised access arrangement an adequate definition of "relevant parties" for use in proposed section 6.1, or proposed section 6.1 should be amended so that "service provider" is used instead of "relevant parties".

Section 6.1 has been amended.

Section 6.2

Proposed section 6.2 should be amended to specify the consequences of assignment as set out in rule 105(2) of the NGR and to delete the word "prior".

GGT accepts this Required Amendment.

Section 6.3

Proposed section 6.3 should be amended to specify the consequences of assignment as set out in paragraphs (a) and (b) of rule 105(3).

The Authority has requested that the section be amended to specify the consequences of assignment as set out in paragraphs (a) and (b) of rule 105(3). GGT notes that it has already included the content of rule 105(3)(b) in section 6.3(b), and the content of rule 105(3)(a) is reflected in the last paragraph of section 6.3.

The penultimate paragraph of proposed section 6.3 should be amended to read as follows:

"Service Provider must not withhold its consent to an assignment under this section 6.3 unless it has reasonable grounds, based on technical or commercial considerations, for doing so."

GGT accepts this Required Amendment.

The conditions in proposed section 6.3 should be amended to include:

An explanation as to precisely what the term "subject to any Pre-existing Contractual Rights" is supposed to mean in this context.

GGT does not accept this Required Amendment.

The Authority has requested section 6.3 be amended to explain what the term "subject to any Pre-existing Contractual Rights" is supposed to mean in the context of section 6.3. GGT draws the Authority's attention to the definition of the term in Schedule D and notes the reference within that definition to the term as defined in the National Gas Rules.

Justification why "prior written consent" is necessary, meets the NGO and is consistent with efficient operation of a pipeline.

The Authority has asked GGT for justification as to why prior written consent is required for an assignment under proposed section 6.3. Where consent is required under any typical commercial arrangement, consent is more often than not required to be written. This is to protect both parties to the agreement to ensure there is no confusion or dispute over whether consent has actually been provided and what consent was provided for. Consent can be provided by email, so this is extremely unlikely to inhibit any shipper flexibility. Consent must be required prior to the occurrence for which consent is sought as Service Provider may need to withhold its consent based on commercial and/or technical grounds. Seeking consent after the event could have significant consequences for operations, efficiency and other users of a pipeline, where it is not appropriate or possible, based on technical or commercial grounds, for the assignment to proceed.

Proposed section 6.3(a) should be amended so GGT will only be allowed reimbursement of costs that it has "reasonably and properly incurred".

GGT accepts this Required Amendment.

Proposed sections 6.3(b) and 6.3(b)(i) should be amended to require that, in exercising its rights and discretions under the provision, GGT must do so "acting reasonably, based on reasonable commercial or reasonable technical considerations".

GGT accepts this Required Amendment.

Proposed section 6.3(c) should be amended so it is clear what the "reasonable requirements" would be if different Receipt Points or Delivery Points are proposed.

GGT accepts this Required Amendment.

Proposed section 6.3(f) should be amended to require that, if the assignment requires additional facilities then GGT in exercising its rights and discretions under the provision, must do so "acting reasonably, based on reasonable commercial or reasonable technical considerations".

GGT accepts this Required Amendment.

Proposed section 6.3(g) should be amended to clarify what are the "reasonable commercial or technical conditions" referred to in it.

GGT accepts this Required Amendment.

The Authority requires GGT to clarify that proposed section 6.3 refers to all or any of a user's contracted capacity that might be traded, and not just capacity that has a nominated throughput associated with it.

GGT does not accept this Required Amendment. GGT does not consider this amendment necessary.

Required Amendment 19

Proposed section 6.4, paragraph 1 should be amended to improve the clarity of GGT's requirements for the substitution of receipt and delivery points.

GGT does not accept this Required Amendment.

The Authority has requested GGT to amend paragraph 1 of section 6.4 to improve the clarity of GGT's requirements for the substitution of receipt and delivery points. GGT considers the section has sufficient clarity in that it sets out a clear process for Users to request change to their receipt or delivery points and GGT will consent to such request so long as there are no technical or commercial reasons preventing it from consenting. These will likely vary from case to case.

Proposed section 6.4 should also be amended to clearly state it's the notification timeline requirements for GGT and users are on the basis of calendar days or gas days.

GGT accepts this Required Amendment. Amended to Gas Days.

Proposed section 6.4 should be amended to state that GGT will respond to the users request to change delivery or receipt points in writing.

Paragraph 2 of section 6.4 should be amended to clarify that GGT's commercial and technical requirements with respect to a user's request to change delivery or receipt points will be reasonable.

GGT does not accept this Required Amendment. GGT does not consider this amendment necessary.

Proposed section 6.4 should be amended to include circumstances under which GGT may choose to impose additional conditions on the changing of delivery or receipt points.

GGT does not accept this Required Amendment.

The Authority has required that proposed section 6.4 be amended to include circumstances under which GGT may choose to impose additional conditions on the changing of delivery or receipt points. GGT is of the view that this required amendment is not necessary given the inclusion of such circumstances would be speculative only and of not real assistance to users given each situation will be dealt with on its particular circumstances. Imposing a set of circumstances will likely limit both GGT's and Users' flexibility in the determination of conditions which may or may not be required.

Proposed section 6.4 should be amended to include the additional conditions that may be imposed on users who wish to change delivery or receipt points.

GGT does not accept this Required Amendment.

The Authority has requested that proposed section 6.4 be amended to include the additional conditions that may be imposed on Users who wish to change delivery or receipt points. Rule 106(2) provides that the access arrangement may specify in advance conditions in advance under which consent will or will not be given, and conditions to be complied with if consent is given. Given the National Gas Rules do not require specification, GGT does not consider the request warranted and further considers that such inclusion would not be useful to users since the conditions which may be imposed will be dependent on each set of circumstances.

Proposed section 6.5 should be deleted. Section 6.5 defines the meaning of "reasonable commercial".

GGT does not accept this Required Amendment.

The Authority requires section 6.5 to be deleted. GGT disagrees with this amendment and notes that the purpose of this clause is to provide guidance as to what reasonable commercial grounds may be. As the Authority has noted, the examples are inclusive only and do not in any way suggest that GGT will not assess each request on its own circumstances and in a reasonable manner as it is required to do.

Required Amendment 20

Amend the proposed revised terms and conditions for the reference service and the access arrangement so that all terms and conditions for the reference service comply with the NGR and achieve the NGO.

Changes consequent on this required amendment are itemised in Appendix 9.

GGT's response, and amendments to the terms and conditions, are set out in Attachment 1.

Required Amendment 21

Amend the proposed revised terms and conditions for the reference service and the access arrangement so that all terms and condition for the reference service are contained in a single document or bundle of documents annexed to the access arrangement. The changes identified in Required Amendment 2 should be reflected in the relevant terms and conditions that GGT is required to reinstate in the terms and conditions for the firm services.

Changes consequent on this required amendment are itemised in Appendix 9.

GGT's response, and amendments to the terms and conditions, are set out in Attachment 1.

Required Amendment 22

Amend the proposed revised terms and conditions for the reference service to modify all changes proposed by GGT for the purpose of aligning the terms and conditions to the RBP access arrangement.

Changes consequent on this required amendment are itemised in Appendix 9.

GGT's response, and amendments to the terms and conditions, are set out in Attachment 1.

2.1 Gas specification and its implications

In accordance with *Required amendment 2*, GGT has deleted section 2.2.3 of the proposed revised access arrangement (adjustment in MDQ for Gross Heating Value, and has reversed the change to the Gas Specification in Appendix 2

These changes not only address *Required amendment2*. They are also necessary following promulgation, by the Government of Western Australia, in March 2015, of the reference specification for the GGP required for the scheme of the Gas Supply (Gas Quality Specifications) Act 2009.

The reference specification required for the scheme of the 2009 Act sets a minimum higher heating value (HHV) of 35.5 MJ/m^3 for gas delivered into the GGP.

Gas flow modelling studies for GGT, which were undertaken by APA Group's Infrastructure Strategy and Engineering division, have indicated that, when the HHV of the gas delivered into the GGP is above 37.0 MJ/m^3, the capacity of the pipeline, given its current configuration of pipes and compressors, given the topography of the pipeline route, and given the distribution of gas demand along the pipeline, is about 109 TJ/d.

This is the pipeline capacity stated in clause 1.5 of the current GGP Access Arrangement.

If the HHV of gas delivered into the GGP is, as anticipated by the reference specification, 35.5 TJ/d, the capacity of the pipeline, given its current configuration of pipes and compressors, given the topography of the pipeline route, and given a similar distribution of gas demand along the pipeline, is only 102.5 TJ/d.

The pipeline capacity stated in clause 1.5 is inconsistent with the minimum HHV of the (inlet and delivery) gas specifications in the current GGP Access Arrangement.

GGT, as a prudent pipeline operator, must anticipate that gas delivered into the GGP could have a HHV as low as 35.5 MJ/m^3. If GGT were to contract with users for a total amount of firm capacity in the Covered Pipeline which exceeded 102.5 TJ/d,

there may not be sufficient capacity in the pipeline to allow the service provider to meet its obligations under its gas transportation agreements.

Now that the reference specification for the GGP has been promulgated, clause 1.5 of the current GGP Access Arrangement must be amended so that it states that the capacity of the Covered Pipeline is 102.5 TJ/d.

2.2 Understanding the changes in the terms and conditions

GGT advised in the Supporting Information accompanying its revision proposal for the GGP Access Arrangement that it had made major changes to the terms and conditions applying to the firm service reference service. The reasons for these changes were:

(a) to achieve consistency with the NGL and the NGR (the current version of the Access Arrangement was prepared in accordance with the requirements of the prior access regime of the National Third Party Access Code for Natural Gas Pipeline Systems); and

(b) to align with other APA Group access arrangements, and with current contracting practice.

The changes were, in GGT's view, complex, and difficult to document succinctly. GGT proposed, on a number of occasions, that it meet with the ERA to "work through" the changes and explain their rationale. This did not happen. The ERA appears to have passed the changes to an external legal firm for review, and that firm has carried out its review as it would have done for a client which had requested a review of the terms and conditions of a replacement contract. The results are set out in Appendix 9 to the Draft Decision. They are essentially a comparison between the proposed terms and conditions and the terms and conditions in the current GGP Access Arrangement. Where a clause of the proposal appears to be more onerous than the equivalent clause in the current Access Arrangement, the recommendation has been to revert to the current provision.

Unfortunately, such a clause-by-clause approach cannot adequately respond to total "change of package" which GGT had proposed and is, largely, continuing to propose. Discussions with the ERA are essential before a final decision is made.

2.2.1 Adoption of national terms and conditions

GGT has sought to modify the terms and conditions for the reference service to align with those approved by the AER for the current Roma to Brisbane Pipeline and the Amadeus Gas Pipeline access arrangements (**National T&Cs**). The National T&Cs are largely reflected in APA's standard form gas transportation agreement as used on all of APA's pipelines, including in Western Australia. The Authority has rejected the

modification of the access arrangement (**AA**) terms and conditions finding that GGT has not made out a convincing case to align the AA terms and conditions with the National T&Cs.

GGT takes this opportunity to further explain the rationale for and benefits of alignment with the National T&Cs and requests that the Authority reconsiders its position.

At the outset, GGT rejects the view expressed by BHPB that the National T&Cs "*represent a significant deterioration in the rights of both new and existing users from the current AA*" and that "*the proposed amendments will increase inefficiency, raise costs and would be contrary to the achievement of the NGO*". On the contrary, while the form of the National T&Cs differs to the existing GGT AA terms and conditions, they substantially maintain the same balance of rights and obligations as between the Users and the Service Provider, particularly on the key issues of risk allocation, operational interface and service quality. The AER approved the National T&Cs as appropriate and balanced, and would not have done so if the terms represented a deterioration of rights for users.

GGT does, however, agree with the submission put forward by Santos that continual changes to terms and conditions can amount to a burden on Users as they have to familiarise and administer different contractual terms. The same burden applies to Service Providers. Consistency of contractual terms enables parties to become familiar with those terms and makes administration of those terms more efficient. Santos for example, has in place a number of agreements with APA reflective of the National T&Cs and is well familiar with those terms.

From the perspective of APA, consistency of terms results in real operational efficiencies. In 2015, APA established an Integrated Operations Centre (**IOC**) in Brisbane, which controls, monitors, operates and manages all of its pipeline assets nationally, including the GGP. APA's Gas Contracts Administrators administer the operational and billing aspects of APA's gas transportation agreements, including for the GGP. They also configure the User interface platform, called Energy Components (**EC**), to enable Users to be provided with near real time information relating to their nominations, scheduling, system use gas requirements and billing information. Any deviation from the National T&Cs can take more than a month of dedicated system configuration time and resource to input, and may require ongoing manual monitoring. Gas transportation agreements reflective of the National T&Cs are far more speedily and efficiently able to be set up in the EC system. This reduces operational costs for the Service Provider but also enables far quicker service commencement for Users, which particularly for shorter term contracts, is often an imperative for Users.

APA has invested heavily in its operational systems capabilities to be able to provide Users with a "one-stop shop" seamless service across multiple assets, enabling Users to transport gas across multiple assets under a single gas transportation agreement with a single set of nominations. On the East Coast, this is referred to as the "East Coast Grid" multi-asset service and has proved extremely popular with Users. In Western Australia, the multi-asset service can include transportation and service provision under a single contract covering the GGP, Mondarra Storage facility,

Parmelia Pipeline and the newly constructed Eastern Goldfields Pipeline. The National T&Cs, as reflected in APA's standard form agreement, provides for consistency across that suite of assets enabling provision of seamless multi-asset services. A requirement that GGP services be provided under different terms and conditions will mean separate contracts and separate nominations for the GGP will be required, resulting in an inability to offer the seamless services currently offered on the East Coast.

The National T&Cs were developed for the express purpose of being able to be applied across the suite of APA assets, taking into account operational and load profile differences between the pipelines. The National T&Cs are used on pipelines in Queensland, the Northern Territory, New South Wales, Victoria and Western Australia. The Authority has approved the National T&Cs for the Roma to Brisbane Pipeline and Amadeus Gas Pipeline access arrangements, notwithstanding differences in the nature of those pipelines. The National T&Cs are currently being used for services on the GGP. There is no operational or jurisdictionally specific reason why the GGP AA terms and conditions could not be aligned with the National T&Cs.

For the reasons set out above, GGT urges the Authority to reconsider its position in rejecting the National T&Cs as appropriate for the AA terms and conditions. If the Authority chooses to maintain its rejection of the National T&Cs, GGP is prepared to revise its terms and conditions as requested by the Authority subject to a small number of changes. Those changes and the reasons for those changes are set out in the Schedule at Attachment 1.

2.3 Extensions and expansions requirements

Goldfields Gas Transmission Pty Ltd's (**GGT**) Proposed Revised Access Arrangement dated 15 August 2014 seeks to maintain the current approach with respect to any extension and expansion of the Goldfields Gas Pipeline (**GGP**) capacity.

GGT's proposed amendments to the extensions and expansions policy are intended to better reflect the terminology and approach under the National Gas Rules (**NGR**), without changing the operation of the access arrangement with respect to extension and expansion. This was accepted by the Economic Regulation Authority (**ERA**) in its Draft Decision on Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline (**Draft Decision**).[3]

However, in the Draft Decision the ERA requires a number of further amendments to GGT's Proposed Revised Access Arrangement with respect to the extension and expansion requirements. GGT does not consider that these amendments are required or appropriate. GGT maintains that the current policy, contained in section 7 of the Proposed Revised Access Arrangement, has worked effectively and efficiently in

[3] Draft Decision, paragraph 1750.

recent years and is consistent with the achievement of the National Gas Objective (NGO).

2.3.1 Proposed Revised Access Arrangement – extensions and expansions

Paragraph 7.1 of GGT's Proposed Revised Access Arrangement provides the following:

Other than as required under the National Gas Rules, Service Provider will not incur capital to expand the Capacity unless a User:

(a) satisfies Service Provider of the existence of reserves and demand for the economic life of the expansion;

(b) demonstrates to Service Provider that the User has the financial capability to pay the costs of the provision of Services provided through expanded Capacity; and

(c) commits to a Negotiated Transportation Agreement sufficient to ensure the payment to Service Provider of all costs incurred by Service Provider in expanding the capacity and providing of Services through that expanded capacity.

Paragraph 7.2 relates to the application of the Access Arrangement to Pipelines Extensions/Expansions:

(a) Service Provider must, with the Regulator's consent, elect at some point in time whether or not a proposed Extension to, or Expansion of the Capacity of, the Pipeline should be treated as part of the Covered Pipeline for all purposes under the National Gas Law or should not be treated as part of the Covered Pipeline for any purpose under the National Gas Law.

(b) To avoid doubt, in the event that the Regulator refuses consent to Service Provider's election, the Regulator must make an express determination whether or not the proposed extension to, or expansion of the Capacity of, the Pipeline should be treated as part of the Covered Pipeline for all purposes under the National Gas Law or should not be treated as part of the Covered Pipeline for any purpose under the National Gas Law.

As the ERA's Draft Decision notes, GGT's Proposed Revised Access Arrangement seeks to maintain the existing approach with respect to extensions and expansion of the GGP. With the exception of the removal of the limitation of the application of paragraph 7.1 (formerly paragraph 9.1) to expansion of the capacity of the Covered Pipeline, all other amendments to paragraphs 7.1 and 7.2 are minor notational changes.

The minor changes reflect the fact that, as previously submitted by GGT, the core concepts of the previous regulatory framework were carried over into the new regulatory framework under the National Gas Law and Rules.

2.3.2 Expansion of capacity and negotiated agreements

ERA's required amendment

In the Draft Decision, the ERA requires the following amendment:

GGT is required to remove section 7.1(c) that requires a user to commit to a negotiated transportation agreement before GGT will incur capital to expand the capacity.

At paragraph 1750 of its Draft Decision, the ERA notes that section 7.1 of GGT's Proposed Revised Access Arrangement "makes a number of amendments to the wording of existing section 10.1 to better reflect the terminology and approach under the NGR (which differs to the Code), but otherwise do not change the operation of the provisions." However, the Draft Decision goes on to note that, in light of the submissions of Santos and BHP Billiton (**BHPB**), the proposal that capital must only be incurred to expand capacity if a user commits to a negotiated transportation agreement "is not consistent with the NGO."

The only elaboration of the purported inconsistency is that such an approach "effectively denies users the option of obtaining a regulated tariff" with respect to expanded capacity.[4]

National Gas Rules

The NGR do not provide that users must be given the option of obtaining a regulated tariff with respect to extended or expanded capacity. Rule 18 of the NGR simply states that extensions to or expansions of a covered pipeline are to be treated as part of the covered pipeline if the applicable access arrangement provides that they will be. Further, rule 104 outlines the requirements of an access regime with respect to expanded or extended capacity. In particular:

(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, or expansion of the capacity of, the pipeline or may allow for later resolution of that question on a basis stated in the requirements.

(2) 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, deal with the effect of the extension or expansion on tariffs.

[4] Draft Decision, paragraph 1751.

(3) 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.

Rule 104 therefore contains no requirement that expanded or extended capacity must operate so that a user is given the option of obtaining a regulated tariff. On the contrary, the use of the word "may" in sub rule (1) and "if" in sub rule (2) is suggestive of there being no such guarantee. This position is further supported by the fact that sub rule (1) explicitly considers a situation in which resolution of the applicability of the access regime to the expanded or extended capacity may occur at a later date.

National Gas Objective

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

The NGO provides no express or implied requirement that all expanded or extended capacity should be offered to users with the option of obtaining a regulated tariff with respect to that capacity. Rather, the NGO seeks to ensure that the entire productive process with respect to natural gas is directed towards the long term interests of consumers, in terms of price, quality, safety, reliability and security of supply. Inherent in the formulation of the NGO is the fact that the long term interests of consumers is not simply served through a regulation of price. A range of factors, including reliability and security of supply, are important in determining the ultimate long term interests of consumers. The continuing extension and expansion of the GGP, as has occurred in recent years, is a significant contributor to the reliability and security of supply of consumers.

To that end, GGT's Proposed Revised Access Arrangement, as it applies to expanded and extended capacity is not only consistent with the NGO, but plays an important role in its attainment. The current access regime for extended and expanded capacity, as embodied in the Proposed Revised Access Arrangement, encourages, promotes and stimulates efficient investment in expanded and extended capacity, as and where it is required by users. Under this approach, 49 TJ of expanded capacity was added between 2006 and 2009 and a further 43.4 TJ between 2012 and 2014. The expanded capacity was a result of negotiated commercial outcomes between GGT and users.

If proposed section 7.1 were to be amended, including to remove section 7.1(c), this is likely to undermine incentives for efficient investment in new capacity. Section 7.1 provides the mechanism by which GGT can obtain some certainty that users are willing and able to contract for the new capacity. Without this certainty, GGT's incentives to invest are likely to be significantly diminished.

Revised proposal

GGT considers that, if section 7.1(c) were to be removed, section 7.1 in its remaining form would not contribute to the achievement of the NGO. As explained above, section 7.1(c) is critical to providing incentives for efficient investment by GGT.

Therefore, in light of the ERA's Draft Decision to remove section 7.1(c), GGT proposes to remove section 7.1 in its entirety and replace it with a provision in similar terms to rule 104(3) of the NGR. GGT proposes a revised section 7.1 as follows:

GGT will not be required to provide funds for work involved in making an extension or expansion, unless GGT agrees to do so.

This revised form of section 7.1 provides GGT with greater certainty around the circumstances in which it will be required to provide funds for new investment, than would the existing section 7.1 with section 7.1(c) removed. Therefore this revised form of section 7.1 better contributes to the achievement of the NGO, compared to the ERA's proposal.

This revised form of section 7.1 also better aligns this provision of the access arrangement with the requirements of the NGR in relation to extension and expansion.

2.3.3 Application of access arrangement

ERA's required amendment

In the Draft Decision, the ERA requires the following amendment:

Section 7.2 should be amended so that the access arrangement will apply to incremental services to be provided as a result of any extension or expansion in capacity of the GGP, except in instances where GGT can demonstrate to the ERA's reasonable satisfaction that application of the access arrangement to such services is inconsistent with the NGO.

The ERA's required amendment would result in a significant change to the regulation of extended or expanded capacity of GGP. GGT submits that no such change should be made because:

(a) under GGT's Proposed Revised Access Arrangement, the consent of the ERA is required for any election by GGT, thus providing the ERA with an ability to veto an election made by GGT, should this be deemed necessary;

(b) the current regime has worked successfully, encouraging efficient expansion of capacity; and

(c) it risks ultimately undermining the NGO as result of discouraging efficient investment in expanded or extended capacity of the GGP.

Content of extensions and expansions requirements

The NGL provide that extension and expansion requirements to be included in a full access arrangement proposal must specify (inter alia) the circumstances in which an

extension to, or expansion of the capacity of, a covered pipeline is to be treated as forming part of the covered pipeline.

This NGL requirement is similar to the corresponding requirement under the Gas Code, which was that an extensions/expansions policy set out the method to be applied to determine whether any extension to, or expansion of the capacity of, the covered pipeline: (i) should be treated as part of the covered pipeline for all purposes under the Code; or (ii) should not be treated as part of the covered pipeline for any purpose under the Code.

Although the language of the NGL is slightly different to the Gas Code, there is no indication in the relevant secondary materials that there was intended to be a substantive change in this area. On the contrary, there was an express intention that the structure of the Gas Code be retained in relation to questions of coverage. The NGL second reading speech states:[5]

Coverage of pipelines

The National Gas Law retains the structure of the Gas Code where economic regulation is only applied to covered pipelines which exhibit a level of market power where the benefits of regulation outweigh the costs. Coverage of pipelines is a process for determining whether or not economic regulation should or should not be applied to the services provided by a particular pipeline. This decision is made by the relevant State or Commonwealth Minister, on the recommendation of the National Competition Council. The decision of whether or not to regulate is based upon whether the pipeline coverage criteria are satisfied. Consistent with the current Gas Code, a coverage decision may apply to more or less of the pipeline than is the subject of the application or recommendation.

Therefore, GGT submits that the NGL requirement in respect of the extensions and expansions policy to be included in a full access arrangement proposal should be interpreted consistently with how it was interpreted under the Gas Code. That is, the requirement to specify the circumstances when an extension or expansion is to be treated as forming part of the covered pipeline must be read as requiring a process for the substantive evaluation of the question of coverage at the time the question of coverage arises, rather than at the time revisions to the access arrangement are proposed.[6]

2.3.4 Electricity Review Board decision

As the ERA notes, the process contained in GGT's Proposed Revised Access Arrangement in section 7.2 was the subject of two decisions by the Electricity Review

[5] National Gas (South Australia) Bill 2008 Second Reading Speech, pp 12-13.

[6] Western Australian Electricity Review Board, Applications Nos. 1 and 2 of 2010, Supplementary Decision, 22 November 2011, [68]-[70].

Board (ERB) in 2011 and 2012, albeit under the previous regulatory regime.[7] The ERB ultimately considered that a policy in which GGT elected whether or not a proposed extension/expansion should be treated as part of the covered pipeline was appropriate.

The ERB considered it appropriate that the question of whether extensions and expansions should form part of the covered pipeline be considered on a case-by-case basis. The ERB stated:[8]

The evaluation of a particular extension or expansion should be undertaken in light of the prevailing circumstances of each case, as they exist at the time the extension or expansion is proposed, rather than at the time the revised Access Arrangement is proposed. This approach facilitates the proper application of the Code Criteria to the extension or expansion and follows from the nature of the task which is before the Regulator. The task before the Regulator under s 2.24 is to assess the scope and operation of a proposed Access Arrangement, rather than to directly assess questions of Coverage…

The effective operation of the Code is not furthered by the application of a fixed rule formulated before, possibly long before, an extension or expansion arises for consideration. Application of a fixed rule about Coverage prevents consideration by the Regulator of circumstances specific to the extension or expansion at the time, which may not have been foreseen and which may have significant bearing on whether or not it is appropriate that the extension or expansion be Covered.

Although there has been a transition from the Gas Code to the NGL / NGR regulatory regime, the core concepts of the Gas Code regime referred to by the ERB remain in place. It is still the case that questions of coverage are to be addressed on a case-by-case basis in a process that is separate to the access arrangement review process. As explained below, it would not promote the object of the NGL regulatory regime, the NGO, for extensions / expansions to be presumed to form part of the covered pipeline unless the ERA is satisfied that application of the access arrangement to such extensions / expansions is inconsistent with the NGO.

GGT's response to BHP Billiton's submission (on a separate but related point) provided a thorough overview of the fact that whilst the National Gas Law and Rules resulted in changes to the regulatory framework, "the core concepts of the previous regulatory framework were carried over into the new regulatory framework. Further, highly relevant aspects of the previous framework (such as the approach to dealing with extensions to, and expansions of the capacity of, a covered pipeline) were retained."[9] This lends further importance to the recent decision of the ERB, referred to above, whilst also indicating, at the very least, an absence of legislative disapproval with the current regime.

---

7 Western Australian Electricity Review Board, Applications Nos. 1 and 2 of 2010, Decision, 22 November 2011; Western Australian Electricity Review Board, Applications Nos. 1 and 2 of 2010, Supplementary Decision, 30 March 2012.

8 Western Australian Electricity Review Board, Applications Nos. 1 and 2 of 2010, Supplementary Decision, 22 November 2011, [68]-[69].

9 GGT response to BHP Billiton submission, dated 24 February 2015, p 3 ff.

2.3.5 Default coverage of expanded or extended capacity

The ERA's required amendment will have the effect of setting up a default presumption of coverage unless the ERA is satisfied that application of the access arrangement to such extensions / expansions is inconsistent with the NGO. The Draft Decision appears to suggest that this is necessary for the following reasons:

- consistency with the NGO;
- ensure that users are given the opportunity to obtain regulated services; and
- concerns about GGT's timeliness in making the election.

Each of these issues is addressed below

Consistency with the NGO

GGT maintains that its proposal to elect whether or not an extension or expansion is treated as part of the covered pipeline is consistent with the NGR and the NGO. In requiring that any election be subject to the consent of the ERA, the Proposed Revised Access Arrangement ensures that any election that is not consistent with the NGO or other provisions of the NGL is capable of being vetoed by the ERA.

Further, GGT considers that its proposed approach better promotes the NGO, compared to the ERA 'default coverage approach'. The ERA's proposed approach provides for default coverage of any extension or expansion, with departure from this default position only permitted where it can be demonstrated that coverage would be inconsistent with the NGO. However this approach does not contemplate the possibility that, in some circumstances, while coverage of an extension or expansion may not be inconsistent with the NGO, non-coverage may contribute to the achievement of the NGO to a greater degree and/or may better satisfy other provisions of the NGL.

The Draft Decision provides very little reasoning to support a conclusion that the 'default coverage' approach is consistent with the NGO. The only reason given for this conclusion is that, "where the default position is for deemed coverage, then there is greater certainty that regulated services will apply and consequently less opportunity for GGT to channel prospective users into contracting for a negotiated rather than a regulated service which could expose them to the extraction of unregulated (monopoly) tariffs".[10] However the assumption that appears to be underpinning this reasoning is that regulation of services provided by means of expanded capacity will always be necessary to promote the NGO – in other words, regulation will always be preferable to negotiated outcomes.

Indeed, the circumstances and history of the GGP demonstrate that, in the case of this particular pipeline, regulated outcomes will not always be preferable to negotiated

[10] Draft Decision, paragraph 1760.

outcomes, either in terms of promoting the NGO or in the eyes of users. The relevant circumstances include:

- a customer base that comprises large industrial users, many of whom may have an incentive and ability to seek negotiated outcomes;
- several capacity expansions that have not been included as part of the covered pipeline, with the terms on which services are to be provided over this uncovered pipeline successfully negotiated between GGT and users; and
- many users of the covered pipeline acquiring services other than on regulated terms – i.e. users opting for negotiated terms over regulated terms, even where regulated terms are available.

There are many reasons why regulation of services to be provided over expanded capacity may not be in the interests of users and may not promote the NGO. In this case, where expansions of capacity are often to service new mining projects, not treating these expansions as part of the covered pipeline may be in the interests of both existing and new users, including because:

- existing users would not be exposed to risks associated with associated with expansion of the covered pipeline to service new projects (i.e. this risk would be fairly borne by the party seeking the expansion of capacity); and
- this may enable a better assessment of the economics of the contemplated project(s), since the tariff to be charged to the party seeking the expansion could be set to reflect the incremental cost of that expansion only, rather than the average cost across the entirety of the covered pipeline.

GGT refers to the expansion of the GGP that was the subject of the ERA's Determination on 30 May 2014. In that case, GGT elected that the new capacity created by the expansion would not be covered and the ERA approve that election. In its determination, the ERA did not refer to any concerns it had with respect to consistency with the NGO – i.e. the ERA's determination was not on the basis that coverage would be inconsistent with the NGO. Rather, the ERA's determination was on the basis of other considerations, in particular the specific circumstances of that expansion and the pipeline coverage criteria in the Gas Code (now contained in section 15 of the NGL). GGT submits that the proper analysis was undertaken by the ERA in that case, taking into account all relevant circumstances of the expansion and relevant legal requirements and criteria. However such an analysis would potentially not be permitted under the ERA's 'default coverage approach', since the ERA's consideration would be confined to a binary question of whether coverage would be inconsistent with the NGO.

As outlined in section 2.3.2 above, the NGO considers a range of factors in promoting the long term interests of users, including efficient investment in natural gas services. Therefore, the ERA's required amendments may ultimately not promote the NGO (or may contribute to its achievement to a lesser degree) if they have the unintended consequence of discouraging efficient investment by GGT. As noted above, the

current extensions and expansions policy has been successful in promoting efficient investment in new capacity. However there is a risk that changing the policy to set coverage as the default position may dampen incentives for future investment.

GGT submits that, in order to contribute to the achievement of the NGO to the greatest degree, questions of coverage should be addressed on a case-by-case basis in light of the prevailing circumstances. This position is consistent with the conclusions of the ERB in relation to the current extensions and expansions policy, referred to above. Setting a default position with relative narrow scope for departure creates a significant risk of coverage outcomes that do not contribute to the achievement of the NGO to the greatest degree.

Opportunity for users to obtain regulated services

GGT's Proposed Revised Access Arrangement will do nothing to prevent users from obtaining existing regulated services. With respect to expanded or extended capacity, GGT submits that neither the NGR nor the NGO contemplate users having an opportunity to access associated regulated services, unless and until that new capacity becomes subject to a coverage determination.

In paragraph 1755 of the Draft Decision, the ERA notes its concern that GGT may make an election that takes into account only its own commercial interests and that may result in an outcome contrary to the NGO.

Obviously, the very nature of uncovered pipeline capacity means that the relevant services will be subject to commercial negotiations predicated on both parties acting in their respective commercial interests. However, there is no reason to assume that this will result in an outcome contrary to the NGO. In fact, the regulatory framework applying to gas pipelines places commercially negotiated outcomes at the top of the hierarchy, with access on regulated terms and conditions being a "backstop" outcome. That is, the NGO itself recognises that non-regulated outcomes are to be preferred and given precedence over regulated outcomes.

In any event, as noted above, should the ERA consider that services to be provided over any new capacity ought to be subject to regulation and GGT has not elected for this new capacity to be covered, the ERA may withhold its approval for GGT's election, in which case, subject to capacity being available, users would be able to gain access to this new capacity on regulated terms.

Timeliness of the election

The ERA agreed with BHPB's submission that the current arrangements that allow GGT to elect "at some point in time" are not timely enough.[11] Whilst the ERA did raise a concern about the timing of GGT's application for approval of uncovered services in

[11] Draft Decision paragraph 1765.

May 2014, it did not suggest that this had an impact on its ultimate decision to approve the election of unregulated services.

The Draft Decision proposes that the ERA's concerns with timeliness can be addressed through the adoption of a default position of coverage for extended or expanded pipeline. As outlined above, GGT submits that this approach is both unnecessary and undesirable. GGT further submits that such an approach is not suitable for addressing any of the ERA's concerns about timeliness of the GGT's election.

GGT does not accept that the timing of any of its previous elections in relation to coverage of expanded or extended pipeline was contrary to the requirements of access arrangements, or undermined the NGO. However, if the ERA does have genuine concerns about the timeliness of elections, this should be addressed in and of itself, rather than via an inversion of the default coverage position of expanded or extended pipelines.

2.3.6 Revised proposal

For reasons set out above, GGT considers that the ERA's proposed 'default coverage' approach is likely to result in outcomes that do not contribute to the achievement of the NGO, or alternatively, do not contribute to the achievement of the NGO to the greatest degree. Therefore GGT has not adopted the ERA's proposed amendment to section 7.2 of the access arrangement.

However GGT acknowledges that the existing section 7.2 could be modified to better align with the objective of the NGL regulatory regime.

GGT therefore proposes to replace the existing section 7.2 with the following new provision:

An extension to, or expansion of the capacity of, the covered pipeline is to be treated as forming part of the covered pipeline where, in response to a notification from GGT of a proposed extension / expansion which includes an election by GGT as to whether the extension or expansion of the capacity of the covered pipeline is to be treated as forming part of the covered pipeline, the ERA determines that treating the extension or expansion as forming part of the covered pipeline will or is likely to contribute to the achievement of the national gas objective. In all other circumstances, an extension to, or expansion of the capacity of, the covered pipeline is not to be treated as forming part of the covered pipeline.

As can be seen, this replacement provision allows for consideration by the ERA of whether treating the extension or expansion as forming part of the covered pipeline will or is likely to contribute to the achievement of the NGO. Therefore, it allows the ERA to address situations where it considers that an election by GGT may result in

outcomes contrary to the NGO (a concern expressed by the ERA in the Draft Decision[12]).

Importantly however, this revised form of section 7.2 does not set coverage as the default position, only to be departed from where coverage can be shown to be inconsistent with the NGO. Therefore, for reasons set out above, GGT considers that this revised form of section 7.2 is more likely to result in outcomes that contribute to the achievement of the NGO to the greatest degree.

2.4 Queuing requirements

In this submission GGT explains the additions and amendments to its access arrangement proposal to address the matters raised in the Draft Decision relating the Queuing requirements.

The amendments required by the Draft Decision are all part of Required Amendment 16. This section addresses the individual components of Required Amendment 16.

2.4.1 Spare capacity register

Proposed section 5.2.1 should be amended to reflect that all spare capacity will be included in the spare capacity register

GGT considers that this amendment is not required.

Section 5.2.1 addresses the disposition of spare capacity when the amount of spare capacity is 2TJ/day or less. It does not suggest that spare capacity greater than 2TJ/day would not be listed.

Rule 111 requires the Service provider to list all spare capacity. Were GGT to fail to list any spare capacity in excess of 2TJ/day, it would be in breach of Rule 111 (both a civil penalty provision and a conduct provision under the National Gas (South Australian) Regulations).

On review of this section, it has come to GGT's attention that clause 5.2.1(b) requires a prospective User to "enter into an agreement for that Capacity within 2 months of it becoming Spare Capacity". Capacity that is "spare" may not be required by the market at the time that it becomes "spare". GGT proposes to amend this clause to read "enter into an agreement for that Capacity within 2 months of seeking access to the Spare Capacity".

[12] Draft Decision, paragraph 1757.

2.4.2 Calculation of NPV of auction bids

Proposed section 5.2.5 should be amended to provide a detailed description of how GGT intends to calculate the NPV of bids from prospective users

GGT accepts this amendment.

To satisfy this amendment, GGT proposes to add additional text to this section outlining that the NPV will be assessed using:

- The Prospective User's nominated tariff;
- The Prospective User's requested capacity requirement;
- The Prospective User's requested contract term;
- The Prospective User's requested contract commencement date; and
- The regulator-approved Weighted Average Cost of Capital 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:

- A bid at a higher offer price will outrank a bid at a lower price;
- A bid for a larger volume will outrank a bid for a lower volume;
- A longer term contract will outrank a shorter term contract;
- 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 offer featuring a large volume, long term contract could outrank a higher priced lower volume, shorter term offer.

All applications will be discounted at the same regulator-approved discount rate.

2.4.3 Sharing of costs for the investigation

Proposed section 5.3.1(c) should be amended so that the sharing of costs for the investigation between prospective users is based on their proportionate shares of requested capacity, not MDQ.

GGT accepts this amendment and has reinstituted this provision under section 5.3.1(e).

2.4.4 Assignment of application

Section 7.2(h) of the existing access arrangement (prospective user who has paid for investigations may assign its application for service and the investigation information to another party interested in the relevant portion of the developable capacity) should be reinstated.

GGT accepts this amendment and has reinstituted this provision under section 5.3.1(g).

2.4.5 Itemisation of costs of investigations

Section 7.2(i) of the existing access arrangement which states that prospective users who have contributed to the cost of an investigation for developable capacity must be provided with an itemisation of the costs incurred in the investigation should be reinstated.

GGT accepts this amendment and has reinstated this provision as section 5.3.1(h).

2.4.6 Priority of contributors to investigation costs

Section 7.2(e) of the current access arrangement, which requires GGT to give a higher priority to users who have contributed to the cost of investigations than it does to those who have not contributed to their cost should be reinstated.

GGT accepts this amendment and has reinstated this provision as section 5.3.1(g).

2.4.7 Costs of investigations reasonably incurred

The final sentence of current section 7.2(e) relating to the requirement for the user to only bear costs of investigations that are reasonably incurred should be reinstated into section 5.3.1 (after section 5.3.1 (d)).

GGT accepts this amendment and has included the relevant text in section 5.3(e).

2.4.8 Entering negotiations for developable capacity

Proposed section 5.3.2(a) should be amended to remove GGT's discretion, so that it must be objectively assessed if any Developable Capacity "can" be provided, and if it can be provided then the Service Provider "must" enter into negotiations with prospective users for it. In this regard, if there are certain circumstances known in

advance where it is generally accepted that a service provider "cannot" provide developable capacity, then those circumstances should be listed in section 5.3.2(a).

GGT accepts this amendment, to the extent that it will commit to entering negotiations to develop pipeline capacity where the development is technically and economically feasible.

2.4.9 Discretion to undertake development

Proposed section 5.3.3 should be removed. Section 5.3.3 states that GGT is not bound to undertake development.

GGT accepts this amendment in part.

The purpose of the discretion is to reflect the scope of an Access Determination under section 191 of the National Gas Law and Rule 118. Drawing on Rule 118, GGT will retain this discretion, inserting the provisions from Rule 118 as new section 5.3.3 as follows:

Service Provider will enter negotiations to undertake expansion development where it is:

(i) technically and economically feasible; and

(ii) consistent with the safe and reliable operation of the pipeline. [Rule 118(2)(c)]

Service Provider may elect, but cannot be required, to fund, in whole or part, an expansion of the capacity of the pipeline unless the extension and expansion requirements of the applicable access arrangement provide for the relevant funding. [Rule 118(2)(b)]

Service Provider is not required to extend the geographical range of the pipeline. [Rule 118(1)(b)]

A user or prospective user acquires no interest in a pipeline by funding an expansion of capacity of the pipeline in accordance with an access determination unless the service provider agrees. [Rule 118(3)]

2.4.10 Provision of compliance reports to regulator

Proposed section 5.4 should be removed. Section 5.4 states that GGT will provide compliance reports to the regulator.

GGT accepts this amendment.

3 Interval of delay

The Draft Decision requires that the reference tariff for the revised GGP Access Arrangement be determined from total revenues for the period of five years commencing on 1 January 2015. Furthermore, the decision anticipates commencement of a revised GGP Access Arrangement on 1 July 2016, and requires that the revised reference tariff be established as a tariff at this date.[13]

The Draft Decision requires that, in determining the revised reference tariff, regard is to be had for rule 92(3) of the NGR. This is because there will be an interval (the interval of delay) between the revision commencement date and the date on which revisions to the access arrangement will commence.[14]

These requirements are summarised in *Required amendment 14* of the Draft Decision.

> ***Required amendment 14***
>
> The Authority requires that GGT amend its Reference Tariffs and Charges section of the proposed revised access arrangement in accordance with paragraphs 1603 to1618.
>
> The Authority requires that GGT update its calculation of the reference tariff for the third access arrangement period, as per Table 103 of this Draft Decision.

GGT addresses the issue of the interval of delay in this section of the submission.

GGT contends that the ERA's interpretation and application of rule 92(3) are incorrect for the reasons set out in the paragraphs which follow.

GGT accepts that, as a practical matter, revisions to the GGP Access Arrangement could commence on 1 July 2016, and has adopted that date as the commencement date for the purpose of amending the access arrangement revision proposal.

This has implications for the calculation of the total revenue from which the reference tariff is calculated. These implications are dealt with in the subsequent sections of this submission, in which GGT addresses the amendments required by the Draft Decision concerning the total revenue and tariff calculations.

Interval of delay

In the Draft Decision the ERA concludes that there will be an interval between the revision commencement date and the date on which revisions to the access arrangement will commence.[15] The ERA states that, as a result of this "interval" the reference tariffs in force at the end of the second access arrangement period "should

13 Draft Decision, paragraph 1621.

14 Draft Decision, paragraph 1621.

15 Draft Decision, p 352, paragraph 1621.

continue without variation for the interval of delay".[16] However, the ERA goes on to say that in calculating reference tariffs the ERA has had regard to this interval and the ERA will adjust its approved reference tariffs, to begin on 1 July 2016, "to ensure that GGT is no better or worse off as a result of the delay".[17]

In adjusting the approved reference tariff, the ERA appears to rely on rule 92(3) of the NGR, which it states it has had "regard to".[18]

Rule 92 of the NGR provides:

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) The reference tariff variation mechanism must be designed to equalise (in terms of present values):

(a) forecast revenue from reference services over the access arrangement period; and

(b) the portion of total revenue allocated to reference services for the access arrangement period.

*(3) However, if there is an interval (the **interval of delay**) between a revision commencement date stated in a full access arrangement and the date on which revisions to the access arrangement actually commence:*

(a) reference tariffs, as in force at the end of the previous access arrangement period, continue without variation for the interval of delay; but

(b) the operation of this subrule may be taken into account in fixing reference tariffs for the new access arrangement period.

GGT submits that:

a. there is no "interval of delay" within the meaning of that term in rule 92(3) and therefore, the operation of rule 92(3) (which operates to continue reference tariffs as in force at the end of the previous access arrangement period without variation during the interval of delay) is not to be taken into account in fixing reference tariffs for the forthcoming access arrangement period;

b. if GGT is wrong about there not being an interval of delay, and an interval of delay has occurred, rule 92(3)(b) provides for the fixing of reference tariffs for

16 Draft Decision, pp 352-353, paragraph 1621.

17 Draft Decision, p 353, paragraph 1621.

18 Draft Decision, p 352, paragraph 1621.

the forthcoming access arrangement period in a manner that compensates GGT for CPI reflecting the fact that tariffs that applied from 1 October 2014 will have continued without variation until revisions to the access arrangement commence (which the Draft Decision anticipates will be on 1 July 2016).

No interval of delay within the meaning of rule 92(3)

GGT submits that rule 92(3) does not have any operation with respect to the approval of revisions to the GGP Access Arrangement. This is because the current GGP Access Arrangement itself governs what is to occur in the event that revisions to the GGP Access Arrangement do not come into effect on 1 January 2015.

Clause 3.3 of the current GGP Access Arrangement provides:

3.3 Delay

In the event that the Access Arrangement Proposed Revisions in relation to the Access Arrangement Period next following this Access Arrangement ("Next Access Arrangement") does not come into effect on the intended Revisions Commencement Date this Access Arrangement will not expire until the date after the Revisions Commencement Date on which the Regulator specifies that the Next Access Arrangement comes into effect.

The ERA, in its draft decision on the current access arrangement required GGT to include clause 3.3 in the access arrangement. The reason given by the ERA was as follows:[19]

To clarify the position, and as a mechanism that may be adopted for the purpose of future revisions of the Access Arrangement, the Authority considers that specific provision should be made in GGT's Proposed Revisions to address any delay in approval of revisions to the Access Arrangement to the effect that if approval is not given prior to the intended Revisions Commencement Date then the Access Arrangement will not expire until the date specified by the Authority as the date upon which the next following revisions to the Access Arrangement are to take effect.

…

The Authority also requires the Revisions Commencement Date in GGT's Proposed Revisions to be amended to 1 January 2015 and for section 3.2 of GGT's Proposed Revisions to be amended to provide for a situation where the next following Access Arrangement Proposed Revisions is not approved by the Revisions Commencement Date.

The access arrangement that was last approved for the GGP was approved by the ERA in a "further final decision" published on 5 August 2010. This decision was made

[19] ERA, Draft Decision on GGT's Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline, 9 October 2009, pp 211-212, 214.

pursuant to section 2.42 of the Gas Code. Pursuant to clause 29 of Schedule 3 of the National Gas Access (Western Australia) Law, the current access arrangement is deemed to be a full access arrangement (as revised) made by the ERA under a full access arrangement decision.

Clause 30 of Schedule 3 provides that despite the repeal of the Gas Code, sections 3, 8 and 10.8 of the Gas Code continue to apply to a "transitioned access arrangement" until revisions to that access arrangement first approved or made in accordance with the NGL and the NGR after the commencement day take effect. A "transitioned access arrangement" is defined in clause 1 of Schedule 3 to include a current access arrangement incorporating revisions approved, or approved and made, in accordance with clause 29. Therefore, the current access arrangement applying to the GGP is a "transitioned access arrangement" and sections 3, 8 and 10.8 of the Gas Code continue to apply to the current access arrangement. These sections of the Gas Code do not have effect only to the extent that they provide for or deal with the procedure for the approval of revisions to access arrangements.[20]

GGT has continued to charge reference tariffs as last varied[21] to users acquiring reference services. This is in accordance with the provisions of the current access arrangement as approved pursuant to the Gas Code.

GGT submits that as the current access arrangement has not expired, and will not, in accordance with its terms, expire until the date that revisions to the GGP Access Arrangement commence, the reference tariffs that are to apply during the period 1 January 2015 and the date that revisions to the access arrangement commence are the reference tariffs as most recently varied and which applied from 1 October 2014 to 31 December 2014. The provisions of the GGP Access Arrangement operate to have this effect, and not rule 92(3). That is, the provisions of the current GGP Access Arrangement operate such that there is no interval of delay, and therefore, there is no scope for the operation of rule 92(3)(b).

More specifically in connection with the manner in which the ERA has proposed that reference tariffs be fixed pursuant to rule 92(3)(b), there is no basis upon which any "true-up" can be applied as if the reference tariff that the ERA determines should apply from 1 July 2016 applied from 1 January 2015.

Making an adjustment of this nature would necessarily involve a backward-looking application of the NGR to determine reference tariffs for the last part of the current access arrangement period (i.e. the part from 1 January 2015 until its expiry). This is clearly not permissible in circumstances where, as noted above, reference tariffs for the current access arrangement period were determined under the Gas Code, this access arrangement has not expired, and sections 3, 8 and 10.8 of the Gas Code continue to apply to this access arrangement. The ERA cannot retrospectively make an adjustment to reference tariffs for the last part of the current access arrangement period (i.e. the part from 1 January 2015 until its expiry) "as if" the reference tariff for that period had been determined under the NGR rather than the Gas Code.

---

[20] National Gas Law, sch 3 cl 30(3).

[21] Letter from GGT (J Williams) to ERA (G Watkinson), 20 August 2014.

The vice inherent in making this adjustment can be illustrated by reference to the cost allocation issue. If it is correct that it is open to the ERA to adjust total revenue as if the reference tariff that the ERA approves for AA3 under the NGR applied from 1 January 2015 (a position with which GGT disagrees), and if the ERA's position on cost allocation is also correct (a position with which GGT also disagrees), then this would effectively allow for a retrospective application of the ERA's decision on cost allocation under the NGR to a period in which relevant parts of the Gas Code were still in force.

As set out above, the current access arrangement continues to be governed by relevant provisions of the Gas Code. This includes section 8.38, which provides:

Allocation of Revenue (Costs) between Services

8.38 …the portion of the Total Revenue (referred to in section 8.4) that a Reference Tariff should be designed to recover (which may be based on forecasts) should include:

(a) all of the Total Revenue that reflects costs incurred (including capital costs) that are directly attributable to the Reference Service; and

(b) a share of the Total Revenue that reflects costs incurred (including capital costs) that are attributable to providing the Reference Service jointly with other Services, with this share to be determined in accordance with a methodology that meets the objectives in section 8.1 and is otherwise fair and reasonable.

In the Draft Decision, the ERA notes that it applied the cost allocation provisions in the Gas Code in AA2 such that:[22]

- Total revenue would reflect the capital and operating costs of providing covered services.
- All costs associated with the provision of covered services would be attributed to covered services, even if they were jointly incurred with uncovered services.
- Only incremental operating and capital cost associated with uncovered assets would be attributed to users of uncovered capacity.

However in the Draft Decision, the ERA appears to consider that the relevant provisions of the NGR and NGL require a different approach to cost allocation to that adopted for AA2 under the Gas Code. If that is correct (a position with which GGT disagrees), then the ERA's revised approach to cost allocation can only be applied from after the expiry of the current access arrangement. The ERA's revised approach to cost allocation cannot be applied retrospectively to adjust reference tariffs in the current access arrangement period, given that reference tariffs for the current access arrangement period were determined under the Gas Code, this access arrangement has not expired, and sections 3, 8 and 10.8 of the Gas Code continue to apply to this access arrangement.

[22] Draft Decision, p 316, paragraph 1457.

Similar observations could be made in respect of the ERA's decision on the depreciation schedule. The ERA similarly considers that the relevant provisions of the NGL and NGR require a different approach to the depreciation schedule to that adopted for AA2 under the Gas Code. If that is correct (a position with which GGT disagrees), then the ERA's revised approach to the depreciation schedule can only be applied from after the expiry of the current access arrangement, and cannot be applied retrospectively to adjust tariffs for the last part of the current access arrangement period.

GGT submits that if the ERA applies its proposed "true up" for perceived over-recovery during the period 1 January 2015 to when revisions to the GGP Access Arrangement next commence, the ERA will be purporting to apply a provisions of the NGR to a period in which those provisions do not apply. Rather, during the relevant period (1 January 2015 to the date that revisions to the GGP Access Arrangement commence), the provisions of the Gas Code continue to apply.

This highlights the error in the ERA's decision to account for an interval of delay in this case by retrospectively making an adjustment to reference tariffs for the last part of the current period. In circumstances where the current access arrangement, on its own terms, has not expired, there can be no adjustment to account for the difference between the reference tariffs charged under that existing access arrangement and the tariffs determined by the ERA for the next access arrangement period.

ERA has misconstrued rule 92(3)

If GGT is incorrect, and an interval of delay has occurred, GGT submits that the ERA has misconstrued the requirements of rule 92(3)(b) in fixing reference tariffs for the forthcoming access arrangement period.

In the Draft Decision, the ERA states that it has "had regard to rule 92(3)" in calculating approved reference tariffs. The manner in which the ERA appears to have had regard to this rule is by making an (downwards) adjustment to reference tariffs that would otherwise have applied from 1 July 2016 to 31 December 2019 because the ERA considers that GGT has "over-recovered" revenues during the period 1 January 2015 to 30 June 2016. The ERA perceives that this over-recovery has occurred because the reference tariff being charged at 31 December 2014 will continue without variation until 30 June 2016 and the ERA considers that, based on its total revenue calculations for the period 1 January 2015 to 31 December 2019, a lower reference tariff should have applied during the period 1 January 2015 to 30 June 2016.

More precisely, the ERA appears to have had regard to rule 92(3) in its modelling by:

a. first calculating the present value of total revenues (costs) for the years 2015-2019;

b. then calculating the present value of the forecast revenues (tariff x volume of services) for the years 2015-2019. In this calculation the ERA uses:

i. the current reference tariff (that is, the tariff prevailing at 31 December 2014) to calculate the revenues for 2015 and for the period 1 January to 30 June 2016; and

ii. a proportion of the current tariff to calculate the revenues for the period 1 July 2016 to 31 December 2016, and for 2017-2019.

The proportion which the ERA applies to the current tariff when calculating the revenues for the period 1 July 2016 to 31 December 2019 is calculated, within the tariff model, as the factor which scales down the current tariff to the point where the present value of the forecast revenues for 2015-2019 is equal to the present value of total revenues for that period.

GGT submits that the NGR do not permit the ERA to scale down the current tariff to the point where the present value of the forecast revenues for 2015-2019 is equal to the present value of total revenues for that period. Rather, the NGR require the ERA to approve/determine:

a. total revenue for each regulatory year of the access arrangement period (rule 76); and

b. a reference tariff variation mechanism that is designed to equalise (in terms of present values) forecast revenue from reference services over the access arrangement period and the portion of total revenue allocated to reference services for the access arrangement period (rule 92(2)).

In so doing, regard may be had to any interval of delay pursuant to rule 92(3). However, what rule 92(3) requires is that regard is had to the fact that the reference tariffs were last varied with effect from 1 October 2014 and have applied without variation since then and, if revisions to the access arrangement do not commence until 1 July 2016, will continue to apply without variation until 30 June 2016. Regard is properly had to this circumstance by compensating for CPI adjustments that would, in the normal course, have occurred through the tariff variation mechanism, but did not occur because the mechanism in the access arrangement had come to an end. The background to rule 92(3) is explained below.

Rule 92 appeared in the first version of the NGR, and, aside from defined terms being put into italics, remains in same form. As detailed below, the material that accompanied the first version of the NGR makes clear that the purpose of rule 92(3) was twofold:

a. to allow existing reference tariffs to continue without adjustment in the event the completion of a new access arrangement is delayed; and

b. to compensate service providers for any CPI adjustments in the following access arrangement period in recognition of the fact that existing reference tariffs continued to operate without adjustment until revisions to the access arrangement took effect.

On 1 May 2008, the Ministerial Council on Energy's Standing Committee of Officials (**SCO**) published the draft of the NGR to accompany the debate of the NGL in the South Australian Parliament. This draft contained rule 92 in the same form in which it commenced, which, as noted above, is the same form that it takes in the current version of the NGR. Together with the publication of the draft NGR, the SCO published a document that set out the SCO policy responses to issues raised in response to earlier drafts of the NGR. These earlier drafts had not contained a provision similar to NGR 92(3).

An issue that had been raised by the SCO in response to earlier drafts of the NGR was that there was no provision for what regulators are to do with respect to adjusting reference tariffs if completion of a new access arrangement is delayed. The SCO response was that reference tariffs should continue and service providers should be compensated for any necessary CPI adjustments:[23]

New Policy Position *– The rule will be varied to allow existing reference tariffs to be continued without adjustment. Pipelines will be compensated for any CPI adjustments in the next access arrangement. Officials agreed that this is necessary to balance the need [sic: to] provide regulatory certainty in the event of a delay, with appropriate incentives for businesses and the AER to complete access arrangement negotiations on time.*

Therefore, and in accordance with the amendments that GGT has made to the access arrangement proposal:

a. total revenue is to be determined for each regulatory year of the access arrangement period, being 1 July 2016 to 31 December 2019;

b. the reference tariff variation mechanism is to be designed to equalise in terms of present values forecast revenue from reference services over the access arrangement period and the portion of total revenue allocated to reference services for the access arrangement period; and

c. if the ERA is correct that an interval of delay has occurred, GGT should be compensated for relevant CPI adjustments in recognition that reference tariffs as last varied to apply from 1 October 2014 have continued, and will likely continue, without variation until 1 July 2016.

In relation to the calculation of total revenue, GGT submits that, pursuant to rule 76, total revenue is only to be calculated for the period 1 July 2016 to 31 December 2019. This is because (assuming that revisions to the access arrangement commence on 1 July 2016) the access arrangement period is 1 July 2016 to 31 December 2019. This is clear from the definition of "access arrangement period" in the NGR, which, in this case, is relevantly the period between the commencement of the last revision of the access arrangement and the revision commencement date for the access arrangement. Rule 76 provides for total revenue to be determined for each regulatory year of the access arrangement period.

[23] Ministerial Council on Energy's Standing Committee of Officials, *SCO Responses to Stakeholder Consultations on the National Gas Rules*, 1 May 2008, p 37.

To the extent the ERA purports to determine a total revenue amount for any period outside of the access arrangement period, the ERA will be in error. To the extent the ERA purports to apply rule 92 to equalise forecast revenue from reference services and the portion of total revenue allocated to reference services involving any period outside of the access arrangement period, the ERA will be in error.

GGT submits that the ERA's purported application of rule 92(3) is inconsistent with other relevant provisions of the NGR that provide for the elements of total revenue to be calculated on a forward-looking basis. For example, the rate of return is estimated for each regulatory year of an access arrangement period. Any interval between a revision commencement date and the date that revisions actually commence to an access arrangement does not form part of the access arrangement period in respect of which the relevant rate of return is being determined.[24] Other total revenue elements (operating and capital costs) are also calculated on a forward-looking basis. It would be inconsistent with the operation of the rules and the underlying incentive framework to make an adjustment to the forward-looking assessment of total revenue by reference to a perceived under- or over-recovery in a prior period.

In this way, the ERA's purported adjustment to total revenue would also be inconsistent with the NGO and several of the revenue and pricing principles, including:

a. that a service provider should be provided with a reasonable opportunity to recover at least the efficient costs the service provider incurs in providing reference services and complying with a regulatory obligation or requirement or making a regulatory payment; and

b. 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 ERA's purported adjustment would have the effect of reducing total revenue for the next access arrangement period below what is required to recover the efficient costs of providing reference services in that period, as those costs have been assessed by the ERA. This will not promote efficient investment over the forthcoming access arrangement period.

[24] National Gas Rules, rule 87. See also definition of "access arrangement period" in rule 3.

4 Opening capital base, capital expenditure and projected capital base

The total revenue from which the revised reference tariff of the GGP Access Arrangement is to be determined is to be calculated using the building blocks of rule 76 of the NGR. The application of rule 76 requires the opening capital base at the commencement of the access arrangement period. That opening capital base is then projected forward over the period in accordance with the requirements of rule 78.

In this section of this submission, GGT addresses the required amendments of Draft Decision pertaining the setting of the opening capital base, and to its projection forward over the access arrangement period.

4.1 Opening capital base

Required amendment 6

The opening capital base for 1 January 2015 in the proposed revised access arrangement must be amended to reflect the values in Table 26 of this Draft Decision.

Table 26 of the Draft Decision sets out the roll forward of the capital base for the Covered Pipeline from commencement of the current access arrangement period (20 August 2010) to 1 January 2015.

The capital base, GGT contends, must be rolled forward to the commencement of the revised access arrangement which, as discussed in the previous section if this submission, is to be 1 July 2016.

Paragraph 373 of the Draft Decision advises that some $0.338 million of GGT's capital expenditure during the period from 2010 to 2014 does not comply with the criteria set out in rules 74 and 79 of the NGR, and has not been taken into account in the roll forward calculations.

GGT has addressed the issues raised in the Draft Decision, and has amended the capital expenditure to be added to the capital base during the period from 1 January 2010 to 31 December 2014.

The capital expenditure which GGT proposed to add to the capital base in 2014, and the ERA's amended capital expenditure for 2014, were based on a forecast for that year. The actual capital expenditure for 2014 is now available, and GGT has taken into account that expenditure (rather than the forecast) in addressing *Required amendment 6*.

The actual capital expenditure for the Covered Pipeline for 2014 has been reviewed by GGT's auditor, Deloitte, and Deloitte's review report is provided as Attachment 2 to this submission.

4.1.1 Capital expenditure 2010-2014

In this section of the submission, GGT addresses the ERA's assessment of capital expenditures during the period 2010-2014. GGT has summarised those expenditures in Table 2 (expenditure at current prices), and in Table 3 (expenditure at constant (December 2013) prices.

Table 2: Goldfields Gas Pipeline (Covered Pipeline): Capital expenditure at current prices (nominal): 2010-2014

		GGT actual					ERA Draft Decision					Difference					GGT response				
		2010	2011	2012	2013	2014	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Pipeline and laterals																					
Accounting reversal: expenditure recovered	$m																				
Gorgon-GGP interconnection	$m																				
	$m	-0.083	0.000	0.000	0.026	0.000	-0.083	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.026	0.000	-0.083	0.000	0.000	0.026	0.000
Mainline valve and scraper stations																					
	$m	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Compressor stations																					
Yarraloola compressor hazardous area declassification	$m																				
Yarraloola ESD/fire and gas system replacement	$m																				
Ilgarari compressor hazardous area declassification	$m																				
Paraburdoo replacement pressure safety valves	$m																				
Yarraloola spare parts storage	$m																				
Yarraloola capital spares	$m																				
Yarraloola engine rebuild	$m																				
Borescope purchase	$m																				
Stay in business compressor station CAPEX	$m																				
	$m	0.431	0.047	0.259	0.580	0.963	0.431	0.047	0.188	0.554	0.899	0.000	0.000	-0.070	-0.026	-0.064	0.431	0.047	0.259	0.580	0.963
Receipt and delivery point facilities																					
Stay-in-business CAPEX	$m																				
	$m	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SCADA and communications																					
SCADA replacement	$m																				
Satellite communications upgrade	$m																				
Stay-in-business SCADA and communications CAPEX	$m																				
	$m	0.182	0.364	0.727	0.473	1.528	0.182	0.364	0.727	0.473	0.857	0.000	0.000	0.000	0.000	-0.672	0.182	0.364	0.727	0.473	1.528
Cathodic protection																					
Stay-in-business cathodic protection CAPEX	$m																				
	$m	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Maintenance bases and depots																				
Karratha spare parts storage	$m																			
Stay-in-business maintenance bases CAPEX	$m																			
Accommodation units (Leinster, Wiluna, Paraburdoo)	$m																			
	$m	**0.089**	**0.000**	**0.000**	**1.320**	**0.022**	**0.089**	**0.000**	**0.000**	**1.320**	**0.090**	**0.000**	**0.000**	**0.000**	**0.000**	**0.069**	**0.089**	**0.000**	**0.000**	**1.320**	**0.022**
Other assets																				
Miscellaneous tools	$m																			
Office furniture	$m																			
Asset and document management systems	$m																			
Stay-in-business other assets CAPEX	$m																			
	$m	**0.045**	**0.023**	**0.026**	**0.567**	**0.068**	**-0.002**	**-0.012**	**0.000**	**0.488**	**0.920**	**-0.046**	**-0.035**	**-0.025**	**-0.079**	**0.852**	**0.045**	**0.023**	**0.026**	**0.567**	**0.068**
	$m	**0.664**	**0.435**	**1.012**	**3.101**	**2.769**	**0.618**	**0.400**	**0.916**	**2.970**	**2.938**	**-0.046**	**-0.035**	**-0.095**	**-0.131**	**0.168**	**0.664**	**0.435**	**1.012**	**3.101**	**2.769**

Table 3: Goldfields Gas Pipeline (Covered Pipeline): Capital expenditure at constant (December 2013) prices): 2010-2014

		GGT proposed					ERA Draft Decision					Difference					GGT response				
		2010	2011	2012	2013	2014	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
Pipeline and laterals																					
Accounting reversal: expenditure recovered	$m																				
Gorgon-GGP interconnection	$m																				
	$m	-0.090	0.000	0.000	0.026	0.000	-0.090	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.026	0.000	-0.090	0.000	0.000	0.026	0.000
Mainline valve and scraper stations	$m																				
	$m	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Compressor stations																					
Yarraloola compressor hazardous area declassification	$m																				
Yarraloola ESD/fire and gas system replacement	$m																				
Ilgarari compressor hazardous area declassification	$m																				
Paraburdoo replacement pressure safety valves	$m																				
Yarraloola spare parts storage	$m																				
Yarraloola capital spares	$m																				
Yarraloola engine rebuild	$m																				
Borescope purchase	$m																				
Stay in business compressor station CAPEX	$m																				
	$m	0.466	0.050	0.266	0.580	0.945	0.466	0.050	0.194	0.554	0.882	0.000	0.000	-0.072	-0.026	-0.063	0.466	0.050	0.266	0.580	0.945
Receipt and delivery point facilities																					
Hydrocarbon dew point monitoring	$m																				
	$m	0.000	0.000	0.000	0.136	0.184	0.000	0.000	0.000	0.136	0.169	0.000	0.000	0.000	0.000	-0.015	0.000	0.000	0.000	0.136	0.184
SCADA and communications																					
Yarraloola Quantum RTU upgrade	$m																				
Paraburdoo compressor station Quantum RTU upgrade	$m																				
Newman scraper station Quantum RTU upgrade	$m																				
	$m	0.197	0.383	0.747	0.473	1.500	0.197	0.383	0.747	0.473	0.841	0.000	0.000	0.000	0.000	-0.659	0.197	0.383	0.747	0.473	1.500
Cathodic protection																					
Stay-in-business cathodic protection CAPEX	$m																				
	$m	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Maintenance bases and depots																				
Karratha spare parts storage	$m																			
Stay-in-business maintenance bases CAPEX	$m																			
Accommodation units (Leinster, Wiluna, Paraburdoo)	$m																			
	$m	**0.096**	**0.000**	**0.000**	**1.320**	**0.021**	**0.096**	**0.000**	**0.000**	**1.320**	**0.089**	**0.000**	**0.000**	**0.000**	**0.000**	**0.067**	**0.096**	**0.000**	**0.000**	**1.320**	**0.021**
Other assets																				
Miscellaneous tools	$m																			
Office furniture	$m																			
Asset and document management systems	$m																			
Stay-in-business other assets CAPEX	$m																			
	$m	**0.048**	**0.024**	**0.026**	**0.567**	**0.067**	**-0.002**	**-0.013**	**0.000**	**0.488**	**0.903**	**-0.050**	**-0.037**	**-0.026**	**-0.079**	**0.836**	**0.048**	**0.024**	**0.026**	**0.567**	**0.067**
	$m	**0.718**	**0.457**	**1.039**	**3.101**	**2.718**	**0.668**	**0.420**	**0.941**	**2.970**	**2.883**	**-0.050**	**-0.037**	**-0.098**	**-0.131**	**0.165**	**0.718**	**0.457**	**1.039**	**3.101**	**2.718**

Pipelines and laterals

The Draft Decision states, at paragraphs 350 and 351:

350. GGT has proposed two projects under this asset class. EMCa has recommended not to approve GGT's proposed capital expenditure on the Gorgon-GGP interconnection. EMCa considers that the expenditure has been based on a speculative requirement upon the request of one major user.

351. The Authority agrees with EMCa that $0.026 million of GGT's proposed capital expenditure on pipeline and laterals over the second access arrangement period does not satisfy rule 79(1)(b) of the NGR. The Authority notes that -$0.090 million was included as a reversal of costs for the work near easement project, which GGT was subsequently reimbursed by the instigator. Therefore, the Authority considers that only -$0.090 million of GGT's proposed capital expenditure on pipeline and laterals for the second access arrangement period is conforming under rule 79(1)(b) of the NGR.

The only comment on this project by the ERA's technical consultant, EMCa, appears in Table 8 of EMCA's report. An extract from that table is provided below.

Project	**As Proposed**	**Adjustment**	**EMCa Review Observations – Justification with Rule 79 (2)**

Gorgon is a major gas production field which will supply gas into the Western Australian domestic market from around 2016, and which is expected to continue supplying gas into the domestic market for around 30 years.

Gorgon is a major addition to domestic gas supplies, and to competition in the domestic gas market. Furthermore, the importance of Gorgon will increase in the future as North West Shelf gas supplies to the domestic market decline.

The importance of Gorgon, and the potential links between this source and end-users supplied from the GGP, are highlighted in the Independent Market Operator's 2015 Gas Statement of Opportunities

New production facilities such as Wheatstone, Gorgon and Pluto will increase WA's production capacity. Further, gas infrastructure development such as the new Eastern Goldfields Gas Pipeline (EGGP) and the recent upgrade of the Goldfields Gas Pipeline (GGP) brings greater shipping capacity to WA.[25]

GGT was of the view that all users of the GGP were likely to be interested in accessing Gorgon gas and, in these circumstances, GGT's undertaking investigation

[25] Independent Market Operator, *Gas Statement of Opportunities – November 2015*, page. 4.

of a pipeline interconnection to allow that gas to flow in the GGP was entirely reasonable. GGT notes that studies of this nature are undertaken on a regular basis and would, in some cases, be paid for by a potential customer. However, the nature of the Gorgon project, and its potential to affect multiple end-users on the pipeline meant assessment by GGT, effectively on behalf of all GGP users, was appropriate.

A number of GGP end-users had enquired into the ability to access gas from Gorgon. However, only one made an inquiry in writing.

Subsequently, and before GGT had carried out major investigatory work, the idea of a direct pipeline interconnection between Chevron's onshore facilities and the GGP was abandoned in favour of an alternative. Gorgon gas is expected to flow into the Dampier to Bunbury Natural Gas Pipeline (DBNGP), upstream of Compressor Station 1 on that pipeline and upstream of the DBNGP-GGP interconnect pipeline. To allow Gorgon gas to flow into the GGP, DBP, owner of the DBNGP, has proposed upgrading the capacity of the existing interconnect pipeline. The work is to be undertaken by DBP and GGT understands that it is to be paid for by a third party.

GGT considers that the investigation into the development was important to ensure the long term maintenance of the integrity of services – which aligns with the requirement of rule 79(2)(c)(ii). The expenditure on investigation into a Gorgon-GGP pipeline interconnection is conforming capital expenditure, and should be included in actual expenditure in 2013.

Compressor stations

The Draft Decision states, at paragraphs 353 and 354:

353. GGT has proposed 16 projects under this asset class. EMCa has recommended not to approve GGT's proposed capital expenditure on the PLC support software. EMCa considers that GGT has failed to present a case to demonstrate that the project has funded itself.

354. The Authority agrees with EMCa that GGT has failed to present a case to demonstrate that the project has funded itself. As a result, the Authority considers that $0.098 million of GGT's proposed capital expenditure on PLC support software is not conforming under rule 79 of the NGR.

EMCa's only comments on this project also appear in Table 8 of the consultant's report to the ERA. An extract of the table is provided below.

Project	As Proposed	Adjustment	EMCa Review Observations – Justification with Rule 79 (2)

The PLC support software expenditure incurred in 2012 and 2013 was for purpose-specific software and associated equipment to allow remote access to the control systems of compressor units and gas engine alternators at compressor stations.

Initial expenditure in 2012 was for equipment installation, and the subsequent expenditure in 2013 was for software licences.

The expenditure allows the control settings at a compressor station to be accessed and modified without the need for a technician to travel to site. In consequence, potential disruptions to gas flows which can be corrected by changes to settings can be effected as soon as they occur, ensuring that the integrity of the pipeline service is maintained.

The expenditure on PLC support software is conforming capital expenditure in accordance with rule 79(2)(c)(ii), and should be included in the actual expenditures for 2012 and 2013.

Other (depreciable) assets

At paragraphs 367 and 368, the Draft Decision advises:

367. GGT has proposed 13 projects under this asset class. EMCa considers that GGT has provided inadequate justification for tools and gas detectors, purchase of test instruments, fluke process calibrator, and electrical and instrumentation field response equipment. The Authority considers that inadequate justification was provided and accordingly does not satisfy rule 79 or the NGR

369. The Authority agrees with EMCa that $0.214 million of GGT's proposed capital expenditure on other assets for the second access arrangement period is not conforming under rule 79 of the NGR.

Again, EMCa's only comments on these projects appear in Table 8 of the consultant's report, and the relevant extract from the table is provided below.

Project	As Proposed	Adjustment	EMCa Review Observations – Justification with Rule 79 (2)
Other depreciable assets			

The expenditures in question were for tools, instruments and small items of equipment that were considered necessary for the maintenance and safe operation of the GGP.

A process calibrator is used test and calibrate the currents, voltages, temperatures, frequencies, resistances, pressures and other measurements in the instrument loops of the control systems through which the pipeline is operated. Routine testing and calibration is essential to protect expensive items of equipment, to maintain the integrity of services and to ensure safe operation. A calibrator made by Fluke Corporation, a leading manufacturer and distributor of electronic test tools and software, was purchased from Leda Electronics, Kewdale, in June 2011.

In 2014, GGT purchased a laptop computer preconfigured with all of the hardware and software necessary to interrogate all remote terminal units, flow computers, programmable logic controllers (PLCs) and chromatographs found at sites along the pipeline. This “kit” is kept at a central location, and is available to electrical and instrumentation technicians visiting remote sites. It is sent out to a technician who has scheduled a site visit, ensuring that the technician has on hand all of the hardware and software needed to maintain or repair any instrumentation which might be located at the site. The kit is returned to the central location once the work is completed. Use of a kit, in this way, reduces the cost of licences for software to access particular instruments (multiple copies of licences are not required). More importantly, it ensures that a technician arriving at a remote site has all the hardware and software needed for work at that site. Work does not have to be postponed until a later visit, with the prospect of gas flow being affected, because, for example, the technician does not have the cable required to interface his or her laptop computer with the particular model of flow computer at the site; all types of connecting cables are included in the kit.

GGT will provide further supporting materials in relation to tools and gas detectors once invoices have been retrieved from archive and examined.

4.2 Opening capital base 1 July 2016

For the purpose of calculating the total revenue and the reference tariff which is to apply on 1 July 2016, the opening capital base must be established at that date.

The roll forward of the capital base to 1 July 2016 is summarised in Table 6 of GGT's amended proposed revised access information (reproduced below). The calculations summarised in Table 6 are from the tariff model which is Attachment 3 to this submission.

AAI Table 6: Derivation of the capital base at the commencement of the access arrangement period

	2010 $ million	**2011** $ million	**2012** $ million	**2013** $ million	**2014** $ million	**2015** $ million	**2016**[1] $ million
Opening capital base	442.562	432.469	421.610	410.729	401.671	392.178	390.502
Capital expenditure	0.664	0.435	1.012	3.101	2.769	5.708	1.879
Depreciation	10.757	11.294	11.892	12.160	12.262	7.384	5.462
End of year value	432.469	421.610	410.729	401.671	392.178	390.502	386.919

1. For the period from 1 January 2016 to 30 June 2016

4.3 Forecast capital expenditure 2015-2019

Required amendment 7

The value of capital expenditure for 2015 to 2019 access arrangement period must be amended to reflect the values shown in Table 36 of this Draft Decision.

GGT's projected capital expenditures for the period 2015 to 2019 are assessed in paragraphs 392 to 427 of the Draft Decision.

Paragraph 392 of the Draft Decision advises:

EMCa considers that it has received insufficient evidence from GGT that it has taken into account the difference between approved and actual capital expenditure for the second access arrangement period.

EMCa has assessed the information provided by GGT in accordance with rule 74(2), and has made adjustments in accordance with the expectation that GGT will be able to prudently identify ways of delivering the proposed work for much less than its preliminary estimate as follows:

- *If the estimate is derived from a competitive tender, then EMCa has recommended to accept it;*
- *If the estimate is based on a single quote or is similar to work completed during the second access arrangement period, then EMCa has considered that GGT will deliver the project at 80 per cent of the preliminary estimate;*

- *If GGT has provided little or no information to support the robustness of its preliminary estimate, EMCa has considered that GGT will be able to deliver the project at 65 per cent of the preliminary estimate, as GGT has, on average, delivered projects during the second access arrangement period for less than 52 per cent of its preliminary estimate.*

Paragraph 392 of the Draft Decision draws on EMCa's report for the ERA, in which the technical consultant states, at paragraph 151:

As discussed at length in section 4.7, we did received insufficient evidence from GGT that it had adequately taken into account the 70% underspend of its AA2 regulated allowance. The AA2 forecasts were based on preliminary or initial estimates and GGT consistently found ways to prudently deliver the required work for much less than estimated or to defer work completely. Accordingly, in assessing the proposed AA3 capex, where GGT has provided insufficient information for us to be convinced that its estimates satisfy Rule 74(2), we have made adjustments in accordance with our expectation that GGT will be able to prudently identify ways of delivering the proposed work for much less than its preliminary estimate as follows:

(i) If the estimate is derived from a competitive tender, then the estimate is accepted;

(ii) If the estimate is based on a single quote or is similar to work completed in AA2, then we assume that GGT will deliver the project for 80% of the preliminary estimate;

(iii) Noting that, on average, GGT delivered AA2 projects for 52% less than its preliminary forecast, if GGT has provided little or no information to support the robustness of its preliminary estimate, we have assumed that it will be able to deliver the project for 65% of its preliminary estimate.

GGT is concerned that the ERA appears to have followed EMCa's advice, and implemented arbitrary cuts to GGT's projections of capital expenditure.

EMCa did not identify forecast expenditures on any individual capital projects which were excessive or which represented inefficient activity. EMCa provided no justification for how its proposed reductions leading to forecasts which were 80% and 65% of GGT's forecast capital expenditures were achieved. EMCA's cuts to GGT's forecast capital expenditures appear to be arbitrary reductions that were not based on any engineering or technical considerations, and were not based on good industry practice.

The forecast of capital expenditure which the ERA is now requiring that GGT adopt for the period 2015 to 2019 has not been arrived at on a reasonable basis, and does not represent the best forecast possible in the circumstances. It does not comply with the requirements of 74(2) of the NGR.

The following paragraphs of this submission respond to specific issues raised in the ERA's assessment of GGT's forecast of capital expenditure for the period 2015 to 2019.

4.3.1 Easement erosion repair

The Draft Decision does not explain the required reduction in expenditure on easement erosion repair which shown in Table 28 of the Draft Decision (and which exceeds the reduction of 35% mentioned in paragraph 397).

However, the report of the ERA's technical consultant, EMCa, notes:

GGT propose funding sufficient for 2-year cycle of grading of damaged easements post flooding. In conjunction with the 2015 grading work to be done in conjunction with the ILI project, this results in provision for two further upgrades in AA3. Whilst we accept that severe flooding can lead to the need to repair the pipeline easement from time to time, GGT has not provided sufficient evidence that flooding of the magnitude that requires extensive grading occurs on average every 2 years. We therefore believe that only provision for a single easement upgrade satisfies r. 79(2)(c)(ii).

The northern part of the GGP is within the cyclonic zone and is subject to regular heavy rainfalls associated with cyclones and tropical depressions. Heavy rain events scour the pipeline easement and can result in trench erosion. This is illustrated in Figure 1 below.

Figure 1: Scouring damage to the vehicle access at GGP Kilometre Point 247

The GGP is remotely located, and pipeline maintenance crews routinely travel along the easement. The easement provides the only track for vehicle movements along large sections of the pipeline. On occasions (for example during the recent in-line inspection of the GGP), these movements are at night. Easement erosion cannot be left unrepaired, even though, of itself, it may not affect pipeline operation. Damage must be repaired to allow the safe transit of staff along the easement.

Furthermore, GGT has a licence obligation to maintain a specified depth of earth cover over the pipeline itself. If the easement is eroded, GGT is obliged to restore the cover.

GGT considers that the planned expenditure is necessary to maintain and improve the safety of services; it satisfies rule 79(2)(c)(i).

4.3.2 In-line inspection verification digs

Table 28 of the Draft Decision indicates that the ERA has reduced GGT's forecast expenditure in-line inspection verification digs by some $0.308 million (constant, December 2013, prices).

Technical consultant EMCa's report stated:

We find that this work is a requisite aspect of assessing the integrity of the pipeline by verifying/calibrating the ILI results. However, we believe that only 2 digs rather than the assumed 6 digs per section should be required on the Newman lateral and the two interconnects. This reduces the number of digs from 72 to 60.

The purpose of these digs is the physical verification of the results of in-line inspection (intelligent pigging) which assesses the integrity of the pipe and identifies possible points of corrosion. The number of digs is not arbitrary. It is determined using the standard principles of statistical sampling. An appropriate number of digs and physical inspections must be carried out to allow the inference that results obtained from the pigging tool are valid over the entire length of the pipeline.

GGT has determined that 72 digs are required for the sample to be statistically significant.

EMCa has proposed that this number be reduced to 60, but their proposal is not supported by any analysis. It is an arbitrary reduction which cannot lead to to a forecast cost of the work which has been arrived at on a reasonable basis; and which represents the best forecast possible in the circumstances.

GGT notes that properly carried out periodic in-line inspection of the pipeline is a requirement of Pipeline Licence 24.

GGT considers that its forecast capital expenditure on verification digs is work essential to maintaining the safety and integrity of services, and satisfies the criteria of rule 79(2)(c) (i), (ii) and (iii).

4.3.3 Compression projects (1)

Paragraph 403 of the Draft Decision states:

GGT has proposed 18 projects under this asset class. GGT has not presented any justification for six of these projects (Yarraloola GEA PLC upgrade, Yarraloola accommodation to workshop conversion, Paraburdoo unit 1 human-machine interface upgrade, Paraburdoo accommodation upgrade, Ilgarari GEA PLC upgrade, Rotational spare DN 300 RA valve), which EMCa recommends not to approve on this basis.

GGT has provided summary business cases for the expenditures on the six projects in Attachment 4.

4.3.4 Compression projects (2)

Paragraph 405 of the Draft Decision states:

Six projects (Yarraloola fire protection system upgrade, Yarraloola hazardous area upgrade, Paraburdoo hazardous area upgrade, Ilgarari unit PLC backplane upgrade, Ilgarari hazardous area upgrade, Wiluna hazardous area upgrade) are related to inspections and rectification as required by AS/NZS 60079.17:2009. The compressor stations were all upgraded in the second access arrangement period, and two stations are scheduled to have two inspections in the third access arrangement period. EMCa considers that cost estimates for these projects can be reduced by 20 per cent, as ***EMCa considers it unreasonable to assume that the cost at each site will be equivalent to the cost in the second access arrangement period (as without evidence to the contrary, the extent of upgrade work from successive inspections can reasonably be expected to decline).*** *Furthermore, APA has some experience with this work and has a preferred vendor. The Authority agrees with EMCa that the extent of upgrade work from successive inspections can reasonably be expected to decline due to efficiencies, previous experience and a preferred vendor.*

The six projects identified in paragraph 405 fall into three groups:

(a) Yarraloola fire protection;

(b) Ilgarari unit PLC backplane upgrade; and

(c) Four hazardous area upgrades.

Each of these is described, and the ERA's assessment responded to, in the paragraphs which follow.

Yarraloola fire protection

The Yarraloola fire protection system is the original system that had been installed in 1996. It includes a significant amount of electrical equipment which has a useful product life is of 20 years.

In addition to the electrical equipment reaching the end of its product life, the original system included componentry is now obsolete, and key components are no longer supported by the manufacturer.

The fire protection system is an integral part of the safety system for Yarraloola and needs to be maintained at a high standard to ensure both worker safety and the process safety of the pipeline. It satisfies the criteria of rule 79(2)(c) (i) and (ii).

Ilgarari unit PLC backplane upgrade

The project refers to replacing key componentry in a Program Logic Controller (PLC) at the Ilgarari compressor station. The 'backplane' refers to the electronic componentry that forms the backbone of the PLC. "Cards" carrying the electronic circuits required to perform specific control operations are plugged in to the backplane, which carries the circuitry required to co-ordinate the control signals from the various cards.

The PLC in question was a type PLC5 manufactured by Allan Bradley. It was an industry standard unit when installed, but is now obsolete, is no longer supported by the manufacturer, and cannot be serviced reliably.

The PLC is to be replaced over a two-year period to minimise disruption to operations.

The work program has been split as follows:

(a) Phase 1 - replace the processor cards; and

(b) Phase 2 - replace the backplane and the Input and Output connections.

Ilgarari is a key compressor station on the Covered Pipeline, and the expenditure on the backplane is necessary to maintain the integrity of services.

Hazardous area upgrades

The project refers to the inspection, maintenance and overhaul of all electronic componentry that could consitute ignition sources in areas at which gas might be present at the Yarraloola, Paraburdoo, Ilgarari and Wiluna compressor stations.

The report of the ERA's technical consultant had noted that hazardous area inspections and rectification work were carried out on the 4 year cycle, and a schedule of upgrades is necessary and satisfies rules 79(2)(c)(i), (ii) and (iii). However, the inspections and upgrading had been carried out in in the previous access arrangement period. EMCa advised the ERA that it considered unreasonable GGT's assumption that the cost at each site will be commensurate with the cost in the previous period as, without evidence to the contrary, the extent of upgrade work from successive inspections can reasonably be expected to decline.

EMCa's comments that the costs should reduce over time reveal a lack of understanding of the nature of the work.

The project requires the inspection and (where necessary) the replacement of all components which have the potential to create a hazard. These inspections are carried out at intervals of four years. At Yarraloola, some 600 electrical circuits must be inspected, with similar numbers at the other compressor stations.

GGT has found that in the harsh physical environment of the GGP, the equipment boxes and seals which isolate the electrical circuits which are potential ignition sources must be replaced at every inspection. There is no reason to expect that, because the work has been done in one period, costs will be lower in the next.

GGT does not expect that these costs will reduce at any point during the life of the pipeline. Instead this work will continue at the current rate – which is a 4 yearly maintenance schedule[26].

Hazardous area inspection is effectively a requirement Pipeline Licence 24. The licence requires compliance with Australian Standard AS3000 which then refers to Australian standard AS60079 part 17 (which specifies this work).

The capital expenditure forecast for hazardous area upgrades is necessary to maintain the safety of services.

4.3.5 Receipt and delivery point facilities

Paragraphs 408 and 409 of the Draft Decision advise:

[26] Four yearly inspection is a minimum – if you find significant deterioration then it would be necessary to do it more often.

GGT has proposed 11 projects under this asset class. GGT has not presented any justification for three of these projects (Leonora offtake battery upgrade, DBNGP-GGP interconnect C9 gas chromatograph installation, Apache-GGP interconnect C9 gas chromatograph installation), which EMCa recommends not to approve on this basis. For seven projects (hydrocarbon dewpoint monitoring, Leonora offtake flow computer upgrade, Murrin Murrin inlet flow computer upgrade, in addition to Paraburdoo, Ilgarari, Wiluna and Jeedamya scraper station flow computer 1 upgrades), EMCa considers that the estimates are preliminary and can be reduced by 35 per cent. For the Apache-GGP interconnect assessment project, EMCa considers that the cost estimate can be reduced by 20 per cent to account for the gap between approved estimates and actual spend on capital expenditure during the second access arrangement period.

The Authority agrees with EMCa's recommendations and has decided that $0.742 million of GGT's proposed capital expenditure on receipt and delivery point facilities for the third access arrangement period is not conforming under rules 74 (2) and 79 (2) of the NGR. Therefore, the Authority considers that $0.646 million of GGT's proposed capital expenditure on receipt and delivery point facilities for the third access arrangement period is conforming under rule 79 (c) (ii) of the NGR.

GGT has contested the arbitrary reductions of 20% and 35% earlier in this submission. Summary business cases supporting the forecast expenditures on the Leonora offtake battery upgrade, DBNGP-GGP interconnect C9 gas chromatograph installation, Apache-GGP interconnect C9 gas chromatograph installation are provided in Attachment 4.

4.3.6 SCADA and communications

The Draft Decision states, at paragraphs 411 and 412:

GGT has proposed 19 projects under this asset class. GGT has not presented any justification for two of these projects (Wiluna compressor station AB PLC5 upgrade and engineering PC in gas control centre), which EMCa recommends not to approve on this basis. For 16 projects (quantum RTU upgrades at Yarraloola, Paraburdoo, Newman, Ilgarari, Three Rivers, Wiluna, Mount Keith, Leinster, Thunderbox, Leonora, Gwalia, Jeedamya, Kalgoorlie North, Kalgoorlie West, and BM 85 replacement program phase 2)), EMCa considers that the estimates are preliminary and can be reduced by 35 per cent. For the national satellite SCADA project, EMCa considers that the cost estimate can be reduced by 20 per cent to account for the gap between approved estimates and actual spend on capital expenditure during the second access arrangement period. The Authority agrees with EMCa that GGT can leverage from APA experience to decrease the proposed cost estimate.

The Authority considers that EMCa's recommendations are reasonable and has decided that $0.408 million of GGT's proposed capital expenditure on SCADA and communications for the third access arrangement period is not conforming under rules 74(2) and 79(2) of the NGR. Therefore, the Authority considers that $0.859 million of

GGT's proposed capital expenditure on SCADA and communications for the third access arrangement period is conforming under rule 79(2) of the NGR.

GGT has contested the arbitrary reductions of 20% and 35% earlier in this submission. A summary business case supporting the forecast expenditure on the Wiluna compressor station AB PLC5 upgrade is provided in Attachment 4.

GGT's capital expenditure forecast for the revision proposal for the GGP Access Arrangement was prepared during the first half of 2014. Since then, a decision has been made to not proceed with the project -*Engineering PCs in Gas Control Centre*. APA Group control centre functions are now being centralised in Brisbane.

4.3.7 Cathodic protection

The Draft Decision states:

414. GGT has proposed five projects under this asset class. GGT has not presented any justification for any of these projects, which EMCa recommends not to approve on this basis.

415. Given the lack of sufficient justification from GGT, the Authority has decided that GGT's proposed capital expenditure of $0.262 million on cathodic protection for the third access arrangement period is not conforming under rule 79 (2) of the NGR.

GGT has provided summary business cases for forecast expenditures on four of the five projects in Attachment 4.

Since the original submission, one project, *Wireless system interface for non-critical control,* will not be undertaken during the current access arrangement period.

4.3.8 Other (depreciable) assets

At paragraphs 420 and 421, the Draft Decision states:

420. GGT has proposed two projects and a set of minor spending under this asset class. GGT has not presented any justification for hazardous area management software investigation and design, which EMCa recommends not to approve on this basis. For minor capital items, EMCa considers that the cost estimate can be reduced by 20 per cent to account for the gap between approved estimates and actual spend on capital expenditure during the second access arrangement period.

421. The Authority agrees with EMCa's recommendations and has decided that $0.181 million of GGT's proposed capital expenditure on other assets for the third access arrangement period is not conforming under rules 74(2) and 79(2) of the NGR. Therefore, the Authority considers that $0.698 million of GGT's proposed capital

expenditure on other assets for the third access arrangement period is conforming under rules 74 and 79 of the NGR.

GGT has contested the arbitrary reductions of 20% and 35% earlier in this submission.

Since the original submission, one project, *Hazardous area management software investigation and design,* will not be undertaken during the current access arrangement period.

GGT's amended capital expenditure forecast

GGT has amended its capital expenditure forecast for the period 2015 to 2019 in response to the Draft Decision. The amendments, which have been discussed above, are set out in Table 4 (capital expenditure at current prices) and Table 5 (capital expenditure at constant (December 2013) prices), which follow. The amended forecast is shown in the columns on the right hand side of the tables, which are headed "GGT response".

Table 4: Goldfields Gas Pipeline (Covered Pipeline): Capital expenditure at current prices (nominal): 2015-2019

		GGT proposed					ERA Draft Decision					Difference					GGT response				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Pipeline and laterals																					
Easement repair for in-line inspection	$m																				
16" Mainline in-line inspection	$m																				
14" Mainline in-line inspection	$m																				
New man Lateral in-line inspection	$m																				
In-line inspection verification dig-ups	$m																				
Pipeline protection repair (unanticipated encroachmer	$m																				
In-line inspection of DBNGP interconnect pipeline	$m																				
In-line inspection of Apache interconnect pipeline	$m																				
Easement erosion repair	$m																				
Apache-GGT interconnect integrity assessment	$m																				
Remaining life review	$m																				
	$m	**3.387**	**2.000**	**0.313**	**0.000**	**0.255**	**2.651**	**1.550**	**0.092**	**0.000**	**0.096**	**-0.735**	**-0.451**	**-0.220**	**0.000**	**-0.159**	**3.315**	**1.937**	**0.299**	**0.000**	**0.239**
Mainline valve and scraper stations																					
Install scaper station DBNGP-GGP interconnect	$m																				
Install scaper station Apache-GGP interconnect	$m																				
	$m	**0.000**	**0.700**	**0.000**	**0.000**	**0.000**	**0.000**	**0.532**	**0.000**	**0.000**	**0.000**	**0.000**	**-0.168**	**0.000**	**0.000**	**0.000**	**0.000**	**0.678**	**0.000**	**0.000**	**0.000**
Compressor stations																					
Yarraloola and Ilgarari lighting tow ers replacement	$m																				
Yaraloola unit PLC backplane upgrade	$m																				
Yarraloola fire protection system upgrade	$m																				
Yarraloola GEA PLC upgrade	$m																				
Yarraloola GEA 2 major overhaul	$m																				
Yarraloola hazardous area upgrade	$m																				
Yarraloola acommodation to w orkshop conversion	$m																				
Paraburdoo Unit 1 turbine exchange	$m																				
Paraburdoo Unit 1 human-machine interface upgrade	$m																				
Paraburdoo GEA 2 major overhaul	$m																				
Paraburdoo hazardous area upgrade	$m																				
Paraburdoo accomodation upgrade	$m																				
Ilgarari unit PLC backplane upgrade	$m																				
Ilgarari GEA PLC upgrade	$m																				
Ilgarari GEA 1 major overhaul	$m																				
Ilgarari hazardous area upgrade	$m																				
Wiluna hazardous area upgrade	$m																				
Rotational spare DN 300 RA valve	$m																				
	$m	**1.070**	**0.899**	**0.000**	**0.242**	**0.344**	**0.617**	**0.797**	**0.000**	**0.170**	**0.244**	**-0.453**	**-0.101**	**0.000**	**-0.072**	**-0.100**	**1.003**	**0.848**	**0.000**	**0.230**	**0.323**

Receipt and delivery point facilities																				
Hydrocarbon dew point monitoring	$m																			
Leonora offtake flow computer upgrade	$m																			
Murrin Murrin inlet flow computer upgrade	$m																			
Leonora offtake battery upgrade	$m																			
Apache-GGP interconnect integrity assessment	$m																			
Paraburdoo flow computer 1 (fuel gas) upgrade	$m																			
Ilgarari flow computer 1 (fuel gas) upgrade	$m																			
Wiluna flow computer 1 (fuel gas) upgrade	$m																			
Jeedamya scraper station flow computer 1 upgrade	$m																			
DBNGP-GGP interconnect C9 gas chromatograph	$m																			
Apache-GGP interconnect C9 gas chromatograph	$m																			
	$m	**0.408**	**0.000**	**0.721**	**0.421**	**0.000**	**0.238**	**0.000**	**0.449**	**-0.001**	**0.000**	**-0.170**	**0.000**	**-0.272**	**-0.422**	**0.000**	**0.399**	**0.000**	**0.691**	**0.329**	**0.000**
SCADA and communications																				
Yarraloola Quantum RTU upgrade	$m																			
Paraburdoo compressor station Quantum RTU upgrac	$m																			
New man scraper station Quantum RTU upgrade	$m																			
Ilgarari compressor station Quantum RTU upgrade	$m																			
Three Rivers main line valve Quantum RTU upgrade	$m																			
Wiluna compressor station Quantum RTU upgrade	$m																			
Mt Keith main line valve Quantum RTU upgrade	$m																			
Leinster scraper station Quantum RTU upgrade	$m																			
Thunderbox offtake Quantum RTU upgrade	$m																			
Leonora main line valve Quantum RTU upgrade	$m																			
Leonora offtake Quantum RTU upgrade	$m																			
Gw alia offtake Quantum Station RTU upgrade	$m																			
Jeedamya scraper station Quantum RTU upgrade	$m																			
Kalgoorlie North main line valve Quantum RTU upgrad	$m																			
Kalgoorlie West main line valve Quantum RTU upgrad	$m																			
BM 85 replacement program phase 2	$m																			
Wiluna compressor station AB PLC5 upgrade	$m																			
Engineering PC in Gas Control Centre	$m																			
National satellite SCADA	$m																			
	$m	**0.567**	**0.498**	**0.216**	**0.050**	**0.051**	**0.345**	**0.371**	**0.136**	**0.032**	**0.032**	**-0.222**	**-0.127**	**-0.080**	**-0.018**	**-0.019**	**0.221**	**0.156**	**0.097**	**0.023**	**0.025**

Cathodic protection																				
CP insulation joint surge protection upgrade	$m																			
CP surge diverter upgrades	$m																			
CP telemetry for KP670	$m																			
CP power supply replacements	$m																			
Wireless system interface for non-critical control	$m																			
Sacrifical anode test units	$m																			
	$m	**0.102**	**0.036**	**0.094**	**0.028**	**0.029**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**-0.102**	**-0.036**	**-0.093**	**-0.029**	**-0.030**	**0.106**	**0.038**	**0.037**	**0.032**	**0.033**
Maintenance bases and depots																				
Karratha maintenance base rebuild	$m																			
	$m	**0.658**	**0.000**	**0.000**	**0.000**	**0.000**	**0.516**	**0.000**	**0.000**	**0.000**	**0.000**	**-0.143**	**0.000**	**0.000**	**0.000**	**0.000**	**0.168**	**0.000**	**0.000**	**0.000**	**0.000**
Other assets																				
Enterprise Asset Management	$m																			
Hazardous area management softw are FEED	$m																			
Minor capital items	$m																			
	$m	**0.593**	**0.105**	**0.084**	**0.062**	**0.064**	**0.477**	**0.082**	**0.053**	**0.038**	**0.039**	**-0.115**	**-0.023**	**-0.032**	**-0.024**	**-0.025**	**0.497**	**0.102**	**0.081**	**0.059**	**0.060**
	$m	**6.784**	**4.238**	**1.428**	**0.803**	**0.743**	**4.845**	**3.332**	**0.731**	**0.238**	**0.410**	**-1.939**	**-0.906**	**-0.697**	**-0.565**	**-0.333**	**5.708**	**3.758**	**1.205**	**0.671**	**0.680**

Table 5: Goldfields Gas Pipeline (Covered Pipeline): Capital expenditure at constant (December 2013) prices): 2015-2019

		GGT proposed					ERA Draft Decision					Difference					GGT response				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Pipeline and laterals																					
Easement repair for in-line inspection	$m																				
16" Mainline in-line inspection	$m																				
14" Mainline in-line inspection	$m																				
New man Lateral in-line inspection	$m																				
In-line inspection verification dig-ups	$m																				
Pipeline protection repair (unanticipated encroachmer	$m																				
In-line inspection of DBNGP interconnect pipeline	$m																				
In-line inspection of Apache interconnect pipeline	$m																				
Easement erosion repair	$m																				
Apache-GGT interconnect integrity assessment	$m																				
Remaining life review	$m																				
	$m	**3.261**	**1.890**	**0.290**	**0.000**	**0.228**	**2.553**	**1.464**	**0.086**	**0.000**	**0.086**	**-0.708**	**-0.426**	**-0.204**	**0.000**	**-0.142**	**3.192**	**1.830**	**0.278**	**0.000**	**0.214**
Mainline valve and scraper stations																					
Install scaper station DBNGP-GGP interconnect	$m																				
Install scaper station Apache-GGP interconnect	$m																				
	$m	**0.000**	**0.662**	**0.000**	**0.000**	**0.000**	**0.000**	**0.513**	**0.000**	**0.000**	**0.000**	**0.000**	**-0.149**	**0.000**	**0.000**	**0.000**	**0.000**	**0.641**	**0.000**	**0.000**	**0.000**
Compressor stations																					
Yarraloola and Ilgarari lighting tow ers replacement	$m																				
Yaraloola unit PLC backplane upgrade	$m																				
Yarraloola fire protection system upgrade	$m																				
Yarraloola GEA PLC upgrade	$m																				
Yarraloola GEA 2 major overhaul	$m																				
Yarraloola hazardous area upgrade	$m																				
Yarraloola acommodation to w orkshop conversion	$m																				
Paraburdoo Unit 1 turbine exchange	$m																				
Paraburdoo Unit 1 human-machine interface upgrade	$m																				
Paraburdoo GEA 2 major overhaul	$m																				
Paraburdoo hazardous area upgrade	$m																				
Paraburdoo accomodation upgrade	$m																				
Ilgarari unit PLC backplane upgrade	$m																				
Ilgarari GEA PLC upgrade	$m																				
Ilgarari GEA 1 major overhaul	$m																				
Ilgarari hazardous area upgrade	$m																				
Wiluna hazardous area upgrade	$m																				
Rotational spare DN 300 RA valve	$m																				
	$m	**1.030**	**0.849**	**0.000**	**0.220**	**0.308**	**0.595**	**0.753**	**0.000**	**0.155**	**0.218**	**-0.436**	**-0.096**	**0.000**	**-0.066**	**-0.089**	**0.966**	**0.801**	**0.000**	**0.209**	**0.288**

Receipt and delivery point facilities																				
Hydrocarbon dew point monitoring	$m																			
Leonora offtake flow computer upgrade	$m																			
Murrin Murrin inlet flow computer upgrade	$m																			
Leonora offtake battery upgrade	$m																			
Apache-GGP interconnect integrity assessment	$m																			
Paraburdoo flow computer 1 (fuel gas) upgrade	$m																			
Ilgarari flow computer 1 (fuel gas) upgrade	$m																			
Wiluna flow computer 1 (fuel gas) upgrade	$m																			
Jeedamya scraper station flow computer 1 upgrade	$m																			
DBNGP-GGP interconnect C9 gas chromatograph	$m																			
Apache-GGP interconnect C9 gas chromatograph	$m																			
	$m	**0.393**	**0.000**	**0.669**	**0.383**	**0.000**	**0.229**	**0.000**	**0.417**	**-0.001**	**0.000**	**-0.163**	**0.000**	**-0.252**	**-0.384**	**0.000**	**0.384**	**0.000**	**0.641**	**0.299**	**0.000**
SCADA and communications																				
Yarraloola Quantum RTU upgrade	$m																			
Paraburdoo compressor station Quantum RTU upgrac	$m																			
Newman scraper station Quantum RTU upgrade	$m																			
Ilgarari compressor station Quantum RTU upgrade	$m																			
Three Rivers main line valve Quantum RTU upgrade	$m																			
Wiluna compressor station Quantum RTU upgrade	$m																			
Mt Keith main line valve Quantum RTU upgrade	$m																			
Leinster scraper station Quantum RTU upgrade	$m																			
Thunderbox offtake Quantum RTU upgrade	$m																			
Leonora main line valve Quantum RTU upgrade	$m																			
Leonora offtake Quantum RTU upgrade	$m																			
Gwalia offtake Quantum Station RTU upgrade	$m																			
Jeedamya scraper station Quantum RTU upgrade	$m																			
Kalgoorlie North main line valve Quantum RTU upgrad	$m																			
Kalgoorlie West main line valve Quantum RTU upgrad	$m																			
BM 85 replacement program phase 2	$m																			
Wiluna compressor station AB PLC5 upgrade	$m																			
Engineering PC in Gas Control Centre	$m																			
National satellite SCADA	$m																			
	$m	**0.546**	**0.471**	**0.201**	**0.045**	**0.046**	**0.332**	**0.351**	**0.126**	**0.029**	**0.029**	**-0.214**	**-0.120**	**-0.074**	**-0.016**	**-0.017**	**0.213**	**0.147**	**0.090**	**0.021**	**0.022**

Cathodic protection																				
CP insulation joint surge protection upgrade	$m																			
CP surge diverter upgrades	$m																			
CP telemetry for KP670	$m																			
CP power supply replacements	$m																			
Wireless system interface for non-critical control	$m																			
Sacrifical anode test units	$m																			
	$m	**0.098**	**0.034**	**0.087**	**0.026**	**0.026**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**-0.098**	**-0.034**	**-0.087**	**-0.026**	**-0.027**	**0.102**	**0.036**	**0.034**	**0.029**	**0.030**
Maintenance bases and depots																				
Karratha maintenance base rebuild	$m																			
	$m	**0.634**	**0.000**	**0.000**	**0.000**	**0.000**	**0.496**	**0.000**	**0.000**	**0.000**	**0.000**	**-0.137**	**0.000**	**0.000**	**0.000**	**0.000**	**0.162**	**0.000**	**0.000**	**0.000**	**0.000**
Other assets																				
Enterprise Asset Management	$m																			
Hazardous area management softw are FEED	$m																			
Minor capital items	$m																			
	$m	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
	$m	**6.534**	**4.006**	**1.324**	**0.731**	**0.664**	**4.666**	**3.159**	**0.678**	**0.217**	**0.367**	**-1.868**	**-0.847**	**-0.647**	**-0.514**	**-0.297**	**5.497**	**3.552**	**1.117**	**0.611**	**0.607**

4.4 Projected capital base

Required amendment 8

The projected capital base in the proposed revised access arrangement must be amended to reflect the values in Table 39 of this Draft Decision.

For the purpose of calculating the total revenue and the reference tariff which is to apply on 1 July 2016, GGT has projected the capital base of the Covered Pipeline forward from that date using the forecast the opening capital base must be established at that date.

The roll forward of the capital base from 1 July 2016 to 31 December 2019 is summarised in Table 10 of GGT's amended proposed revised access information (reproduced below). The calculations summarised in Table 10 are from the tariff model which is Attachment 3 to this submission.

AAI Table10: Projected capital base: 2016-2019

	2016[1] $ million	**2017** $ million	**2018** $ million	**2019** $ million
Opening capital base	386.919	383.337	373.570	363.269
Capital expenditure	1.879	1.205	0.671	0.680
Depreciation	5.462	10.972	10.972	10.857
End of year asset value	383.337	373.570	363.269	353.092

1. For the period from 1 July 2016 to 31 December 2016. The opening capital base is as at 1 July 2016.

5 Rate of return

Required Amendment 9

The Authority requires that the rate of return be consistent with the estimates set out in Table 65 of the Draft Decision. The *indicative* nominal post tax rate of return for 2015 is 6.32 per cent (this estimate will be revised for the Final Decision).

The Authority requires an annual adjustment to be applied to the debt risk premium to be incorporated in each subsequent tariff update during the third access arrangement period. The first annual update will apply for the tariff variation for the 2017 calendar year, and should be determined based on the automatic formula set out in Appendix 8 of the Draft Decision. The resulting annual adjustment to the rate of return should be incorporated in the Annual Tariff Variation.

The Authority requires that GGT nominate, as soon as practicable, the averaging period for each annual update applying in 2017, 2018 and 2019. The averaging periods for each year must be a nominated 40 trading days in the window 1 June to 31 October in the year prior to the relevant tariff variation, which will allow estimation of the updated DRP for inclusion in the relevant annual tariff variation. The nominated 40 trading day averaging period for each of the four years do not need to be identical periods, only that they occur in the period 1 June to 31 October in each relevant year, and are nominated prior. The nominated averaging periods will remain confidential.

For each annual update for 2017, 2018 and 2019, the Authority will estimate the updated rate of return following the relevant annual averaging period and then notify GGT of the outcomes as soon as practicable. Following that notice, GGT is required to respond on any issues as soon as practicable, in order to allow the updated estimate to be finalised prior to submission by GGT of its proposed annual tariff variation within the required timeframe.

The Draft Decision proposes a rate of return of 6.32%. The key parameters used in its calculation are set out in Table 65.

The Draft Decision rate of return is a nominal vanilla weighted average of an estimate of the return on equity and an estimate of the return on debt. The weight assigned to the estimate of the return on equity in the weighted average is 40%, and the weight assigned to the estimate of the return on debt is 60%. The weighting of equity and debt return estimates used to calculate the rate of return of the Draft Decision is the gearing proposed in the ERA's December 2013 Rate of Return Guidelines.

In its August 2014 access arrangement revision proposal, GGT had proposed gearing of 60% for calculating the allowed rate of return to be used in determining the total revenue and the revised reference tariff for the GGP.

The Draft Decision requires that the estimate of the return on debt be calculated as a trailing average, with annual updating of the average at the beginning of each subsequent year of the access arrangement period. The Draft Decision requires an initial estimate of the return on debt of 5.172%.

GGT had proposed calculating the return on debt as a trailing average, with annual updating at the beginning of each subsequent year of the access arrangement period.

The estimate of the rate of return on equity used in calculating the rate of return is to be fixed at the commencement of the access arrangement period. It is not to be updated annually like the estimate of the return on debt. The Draft Decision requires an estimate of the return on equity of 8.04%.

An important input into rate of return determination is an estimate of the risk free rate of return. The Draft Decision advises that the yield on Commonwealth Government securities (CGS) with a term of 5 years is to be used as the proxy for the risk free rate, and that the use of such a proxy will contribute to achievement of the allowed rate of rate of return objective of rule 87(3). The Draft Decision proposes an estimate of the risk free rate of 1.96%.

The estimate of the risk free rate, like the estimates of the return on equity and the return on debt, is to be recalculated, using current data from financial markets, close to the date of the ERA's final decision on the proposed revisions to the GGP Access Arrangement.

The initial estimate of the return in debt which the ERA proposes, 5.172%, does not, GGT contends, contribute to achievement of the allowed rate of return objective of rule 87(3). Nor does an estimate of the return on equity of 8.04% contribute to achievement of that objective. One – but not the only – reason why an estimate of the return on equity of 8.04% does not contribute to achievement of the allowed rate of return objective is that it has been calculated using an estimate of the risk free rate of return which was calculated from yields on Commonwealth Government securities (CGS) with terms of 5 years. GGT contends that the risk free rate must be estimated from the yields on CGS with terms to maturity of 10 years.

If the ways in which the ERA estimates the return on equity and the return on debt do not lead to estimates which contribute to the achievement of the allowed rate of return objective, the rate of return calculated using the estimates obtained will not lead to a reference tariff for the GGP, and to a revised access arrangement, which promote the national gas objective of section 23 of the NGL.

The reasons for GGT's contentions are set out in sections 5.2 and 5.3 of this submission. GGT also sets out, in these sections, methods for estimation of the return on equity and the return on debt which, when implemented, will lead to a rate of return which satisfies the allowed rate of return objective, and which will lead to a reference tariff and a revised access arrangement for the GGP which promote the national gas objective.

In section 1.3 above, GGT noted that many of the issues arising from its rate of return proposal, from the ERA's Draft Decision, and from this response to the Draft Decision are issues currently being considered by the Australian Competition Tribunal in the context of applications by a number of network service providers. The ERA should, in these circumstances, defer a final decision, consult with stakeholders, and undertake a thorough analysis of the decisions made by the Australian Competition Tribunal, before making a final decision on the GGP Access Arrangement revisions proposal.

5.1 Risk free rate of return

In its August 2014 proposed revisions to the GGP Access Arrangement, GGT proposed that the risk free rate of return be estimated from the yields on CGS with terms to maturity of 10 years.

This was rejected by the ERA, which considered that, for the condition NPV = 0 to be satisfied, "the appropriate term for the risk free rate in the current regulatory setting should be 5 years".[27] A term of 5 years was, in the ERA's view, necessary because the rate of return is reset every 5 years, concomitant with the period of the access arrangement. The ERA maintained the view, which was set out in its Rate of Return Guidelines, that the appropriate term should be commensurate with the term of the regulatory period. That term is 5 years.[28]

The ERA's reasons for maintaining that the appropriate term for the proxy for the risk free rate is the regulatory period are to be found in a series of journal articles and reports prepared by Dr Martin Lally, and in a series of studies by Professor Kevin Davis. For the Draft Decision, the ERA sought further advice from Dr Lally.[29]

The advice on which the ERA relies assumes that the regulator chooses the rate of return and, in so doing, chooses the term to maturity of the security which is to proxy for the risk free asset. In making the choice, the regulator is guided by the principle NPV = 0: in a regulated environment in which output prices are set or capped, the present value of the revenue earned from an asset must be equal to the initial investment to ensure that the total costs incurred are recovered; NPV must be zero.[30]

There is, however, no explicit requirement for NPV = 0 in the access regulatory regime of the NGL and the NGR.

In Appendix 2 to the Explanatory Statement for the Rate of Return Guidelines, the ERA advised that stakeholders had noted that section 24(2) of the NGL – which requires that a service provider be provided with a reasonable opportunity to recover at least the efficient costs incurred in providing reference services – might be interpreted as a requirement for NPV ≥ 0. This, the ERA advised, was a reasonable interpretation.[31]

However, the ERA saw NPV = 0 as "the efficient condition" consistent with the requirement of section 24(3) of the NGL. Section 24(3) requires that a service provider be provided with effective incentives in order to promote economic efficiency in a number of aspects of the supply of natural gas, including efficiency in:

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

27 Draft Decision, paragraph 525.

28 Draft Decision, paragraph 540.

29 Dr Martin Lally, *Review of Arguments on the Term of the Risk Free Rate*, 20 November 2015.

30 Economic Regulation Authority, *Appendices to the Explanatory Statement for the Rate of Return Guidelines*, 16 December 2013, Appendix 2, paragraph 1.

31 Ibid., paragraph 3.

(b) the provision of pipeline services; and

(c) the use of the pipeline.

NPV ≥ 0 was, the ERA proposed, consistent with the requirement of section 24(2); the condition NPV = 0 was required for efficiency in accordance with section 24(3).

But section 24(3) does not have this precision. It requires no more than a service provider be provided with incentives for efficiency in a number of aspects of its gas transportation operations. Efficiency in pipeline investment, in the provision of pipeline services, and in pipeline use will be assessed across different dimensions or attributes which may not be easily reducible to a formula, even as loose as NPV ≥ 0. Section 24(3) does not require a precise balancing of efficiency in (a) to (c) above which achieves the specific financial result NPV = 0.

If the regulator were free to choose the rate of return and, in so doing, were to choose the term to maturity of the security which is to proxy for the risk free asset, the regulator might be guided by a requirement for NPV = 0 to setting the term to maturity in question equal to the regulatory period.

But the regulatory regime of the NGL and the NGR has no explicit requirement for setting NPV = 0. Moreover, it places other restrictions on the regulator's choice. The regulator is not free to choose the rate of return and the term to maturity of the security which is to proxy for the risk free asset. Rule 87(3) constrains the setting of the rate of return: the rate of return must be commensurate with the efficient financing costs of a benchmark efficient entity with a similar degree of risk as that which applies to the service provider in respect of the provision of reference services.

The risk free rate becomes a parameter in the estimation of the rate of return on equity, and in the estimation of the rate of return on debt, through the integral part it plays in the decisions which investors make about the portfolios of financial assets they choose to transfer wealth from one point in time to another. The risk free rate of return is a factor in investor demand for financial assets. It is not a factor which the suppliers of financial assets are free to choose, and if those suppliers of financial assets are regulated firms, it is not a parameter which they or their regulators are free to choose when setting allowed rates of return, even if they have explicit guidance in the form of NPV = 0.

In the market for financial assets, regulated firms are "price takers". They are among many suppliers of financial assets, and have no monopsony power. They do not set the prices, or rates of return, on those financial assets. They can – and do – choose the term to maturity of the debt they issue, but they do not set the rate of return on that debt, or the rate of return on equity. Regulated firms, like many other firms, take the rate of return on equity, and the market price of debt of a particular maturity, as given in the market for financial assets.

The risk free rate of return enters into estimation of the market price of debt, and the risk free rate enters into estimation of the rate of return on equity set in the market for financial assets, through the way in which the portfolio decisions of investors are modelled. In the modelling of those portfolio decisions, investors take into

consideration the availability of a risk free asset, and its price, together with the risky assets available in the market for financial assets and the expected returns on those assets. The regulatory period is not a factor in the portfolio decisions of investors.

In the regulatory regime of the NGL and the NGR, there is no overriding requirement – explicit or inferred – for NPV = 0. There is, however, an explicit requirement that the rate of return be set with reference to the financing costs of a benchmark efficient entity. In these circumstances, if estimation of the rates of return on equity and debt requires use of an estimate of the risk free rate of return, the term to maturity of the proxy for the risk free asset must be determined by reference to the behaviour of investors. NPV may not, then, be zero, but there is no requirement for that to be the case. The rate of return must be the rate which is commensurate with the efficient financing costs of the benchmark efficient entity. The regulated firm will then have the opportunity to earn the return which investors require if they are to finance investment in the assets of the benchmark efficient entity.

The ERA has erred in requiring that the term to maturity of the proxy for the risk free asset be five years – the duration of the regulatory period. By requiring that the rate of return be determined using a proxy for the risk free asset which has a term to maturity equal to the duration of the regulatory period, the ERA precludes a rate of return which satisfies the allowed rate of return objective of rule 87(3).

Economic theory points to a long term financial asset as being the best proxy for the risk free asset.[32] Short term financial assets are subject to more frequent uncertain rate variations on reinvestment.

After examining the issues, the Australian Energy Regulator (AER) adopted Commonwealth Government bonds with terms to maturity of 10 years as the proxy for the risk free asset to be used in applying its Rate of Return Guideline.

In its August 2013 Draft Rate of Return Guideline, the AER advised that it intended to adopt a term of 10 years for the proxy for the risk asset because it was more persuaded by the arguments for a 10 year term than by the arguments for a five year term.

The AER noted that this was the view of advisors to practitioners applying the Sharpe-Lintner CAPM. Pratt and Grabowski, and Damodaran, for example, had observed that, in general, an equity investment in an ongoing business is long term and, in

[32] That long term bonds rather than short term bonds are relevant to consideration of the risk free asset appears to have been first raised by Modigliani and Sutch: Franco Modigliani and Richard Sutch (1966), "Innovations in Interest Rate Policy, American Economic Review, 56(1/2), pages 178-197. The theory was subsequently developed by, among others, Joseph E. Stiglitz (1970), "A Consumption-Oriented Theory of the Demand for Financial Assets and the Term Structure of Interest Rates", Review of Economic Studies, 37(3), pages 321-351; John Y Campbell and Luis M. Viceira (2001), "Who Should Buy Long-Term Bonds?", American Economic Review, 91(1), pages 99-127; and Jessica A. Wachter (2003), "Risk aversion and allocation to long-term bonds", Journal of Economic Theory, 112, pages 325-333.

consequence, the term of the equity in an ongoing business should be measured as the duration of a long-term – and potentially infinite – series of cash flows.[33]

The AER also advised that bonds with terms to maturity of 10 years were used by business valuations practitioners for estimation of the risk free rate of return. The KPMG Valuation Practices Survey 2013 had reported that 85% of its survey respondents used the yield on 10 year government bonds as a proxy for the risk free rate in Australia.

The risk free rate of return should, therefore, be estimated as an average of yields on CGS with terms to maturity of 10 years. GGT has used yields on these securities reported by the Reserve Bank of Australia for the period of 40 trading days to 31 December 2015 to obtain an estimate of 2.90% for the risk free rate of return.

5.2 Return on equity

In its revision proposal for the GGP Access Arrangement, GGT proposed that the return on equity be estimated using the Sharpe-Lintner Capital Asset Pricing Model (SL CAPM). This was the model prescribed for equity returns estimation in the ERA's Rate of Return Guidelines.

The Draft Decision reaffirmed the ERA's position in the Rate of Return Guidelines that:

(a) the SL CAPM was to be used to estimate the return on equity;

(b) the Black CAPM was not reliable and was difficult to estimate with precision; it was not to be used to estimate the return on equity, but could inform the making of a point estimate for the equity beta of the SL CAPM;

(c) the Dividend Growth Model (DGM) was relevant to estimation of the market return on equity, and to estimation of a forward looking market risk premium; it was not a suitable model for estimating the return on equity of the benchmark efficient entity of rule 87; and

(d) historical data on the equity risk premium, surveys of market risk, and equity analysts' estimates were relevant to estimation of the market risk premium, and could provide a cross check on the estimate of the return on equity.[34]

In applying the SL CAPM to estimate the return on equity to be used in determining the total revenue and reference tariff for the GGP, estimates are required of the parameters of that model. The ERA has made estimates of:

(a) the risk free rate of return;

---

33 Shannon Pratt and Roger Grabowski (2010), *Cost of Capital: Applications and Examples*, 4th ed., Hoboken: Wiley; and Aswath Damodaran, *'What is the risk free rate? A search for the basic building block'*, December 2008, available at http://pages.stern.nyu.edu/~adamodar/.

34 Draft Decision, paragraph 571.

(b) the equity beta; and

(c) the market risk premium.

The ERA's estimate of the risk free rate of return was discussed in the preceding section of this submission. As explained in that section, a risk free rate estimated from yields on CGS with terms to maturity of five years cannot lead to an estimate of the return on equity which contributes to achievement of the allowed rate of return objective of rule 87(3). The risk free rate should be estimated using yields on CGS with terms to maturity of 10 years. A current estimate of the risk free rate is 2.90%.

The Draft Decision requires use of an estimate of 0.8 for the equity beta used in applying the SL CAPM. This is not an estimate made for a benchmark efficient entity which has a similar degree of risk as that which applies to the GGT in respect of the provision of reference services using the GGP. For the reasons set out in the next section of this submission, it cannot lead to an estimate of the return on equity which contributes to achievement of the allowed rate of return objective of rule 87(3). An alternative estimate – one which can contribute to achievement of the allowed rate of return objective - is required, and the required estimate is provided.

For the Draft Decision, the ERA made an estimate of the market risk premium as a long term average of historical equity risk premiums and examined, at length, evidence which indicated the range within which the market risk premium might lie. The Draft Decision proposed an indicative market risk premium of 7.6%. However, the way in which the ERA has approached the market risk premium, and its estimation, are inconsistent with the construction of SL CAPM. The ERA's market risk premium could not, except by chance, lead to an estimate of the return on equity which contributes to achievement of the allowed rate of return objective. These issues are discussed in section 5.2.3 below.

An estimate of the rate of return on equity made using the SL CAPM, and which contributes to the achievement of the allowed rate of return objective of rule 87(3), is presented in section 5.2.3.

5.2.1 Equity beta

In the Draft Decision, the ERA adduces a range of accounting metrics from which it infers that GGT does not face a level of systematic risk which is significantly higher than other network utilities in Australia.[35] The Draft Decision therefore requires the use of an equity beta of 0.8, which is at the top end of the range set out in the rate of Return Guidelines.[36]

The accounting metrics reported in paragraphs 612 to 648 of the Draft Decision show the GGP has having high operating, financial and overall leverage. But the metrics based upon profit variations from year to year suggest low risk. These contrary risk

[35] Draft Decision, paragraph 645.

[36] Draft Decision, paragraphs 651 and 653.

indicators occur because, from 2009 to 2013, there was not sharp variation in annual profits. Yet the overall volume for that four year period was below projections, and fell sharply in 2014. This is shown in the ERA's calculations of profits.

The accounting metrics of the Draft Decision do not provide a complete assessment of risk, which must encompass more than consideration of profit movements in past years. Annual profit movements are not the risks about which GGT is concerned and in respect of which it provided evidence in the Supporting Information accompanying its revision proposal for the GGP Access Arrangement. The GGP is exposed to the risk of losing shippers (contracts for capacity) for a sustained period, and this risk flows through to the equity holders because of the operating and financial leverage of the business. This is further developed in a report from Frontier Economics, *Response to the Economic Regulation Authority on accounting benchmarks*, which is Attachment 5 to this submission.

The gas transportation business based on the GGP is not a typical utility business for the reasons which GGT set out in its August 2014 Supporting Information. The ERA's conclusions that it is, and that an estimate of the equity beta can based on the betas of "the usual comparators", are incorrect.

The estimate of the equity beta, which the Draft Decision requires be used for estimating the return on equity for the GGP, is not an estimate arrived at on a reasonable basis and does not represent the best estimate possible in the circumstances. Such an estimate cannot lead to an estimate of the return on equity which contributes to the allowed rate of return objective of rule 87(3).

This, then, raises the issue of how an equity beta for the GGP might be estimated. With the assistance of SFG (now Frontier Economics), GGT proposed an alternative method of arriving at an estimate of beta using the methods of absence of arbitrage pricing. The Draft Decision rejected these methods:

The Authority is of the view that SFG's proposed approach to directly estimate the return on equity is not driven by economic principles. The Authority considers that SFG's proposed approach does not follow any standard finance theory. In addition, the Authority considers that SFG's proposed approach to estimating the return on equity for GGT is fundamentally flawed and as a result, this approach should not be adopted. The approach is not well established and is untested.[37]

The view which the ERA purports to hold on SFG's proposed approach is without foundation. The ERA appears not to have informed itself about the standard methods of modern financial economics, and how these methods might be used where older and less flexible methods, in particular, equilibrium asset pricing models like the SL CAPM, are inapplicable.

These methods of modern financial economics, and the concerns which the ERA has about their implementation in practice, are addressed in the report from Frontier Economics, *Response to the Economic Regulation Authority on the cost of equity*, which is Attachment 6 to this submission.

[37] Draft Decision, paragraph 568.

SFG's original estimation of the return on equity, and the equity beta for the GGP were undertaken in July 2014. Frontier Economics has now updated that earlier work using current financial market data. The updating has shown that, for the GGP, an estimate of the equity beta of 1.1 continues to be an estimate arrived at on a reasonable basis which represents the best estimate possible in the circumstances. This estimate can be expected to lead to an estimate of the return on equity which contributes to the allowed rate of return objective of rule 87(3).

5.2.2 Market risk premium

The SL CAPM represents the expected return, $E(r_j)$, on a particular financial asset j, as:

$$E(r_j) = r_f + \beta_j \times [E(r_m) - r_f]$$

where r_f, is the risk free rate of return; β_j is the beta for asset j, and $E(r_m)$ is the expected return on the market portfolio of assets.

Following the Rate of Return Guidelines, the Draft Decision requires that, when the SL CAPM is used to estimate the return on equity, separate and independent estimates be made of r_f and the term $[E(r_m) - r_f]$. The Rate of Return Guidelines and the Draft Decision refers to the separate and independent estimate of $[E(r_m) - r_f]$ as the estimate of the market risk premium (MRP).

The context for the derivation of the SL CAPM is, as the ERA explains in the Explanatory Statement accompanying the Rate of Return Guidelines, essentially Markowitz's portfolio theory. The derivation can be found in the textbooks on financial economics.[38]

In the paragraphs which follow, that context is set out in some detail to show the implications for the interpretation the SL CAPM, and to explain why the ERA's approach to the MRP is incorrect.

The theoretical explication of the SL CAPM begins with an investor making a decision, at a point in time (time 0), to consume from her wealth, and to invest the remainder of that wealth in financial assets. One period later (at time 1), the investor sells those financial assets to buy goods and services.[39] That is, at time 0, the investor makes a decision to form a portfolio of assets for the purpose of transferring wealth to time 1 to finance future consumption.

[38] See, for example, Chi-fu Huang and Robert H Litzenberger (1988), *Foundations for Financial Economics*, New York: Elsevier; and Jonathan E Ingersoll (1987), *Theory of Financial Decision Making*, Savage, Maryland: Rowman and Littlefield.

[39] In a multi-period setting, the investor would also buy financial assets for the next period. The SL CAPM is not, however, a multi-period asset pricing model. APTNT notes that most recent asset pricing research uses multi-period or continuous time settings for the purpose of overcoming the inherent limitations of single period models.

The investor making this decision to form a portfolio of assets is assumed to have preferences for portfolios which can be represented by a utility function defined over the portfolio expected return, and the variance of portfolio returns.[40] This utility function, $V(E(r_p), var(r_p))$, represents the investor's preferences for portfolios with higher expected returns ($E(r_p)$), and for portfolios with lower variances of returns ($var(r_p)$): investor utility increases with increasing portfolio expected return, and decreases with increasing variance of returns.

Variance is a measure of the divergence of realised returns from the expected return on a portfolio of assets, and $var(r_p)$ may be interpreted as a measure of risk. With this interpretation, the investor's utility function V represents a trade-off between expected return and risk. A rational investor will choose a portfolio which minimises returns variance, or risk, for a given level of expected return. Moreover, for any given level of returns variance, or risk, the investor will choose the portfolio with the highest expected return.

N risky financial assets are assumed to be available to the investor for portfolio formation at time 0. These assets are indexed by $i = 1, 2, \ldots, N$.

Each of the N risky assets provides the investor with a payoff, at time 1, from the cash flows of the entity which created the asset. Different circumstances over which the investor has no control (different contingent states) are possible during the period of the investment (between time 0 and time 1), and lead to different possible payoffs on each risky asset. The payoffs, then, are not known to the investor at time 0. They are random variables at that time. Provided each asset has a non-zero price at time 0, the rates of return which the investor can earn on the assets are also random variables. r_j denotes the random rate of return on financial asset j.

Let W_0 be the remainder of the investor's wealth at time 0, after her decision to consume at that time. If the investor invests W_0 in a portfolio of the risky assets on offer at time 0, her wealth one period later, at time 1, is:

$$W_1 = W_0 \sum_{j=1}^{N} w_j (1 + r_j)$$

where w_j is the fraction of W_0 invested in asset j.

$w_j = p_{j0}X_{j0}/W_0$, where p_{j0} is the (known) price of asset j at time 0. X_{j0} is the number of units (shares) of asset j which the investor purchases at that time. w_j can be positive or negative; the investor can hold a long or a short position in any of the risky assets on offer.

The wealth which the investor has available to invest at time 0 is, of course, known to the investor at that time, but the investor does not know, at that time, what her wealth

[40] There has been much debate about the appropriateness of defining preferences over portfolio expected returns and return variances, rather than over consumption goods, which is the standard view in contemporary microeconomics. Defining preferences over portfolio expected returns and return variances may have validity when the probability distribution of returns is a two parameter distribution, or when the utility function is quadratic.

will be one period later. W_1 is a random variable; it is a linear combination of the random rates of return, r_j, on the risky assets on offer at time 0.

Given the form of her utility function, the investor chooses a portfolio of risky assets to minimise portfolio return variance subject to achieving a specified expected total return, $E^*(r_p)$, and subject to satisfying the "budget constraint" that the total of the amounts invested in the assets is equal the wealth available for investment. The investor chooses the set of portfolio weights w_i, $I = 1, 2, \ldots, N$, which minimises

$$var(r_p) = \sum_{i=1}^{N}\sum_{j=1}^{N} w_i w_j \, cov(r_i, r_j)$$

subject to

$$\sum_{i=1}^{N} w_i E(R_i) = E^*(R_p)$$

and

$$\sum_{i=1}^{N} w_i = 1$$

The solution to this minimisation problem provides a set of optimal portfolio weights, w_i^*, $i = 1, 2, \ldots, N$, which are such that a portfolio comprising each of the N risky assets, each weighted by the corresponding weight w_i^*, has minimum variance of returns, for given expected return $E^*(r_p)$.

For each possible value of portfolio expected return $E^*(r_p)$, there is a set of weights which results in a portfolio with minimum variance of returns. The set of these portfolios with minimum variance of return is the portfolio frontier. The graph of portfolio expected return against minimum variance of return (Figure 2: Portfolio frontier and efficient frontier) is a parabola.[41]

[41] The shape of portfolio frontier is explained in Chi-fu Huang and Robert H Litzenberger (1988), *Foundations for Financial Economics*, New York: Elsevier.

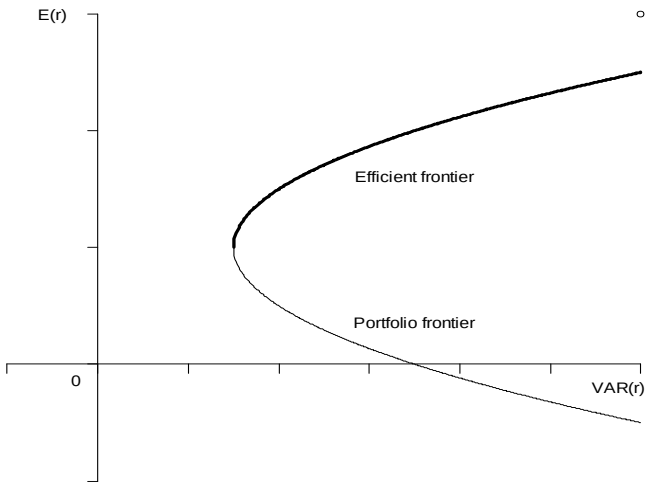


Figure 2: Portfolio frontier and efficient frontier

A key result of portfolio theory is that, given a "target" expected rate of return ($E^*(r_p)$), the investor will choose weights for a portfolio which is on the portfolio frontier (the investor will choose a portfolio with minimum variance of returns). Furthermore, if the investor's utility function is increasing and strictly concave, the investor will choose only weights for a portfolio, a mean-variance efficient portfolio, which is represented by a point on the efficient frontier. The efficient frontier is that part of the portfolio frontier above and to the right of the point of minimum portfolio variance.

The next step in the argument is critical for the subsequent derivation of the SL CAPM.

The set of assets on offer to an investor, and from which the investor can form a portfolio for the purpose of transferring wealth from time 0 to time 1, is extended to include a risk free asset. This asset provides the investor with the same – known – return in all of the contingent states between time 0 and time 1. The variance of the return on the risk free asset is zero.

Introducing the risk free asset extends the set of options available to the investor at time 0, and changes the efficient frontier in an important way. However, the investor is still concerned to minimise the variance of portfolio returns subject to achieving a given expected return on the portfolio which she uses to transfer wealth to time 1.

Given the form of her utility function, the investor again chooses a portfolio of assets to minimise portfolio return variance subject to achieving a specified expected rate of return, $E^*(r_p)$, and subject to satisfying the "budget constraint" that the total of the amounts invested in the assets is equal the wealth available for investment. The set of assets available for portfolio formation now includes the risk free asset, and the investor chooses the set of portfolio weights w_i, $I = 0, 1, 2, \ldots, N$, which minimises

$$var(r_p) = \sum_{i=0}^{N}\sum_{j=0}^{N} w_i w_j \, cov(r_i, r_j)$$

subject to

$$w_0 r_f + \sum_{i=1}^{N} w_i E(r_i) = E^*(r_p)$$

and

$$\sum_{i=0}^{N} w_i = 1$$

where w_0 is the weight to be given to the risk free asset in the investor's portfolio.

The set of portfolio weights, w_i^*, $i = 0, 1, \ldots, N$, which are such that a portfolio comprising the risk free asset and each of the N risky assets, each weighted by the corresponding weight w_i^*, has minimum variance of returns, for a given expected return $E^*(r_p)$.

Let w_i^e, $i = 1, \ldots, N$, be the weights for a portfolio comprising only the N risky financial assets, and which is known to be mean-variance efficient (that is, the portfolio corresponds to a point on the efficient frontier of Figure 2 above). One of the risky assets available to the investor (call it asset e) is a mutual fund that holds this mean-variance efficient portfolio. With portfolio with weights $w_e = 1$ and $w_i = 0$ for all $I = 1, \ldots, N$ except $i = e$, the investor's minimization problem has the solution:

$$E(r_j) = r_f + \frac{cov(r_j, r_e)}{var(r_e)}\left[E(r_e) - r_f\right] = r_f + Acov(r_j, r_e) \qquad (1)$$

If all investors have the same expectations about the rates of return on risky assets, equation A characterises the rate of return which investors, in aggregate, expect to earn at time 1 from an investment, at time 0, in a portfolio of assets formed from the risk free asset and the N risky assets which are available at that time.[42]

Figure 2 above showed the efficient frontier for an investor forming a portfolio from N risky assets in accordance with the precepts of portfolio theory. When a risk free asset is available to the investor, the efficient frontier is as shown in Figure 3 below.

[42] That the derivation of the model ignores the process of expectations formation and the possibility of different groups of investors having different expectations is a major limitation of the SL CAPM which more recent asset pricing research has sought to address.

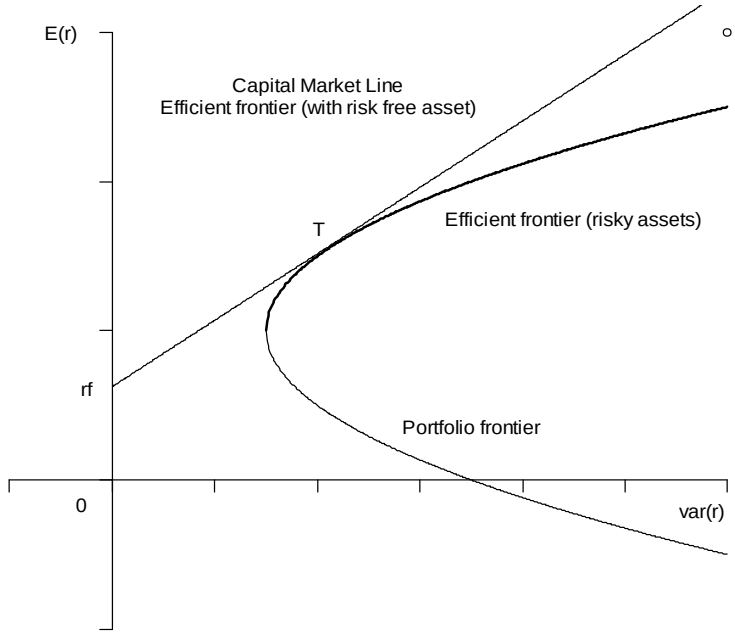


Figure 3: Efficient frontier with risk free asset (Capital Market Line)

When a risk free asset with return r_f is available to an investor making a portfolio decision at time 0, the efficient frontier is the straight line r_fT shown in Figure 3. The line r_fT – the capital market line – is tangential, at point T, to the efficient frontier for risky assets.

The expected return and variance of returns of any portfolio represented by a point along the capital market line can be obtained as the expected return and the variance of returns on a portfolio which is a convex combination of two basic portfolios. Those two basic portfolios are the portfolio comprising only the risk free asset, and the portfolio corresponding to the point T.

Referring to Figure 3, if expected return/variance of return combinations to the right of T are desired, consistent with the investor's preferences summarised by her utility function V, and if the investor can borrow at the risk free rate r_f, then those expected return/variance of return combinations can be achieved by borrowing and investing the proceeds in the portfolio corresponding to the point of tangency T.[43] If expected return/variance of return combinations to the left of T are desired, consistent with the investor's preferences, and the investor can lend at the risk free rate r_f, then those expected return variance of return combinations can be achieved by lending and investing the proceeds in the portfolio corresponding to the point of tangency T.

[43] In general, individual investors will not be able to borrow at the risk free rate. This specific, limiting, assumption made for derivation of the SL CAPM can be relaxed. The Black CAPM is one example of an asset pricing model derived in setting in which it is not assumed that investors can borrow at the risk free rate.

Derivation of the SL CAPM now turns from the individual investor to all investors in the market for financial assets. Let W_k be the amount of wealth individual k invests in the portfolio of risky assets (the portfolio corresponding to the point of tangency T in Figure 3), and let X_{jk} be the number of units (shares) of risky asset j held by that individual. Since all investors hold the same portfolio of risky assets (the portfolio corresponding to point of tangency T),

$$w_j^T = \frac{p_j X_{jk}}{W_k}, \qquad k = 1, 2, \ldots, K$$

where w_j^T is the fraction of wealth invested in asset j in the portfolio corresponding to point of tangency T, p_j is the market price of asset j, and K is the number of investors in the market for financial assets.

Summing over all K investors:

$$w_j^T = \frac{p_j \sum_{k=1}^{K} X_{jk}}{\sum_{k=1}^{K} W_k}$$

The numerator in this fraction is the total market value of asset j, and the denominator is the total value of all risky assets. w_j^T is, then, the fraction of wealth invested in risky assets which is invested in asset j.

The portfolio corresponding to point of tangency T has weights w_j^T, for risky assets $I = 1, 2, \ldots, N$, which are the ratios of the total market values of each of the assets to the total value of all risky assets. The portfolio corresponding to point of tangency T is, then, the market portfolio. Consistent with this terminology, the expected return on the market portfolio is $E(r_m)$, and the variance of return on the market portfolio is $var(r_m)$.

Now, the market portfolio is a mean-variance efficient portfolio which will be observable if aggregate holdings of risky financial assets can be observed. It can replace the undefined mean-variance efficient portfolio e in equation (1) above. The return on risky asset j is, then:

$$E(r_j) = r_f + \frac{cov(r_j, r_m)}{var(r_m)}[E(r_m) - r_f] = r_f + \beta_j[E(r_m) - r_f]$$

This is the SL CAPM.

The SL CAPM is derived from the decision making of individual investors choosing, at a point in time, portfolios of the N risky assets and the risk free asset which are available at that time.

Contrary to the view of the ERA, there is no single construct $[E(r_m) - r_f]$ in the SL CAPM. There are, clearly and distinctly, the known return, r_f, on the risk free asset available to investors, and the expected value of the uncertain future return, $E(r_m)$, on the market portfolio of the N risky assets available to those investors.

The term $[E(r_m) - r_f]$ as it appears in the SL CAPM is not a composite; it is simply the difference between the conceptually distinct r_f and $E(r_m)$ assumed for model derivation. It must be treated as such when applying the model. Estimates must be made, at the time the SL CAPM is applied, of:

(a) the rate of return on the risk free asset assumed to be available to investors at that time; and

(b) the return those investors expect, at that time, to earn on the market portfolio.

The use of a long term average of historical risk premiums to estimate $[E(r_m) - r_f]$ as a single construct for the purpose of applying the SL CAPM is conceptually incorrect.

A long term average of past returns on the market portfolio may be used as an estimate of the expected return on the market, $E(r_m)$, but the use of that average involves the making of a specific assumption about the way in which expectations are formed. This assumption – indeed, any assumption which might be made about expectations formation – lies beyond the set of assumptions made for derivation of the SL CAPM itself. The absence of an explicit hypothesis about how expectations are formed about a critical element of the model (the return on the market portfolio) is a significant limitation of the SL CAPM.

Moreover, the use of a long term average of historical risk premiums to estimate $[E(r_m) - r_f]$ has the effect of replacing the risk free rate of return at the time of portfolio choice with a long term average of risk free rates of returns. But a long term average of risk free rates has no role in the derivation of the SL CAPM, and no role in the application of the model. In the derivation of the SL CAPM, there is no consideration of how expectations are formed about an uncertain future risk free rate of return. There does not need to be. The risk free rate is known with certainty at the time of portfolio choice: it is the known rate of return on the risk free asset which is available to investors at that time.

None of this means that the MRP, interpreted as a long term average of differences between the return on the market portfolio and the risk free rate, is not relevant in other contexts. Considered independently of the SL CAPM, the MRP has been, and continues to be, of great interest to investors and to financial economists. Whether the MRP is a premium for bearing non-diversifiable risk or a liquidity premium, or whether it arises from borrowing constraints or taxes and other regulatory arrangements remains an open question.

The irrelevance of the MRP, interpreted as a long term average of differences between the return on the market portfolio and the risk free rate, in the application of the SL CAPM means that survey and other evidence which supposedly directly inform estimates of the MRP, are irrelevant. They have no role in the application of the SL CAPM.

There is, in the Rate of Return Guidelines, some recognition of the MRP being the difference between the expected return on the market portfolio and the rate of return

on the risk free asset at the time the model is applied, but that recognition is limited to what the ERA refers to as the "Wright approach".

The Wright approach is an alternative – "non-standard" – implementation of the SL CAPM in which the market portfolio and the risk free rate are estimated as separate components of the MRP. It is seen as having a number of limitations. In particular, it assumes that the relationship between the risk free rate and the MRP is perfectly negatively correlated, and the return on equity is relatively stable over time.[44]

The assumption that the market return on equity is relatively stable, and its implication that the risk free rate and the MRP are perfectly negatively correlated, are extraneous to the derivation and application of the SL CAPM. No assumption is made about the relationship between the risk free rate and the MRP, or to the effect that the real market return on equity is constant, for derivation of the SL CAPM. GGT does not (and did not, in its revision proposal for the GGP Access Arrangement) propose use of the Wright approach. GGT does not (and did not) make any assumptions about whether the real return on the market is constant, or about the correlation between the risk free rate and the MRP.

The ERA's approach to estimating the risk free rate and the MRP is inconsistent with the assumptions from which SL CAPM is derived. The ERA's approach of separately and independently estimating the risk free rate and the MRP is conceptually incorrect, and therefore leads to an estimate of the return on equity which cannot, except by chance, be an estimate which contributes to the achievement of the allowed rate of return objective.

Moreover, given prevailing conditions in financial markets, with the CGS yields which proxy for the risk free rate close to their historic lows, use of the "standard approach" – use of a long term average of the risk free rate proxy in place of the current value of that proxy – imparts a downward bias to estimates of equity returns obtained by applying the SL CAPM.[45]

In section 5.2.3 below, GGT estimates the return on equity to be used in determining the total revenue and the revised reference tariff for the GGP. In that section, GGT applies the SL CAPM, but not using the ERA's approach. GGT applies the model by making estimates of the expected return on the market, and of the risk free rate, and by estimating the market risk premium as the difference between the two.

5.2.3 Estimating the return on equity

GGT has estimated the return on equity using the SL CAPM, with the following estimates for the parameters of the model:

---

44 See Economic Regulation Authority, *Explanatory Statement for the Rate of Return Guidelines*, 16 December 2013, paragraphs 1, and *Appendices to the Explanatory Statement for the Rate of Return Guidelines*, Appendix 14.

45 In its November 2015 *Statement on Monetary Policy* (at page 47), the Reserve Bank of Australia advised that yields on government bonds remain close to historic lows.

(a) risk free rate: r_f= 2.90%;

(b) equity beta: β_i = 1.1; and

(c) $E(r_m)$: 11.40%.

GGT's estimate of the return on the market, 11.40%, is consistent with the estimate of 10.5% (unadjusted for the value of imputation credits) used by Frontier Economics. It is also consistent with the average of the long series of market returns compiled by Brailsford, Handley and Maheswaran, and with estimates of the return on the market made by both the ERA and the AER.[46]

The estimated return on equity is 12.25%.

5.3 Return on debt

In the Draft Decision, the ERA:

(a) rejected GGT's proposed approach to estimation of the return on debt for the GGP, and required use of the hybrid trailing approach in which the return on debt is estimated as the current five year interest rate swap rate plus a trailing average of debt risk premiums (plus allowances for debt issuance and hedging costs);

(b) required use of a trailing average of debt risk premiums calculated using relevant Reserve Bank of Australia corporate credit spreads for the period 2006 to 2014, and a 25%:75% weighted average of Reserve Bank and ERA credit spreads for 2015;

(c) required that the ERA credit spreads for 2015 and for subsequent years be determined using the bond yield approach with an extended sample including Australian issued bonds in foreign currencies, and augmented with multiple curve fitting techniques;

(d) required annual updating of the return on debt, with the first update being made for 2016; and

(e) required that GGT nominate averaging periods for 2017 to 2019 as soon as practicable but close to the time of release of the final decision.

[46] See Draft Decision, Tables 53 and 54, and AER, *Draft Decision Amadeus Gas Pipeline Access Arrangement, Attachment 3 – Rate of return*, November 2015.

5.3.1 Hybrid trailing average approach to return on debt estimation

Under the on-the-day approach to return on debt estimation which had been used by the ERA for earlier regulatory decisions, the benchmark efficient entity (the entity for which the return on debt was to be estimated) was expected to have:

(a) borrowed long term (10 years) and staggered its borrowings so that only a proportion (10%) of the debt matured each year and needed to be refinanced;

(b) borrowed using floating rate debt (or using fixed rate debt converted into floating rate debt using fixed-to-floating interest rate swaps); and

(c) entered into floating-to-fixed interest rate swaps, during the averaging period at the commencement of each access arrangement period, for the risk free rate component of the return on debt, for the duration of the access arrangement period.

At the commencement of each access arrangement period, the cost of debt of the benchmark efficient firm would then appear to have been calculated using a rate of return on debt which was the current five years swap rate plus a simple average of the debt risk premiums for the current year and each of the nine previous years.

The hybrid trailing average approach effectively recognises this outcome: it utilises an "on-the-day" estimate of the five years swap rate in combination with a simple 10 years trailing average of the debt risk premium, without any transition.[47]

In advancing the hybrid trailing average approach, the ERA advised that it may perform less well on efficiency grounds than the on-the-day approach, but had the advantage that it did not require the benchmark efficient entity to "unwind" previous hedging of the risk free rate.[48]

The Draft Decision noted that, while not a universal practice, the majority of regulated entities hedge the risk free rate and, to the extent that they had done this, it would not be appropriate to use a full trailing average estimate of the return on debt.[49] If a full trailing average were to be used, there would, the ERA advised, need to be a transition period during which the regulated entity unwound previous hedging positions.[50]

The debt risk premiums of the hybrid trailing average are to be those for an entity with a credit rating in the BBB-/BBB/BBB+ band. This is the credit rating band assumed for the benchmark efficient entity in the ERA's Rate of Return Guidelines.[51]

The Draft Decision advises that the ERA has evaluated two methods for estimating the debt risk premiums to be used in its hybrid trailing average approach. These are:

47 Draft Decision, paragraph 822.

48 Draft Decision, paragraphs 832, 837.

49 Draft Decision, paragraphs 838, 840.

50 Draft Decision, paragraph 841.

51 Draft Decision, paragraph 877.

(a) use of the credit spreads of Australian non-financial corporations which have been published by the Reserve Bank of Australia (RBA) since December 2013; and

(b) the ERA's bond yield approach revised and augmented to allow estimation of a yield curve.[52]

The ERA has incorrectly concluded that the first of these methods is not the best means of contributing to the achievement of the allowed rate of return objective. The ERA contends that:

(a) the RBA data are for an effective tenor which is not the same as the assumed tenor of 10 years for the debt raisings of the benchmark efficient entity, and must be adjusted to the target, which is less than ideal;

(b) the RBA data are only available for the BBB and A credit rating bands and their use could unnecessarily constrain a regulator which found a different band to be appropriate; and

(c) the RBA estimates are reported as end of month estimates, and must be interpolated to provide approximations to the daily rates which have been used in Australian regulatory practice.[53]

In view of these perceived limitations in the RBA data, the ERA has decided to develop its own yield estimates and, to this end, has revised and augmented its bond yield approach. In particular:

(a) the ERA's benchmark samples have been extended to recognise the importance of Australian bonds denominated in foreign currencies; and

(b) various curve fitting techniques have been adopted to permit estimation of the debt risk premium at different tenors.[54]

Prior to the RBA's commencement of publication of credit spreads for Australian non-financial corporations, the ERA did not include in the samples of bonds it used for estimation of debt yields and premiums bonds issued by Australian entities which were denominated in foreign currencies. The extension of the ERA's sampling appears to have been motivated by the RBA's finding, at the time it began publication of the credit spreads, that:

The paucity of Australian dollar-denominated issuance by NFCs [non-financial corporations], particularly at longer tenors, makes it impractical to estimate credit curves across a range of tenors solely from domestically issued bonds. Therefore, the

52 Draft Decision, paragraph 879.

53 Draft Decision, paragraphs 891 – 894.

54 Draft Decision, paragraph 895.

sample includes bonds denominated both in Australian dollars and foreign currencies.[55]

The Draft Decision advises that three curve fitting techniques are widely used. These are:

(a) the Gaussian kernel;

(b) the Nelson-Siegel method; and

(c) the Nelson-Siegel- Svennson method.[56]

To estimate the trailing average of debt risk premiums for 2015, the ERA has calculated a simple average of debt risk premiums for the period of 10 years from January 2006 to December 2015. The terms of this trailing average for the period from 2006 to 2009 have been calculated as simple averages of the RBA credit spread data, interpolated to provide daily estimates. The term of the trailing average for 2015 is the sum of:

(a) an average of the RBA credit spreads for the period January to March 2015, weighted 25%; and

(b) an estimate of the debt risk premium made using the revised and augmented bond yield approach for the period from April 2015 to December 2015, weighted 75%.[57]

In applying the revised and augmented bond yield approach, the debt risk premium is to be calculated as a simple average of the results obtained using the three curve fitting techniques.[58]

When the rate of return on debt is to be updated in subsequent years of the access arrangement period, the updating is to use an estimate of the debt risk premium made using the revised and augmented bond yield approach for each relevant year.[59]

Wherever estimates are to be made from RBA data, the ERA has adjusted from the effective tenor to the target tenor of 10 years using the extrapolation described in paragraph 1005 of the Draft Decision. The ERA has also interpolated the RBA data to obtain daily estimates; the interpolation formula is set out in paragraph 1006.

The estimate of the return on debt of the Draft Decision is, then, the sum of:

(a) the current effective yield on interest rate swaps for a term of 5 years, which the ERA has estimated to be 2.431%; and

55 Ivailo Arsov, Matthew Brooks and Mitch Kosev, "New Measures of Australian Corporate Credit Spreads", Reserve Bank of Australia Bulletin, December Quarter 2013, page 17.

56 Draft Decision, paragraph 915.

57 Draft Decision, paragraph 995.

58 Draft Decision, paragraph 937.

59 Draft Decision, paragraph 996.

(b) a trailing average of the debt risk premiums over the current year and the preceding nine years, the average being 2.502%.

The Draft Decision allows addition, to this estimate of the return on debt, of:

(a) debt issuance costs amounting to 0.125%; and

(b) hedging costs amounting to 0.114%.[60]

The return on debt (which is to be regarded as indicative since it is to be updated prior to the ERA's final decision) is, then, 5.172%.

5.3.2 The hybrid trailing average approach cannot provide an estimate of the return on debt which contributes to the allowed rate of return objective

The hybrid trailing average approach, the ERA contends, allows recognition of the financing practice of the benchmark efficient entity under the preceding "on-the-day" approach to estimation of the return on debt. Moreover, it avoids the need for a transition period (as proposed by the Australian Energy Regulator) during which the hedging arrangements of the benchmark efficient entity under the on-the-day approach could be unwound.

Implicit in this is the assumption that the benchmark efficient entity of rule 87(3) is a regulated entity. Only a regulated entity would have to contend with on-the-day estimation of the return on debt, and would have to hedge in response to on-the-day estimation of the return on debt. The ERA's benchmark efficient entity is, therefore, a regulated entity.

But is the benchmark efficient entity a regulated entity as the ERA assumes? If the benchmark entity were not regulated, the rationale for the hybrid trailing average would fall way. A trailing average approach might still be used to estimate the return on debt of the benchmark efficient entity, and that approach could be implemented immediately as a simple average of debt costs over the current year and the previous nine years.

In chapter 5 (*Return on debt*) of its final position paper on the rule change which implemented rule 87 of the NGR, the Australian Energy Market Commission (AEMC advised:

The Commission considers that the most appropriate benchmark to use in the regulatory framework for all service providers, regardless of ownership, in general is the efficient private sector service provider.[61]

---

60 Draft Decision, paragraphs 1014 – 1015, and paragraphs 1016 – 1024, respectively

61 AEMC, *Final Position Paper, National Electricity Amendment (Economic Regulation of Network Service Providers) Rule 2012, National Gas Amendment (Price and Revenue Regulation of Gas Services) Rule 2012*, 29 November 2012, page 53.

The AEMC clearly intended that there was to be wide scope for establishing the benchmark required by the new rule, with correspondingly wide scope for the benchmark's efficient entity's financing practices. The AEMC also clearly intended that the benchmark efficient entity not be a regulated business:

In its draft rule determination, the Commission considered that the long-term interests of consumers would be best served by ensuring that the methodology used to estimate the return on debt reflects, to the extent possible, the efficient financing and risk management practices that might be expected in the absence of regulation.[62]

This was broadly consistent with the widely held view that the application of economic regulation should seek to replicate the efficient outcomes achieved in a workably competitive market. That the standard for regulation should be a workably competitive market had been considered by the Western Australian Supreme Court in 2002. In the context of an examination of the structure of the Gas Pipelines Access (WA) Act 1998, which implemented the National Third Party Access Code for Natural Gas Pipeline Systems in Western Australia, Parker J. stated:

It is my conclusion that in the preamble to the Act and the introduction to the Code the concept of a "competitive market" is that which economists in this field would understand to be a workably competitive market.[63]

Subsequently, the Expert Panel on Energy Access Pricing which had been convened by the Ministerial Council on Energy in 2005 advised:

The central objective of price control is to constrain the exercise of market power by firms that do not face effective competition for their services. Regulation and, specifically, the periodic determination of maximum prices or revenue is directed at achieving outcomes that could otherwise be expected from effective competition.[64]

The relevant standard for regulation is not the perfectly competitive market of economic theory, but the effectively – or workably – competitive market to be found in practice. Because the market in question was workably competitive, state intervention in the form of economic regulation was not required.

Moreover, the Australian Competition and Consumer Commission's Regulatory Development Branch advised the Australian Energy Regulator in 2013 that:

. . . when determining a new regulatory cost of debt approach, debt practices which are a product of the regulatory environment should be ignored. This is because these practices will change if the regulatory environment changes. If in setting a new regulatory framework, a regulator considers debt practices that are a result of

62 Ibid., page 98.

63 Re Dr Ken Michael AM; Ex Parte Epic Energy (WA) Nominees Pty Ltd & Anor [2002] WASCA 231, paragraph 126.

64 Expert Panel on Energy Access Pricing, *Report to the Ministerial Council on Energy*, April 2006, page 118.

businesses reacting to the existing regulatory framework, it may create a self fulfilling method that may not necessarily be efficient.[65]

To require that the benchmark efficient entity of rule 87 be a regulated entity is both conceptually incorrect and not in accordance with the proper construction of the NGR.

Nevertheless, the ERA proceeds in this way in the Draft Decision. In consequence, the ERA's trailing approach to estimation of the return on debt is the required hybrid trailing average approach. Little or no consideration seems to have been given to the issue of the benchmark efficient entity in the consultation on estimation of the return on debt undertaken by the ERA in March 2015 during the later stages of its decision making on proposed revisions to the access arrangement for the ATCO Gas Australia gas distribution system.

This is in contrast to the situation in the jurisdiction of the Australian Energy Regulator (AER). The AER further supported its view that a transition to a trailing average was required to satisfy the NPV = 0 principle, and to avoid providing benefits to service providers from the November 2012 rate of return rule change.

The AER had been advised that the debt risk premium component of the return on debt of the benchmark efficient entity could not be hedged. In consequence, in some periods, the allowed debt risk premium would exceed the actual debt risk premium of the benchmark efficient entity. In other periods, the allowed DRP would be less than the actual DRP and, over a number of periods, these differences might be expected to broadly cancel each other out. Although the cancellations may not be exact, over the life of regulated assets, they were not likely to result in a material departure from the regulator's objective of NPV neutrality (NPV = 0).[66]

However, a change in the approach to estimation of the return on debt had the potential to introduce a significant asymmetry. Any differences between the allowed return on debt and the actual return on debt of the benchmark efficient entity which accumulated prior to the change would remain with the service provider.

If, in the period preceding the change, the allowed return on debt has exceeded the actual return on debt of the benchmark entity, the service provider will be left with the difference unless that is dealt with in the way in which the change in the approach to estimation of the return on debt is implemented.

The Global Financial Crisis has created circumstances in which these differences might be left with the service provider if the regulator were to now implement a trailing average approach to return on debt estimation. Dr Lally provided the AER with analysis of the effects of the crisis on the return on debt, and advised that:

---

65 Henryk Smyczynski and Igor Popovic, *Estimating the Cost of Debt: A Possible Way Forward*, ACCC Regulatory Development Branch, April 2013, page 11.

66 As noted in section 5.1 above, the regulatory regime of the NGL and the NGR has no explicit requirement for NPV = 0; at best it might be interpreted as requiring NPV ≥ 0.

This problem could be avoided by deferring any switch to a trailing average until the current DRP spike has fully subsided. An alternative approach would be to use a transitional process because it proxies for deferral of the switch.[67]

The AER could have deferred the switch to a trailing average approach until the DRP "spike" associated with the Global Financial Crisis had subsided. However, it chose not to do so, and opted instead for a transition to the trailing average. In effect, the AER chose, from the alternatives available to it, an approach which would allow the "clawback" of what it perceived to be a benefit to service providers identified in the analysis of Dr Lally. This is incorrect under the scheme of incentive regulation in the NGL and the NGR.

Under the scheme of the NGL and the NGR, the setting a service provider's total revenue (from which the reference tariffs for a transmission pipeline are to be determined) must adopt a forward-looking perspective. The only matters from the prior access arrangement period which have bearing on the setting of the total revenue for the next access arrangement period are:

(a) the closing value of the capital base; and

(b) increments or decrements resulting from the operation of an incentive mechanism to encourage gains in efficiency.[68]

Other than in respect of these two matters, the regulatory regime of the NGR does not permit the regulator to look back at what has occurred in the prior access arrangement period for the purpose of reducing the total revenue for the next period to, in effect, return a perceived windfall gain to users.

The AER has sought to make much of the fact that a simple trailing average of historical debt costs would not be unbiased. In particular, the use of historical averaging periods could, the AER contends, introduce a bias in regulatory decision making resulting from choosing an approach that uses historical data after the results of that historical data is already known.[69] There is no basis for this contention, and to adopt the AER's proposed prospective and progressive implementation would make estimation of the return on debt unusual in the context of making the estimates required for total revenue estimation. Only in exceptional circumstances can estimates and forecasts be made from data other than historical data. There is no corresponding objection to the use of historical data throughout the AER's proposed approach to estimating the return on equity. If there is bias, it is in the AER's approach and not the historical average which APTNT considers is the appropriate way to estimate the return on debt of the benchmark efficient entity of rule 87(3).

GGT notes that this raises further issues with the AER's support for a transition to a trailing average by reference to NPV = 0: that NPV be equal to zero over the life of the assets. First, the operation of the incentive mechanisms to encourage gains in

67 Martin Lally, Transitional Arrangements for the Cost of Debt, 24 November 2014, page 17.

68 NGR, rule 76.

69 See, for example, AER, *Draft Decision Amadeus Gas Pipeline Access Arrangement 2016-2021*, Attachment 3, page 3-156.

efficiency referred to in the penultimate paragraph, and of incentive regulation in general, effectively precludes an objective of NPV = 0. NPV = 0 is not a fundamental element of the economic regulatory regime of the NGL and the NGR.

Even if this were not the case, a pipeline system comprises multiple assets of varying lives which are usually progressively replaced and enhanced over time. The regulator might desire NPV = 0, but any calculation of NPV must be either made for a finite and defined period, or in perpetuity. Gas pipelines may be long-lived assets, but to assume that they continue to exist in perpetuity is quite unrealistic. The alternative is a finite and defined life, but a system of assets of varying lives in which the individual assets are progressively replaced does not have a finite and defined "life". Applying NPV = 0 over the life of assets, as the AER advises it has done in supporting its transition to a trailing average, is essentially meaningless.

In summary, to have assumed that the benchmark efficient entity was a regulated entity which would have hedged its debt in a particular way in response to the prevailing regulatory regime was incorrect. The ERA should have assumed that the benchmark efficient entity was a firm of similar scale to the service provider which operated in a workably competitive market. Such a firm could be expected to issue debt with a term to maturity of 10 years, and to stagger its debt issues to minimise refinancing risk, in the way the ERA proposes, without any need for concern about financing arrangements which have to be "unwound". If this were the case, the ERA could have immediately implemented a trailing average approach to estimation of the return on debt. This may have left some service providers with gains arising from mismatch between allowed return on debt for the benchmark efficient entity and the actual returns on debt of the benchmark. However, such gains and, in other circumstances, losses, are an outworking of the normal operation of a scheme of incentive regulation. The scheme of the NGL and the NGR would preclude the ERA from "clawback" of any gains it perceived were being left with service providers.

The changes to rule 87 made in November 2012 open the way for the ERA to implement a trailing average approach to estimation of the return on debt. If that approach is to be implemented as proposed in the Draft Decision, it must be implemented as a simple historical average of the returns on debt, and not as the ERA's hybrid trailing average, or as the AER's transition to a trailing average.

5.3.3 A revised and augmented bond yield approach

The Rate of Return Guidelines and the Draft Decision advise that the ERA has found that the RBA data on the credits spreads of Australian non-financial corporations have limitations which are best overcome by the regulator developing its own yield estimates.

The ERA's reasons for not using the RBA credits spreads were set out above. They are insubstantial, and do no warrant the regulator proposing its own ad hoc and untested method of making yield estimates.

The ERA contends that the RBA data are for an effective tenor which is not the same as the assumed tenor of 10 years for the debt raisings of the benchmark efficient entity, and must be adjusted to the target, which is less than ideal. Yes, but the source data are not for a tenor of 10 years, and adjustments are required irrespective of whether the RBA data are used, or some other method of yield estimation is preferred. Dr Lally has set out methods for adjustment of the RBA data; these have been used by the AER and by the ERA, and have been accepted by service providers.

The ERA contends that the RBA data are only available for the BBB and A credit rating bands and their use could unnecessarily constrain a regulator which found a different band to be appropriate. This could be the case. But, at present, the ERA has accepted that the benchmark efficient entity has a credit rating in the BBB band, and has proceeded to work with that assumption. The RBA data are, in these circumstances, directly relevant to the task of establishing the rate of return required by rule 87(3).

The RBA estimates are reported as end of month estimates, and must be interpolated to provide approximations to the daily rates which have been used in Australian regulatory practice. Again, all methods which might be used to estimate yields involve approximations. The RBA estimates are not unique. Dr Lally has set out methods for interpolation of the RBA data; these have been used by the AER and the ERA, and they have been accepted by service providers.

Subsequent to the RBA commencement of publication of the credit spreads of Australian non-financial corporations, the ERA has modified its bond yield approach to use samples including the bonds of Australian issuers issued in foreign currencies. The ERA modified this aspect of its practice to align with the RBA.

In addition to extending the sample to be used with the bond yield approach, the ERA has, with little justification, modified the RBA's Gaussian kernel method for establishing the yield curve, and has required that results from the modified method be averaged with results from the Nelson-Siegel and Nelson-Siegel-Svennson methods of "fitting" yield curves.

The Nelson-Siegel and Nelson-Siegel-Svennson methods offer one approach to yield curve modelling among a variety of others (including absence of arbitrage models and market equilibrium models). As initially developed, the Nelson-Siegel and Nelson-Siegel-Svennson methods involve simply the fitting of a very general functional form to a particular data set. More recently, they have been reinterpreted as linear factor models with a particular economic structure imposed on the factor loadings.[70] At a conceptual level, they are similar to the multiple linear factor models of equity market returns pioneered by Fama and French.

In the absence of any thorough and critical assessment, there is no basis for concluding that the Nelson-Siegel and Nelson-Siegel-Svennson methods can assist the making of estimates of the return on debt which can contribute to achievement of the allowed rate of return objective.

[70] See, for example, Francis X Diebold and Canlin Li (2006), "Forecasting the term structure of government bond yields", Journal of Econometrics, 130, pages 337-364.

The Nelson-Siegel and Nelson-Siegel-Svennson methods have not been adopted by the AER. Nor has the AER sought to modify the RBA's application of the Gaussian kernel method.

The return on debt of the benchmark efficient entity to be used in calculating the total revenue and reference tariff for the GGP should be estimated using the data on the yields and credit spreads of Australian non-financial corporations published by the RBA. Those data are from a reliable and independent source. GGT notes again, that the RBA advised, at the time it commenced publication of the credit spreads, that its methods had advantages over alternatives.[71] These were:

(a) the method of construction is more transparent;

(b) the samples are larger due to the inclusion of bonds issued in foreign currencies; and

(c) the method is relatively robust, allowing for the estimation of spreads at longer maturities than are available elsewhere.[72]

5.3.4 Estimating the return on debt

The appropriate way to estimate the return on debt of the benchmark efficient entity of rule 87(3) is, then, as simple trailing average (an average with equal weights rather than a more complex weighting scheme which might be based on CAPEX) with a term of 10 years.

The terms of this simple average can be constructed as the sum of the risk free rate of return and the debt risk premium for bonds issued by Australian non-financial corporations with credit ratings in the BBB band. The data would be sourced from the statistical publications of the RBA.

Where necessary, those data would be extrapolated or interpolated in the way proposed by the ERA in the Draft Decision so that the estimates of the return on debt obtained (and which are the terms of the trailing average) are for terms to maturity of 10 years consistent with the assumption made in respect of the financing of the benchmark efficient entity.

The last, and most recent, term in the trailing average would be the an estimate of the return on debt made for an averaging period of 40 business days immediately preceding the issue of the ERA's final decision. The earlier terms of the average would be estimated, in a way similar to that which the ERA proposes for the debt risk premiums in the Draft Decision, as a simple average of RBA estimates over the year.

---

71 GGT noted this in the Supporting Information provided with its revision proposal for the GGP Access Arrangement which was submitted to the ERA in August 2014.

72 Ivailo Arsov, Matthew Brooks and Mitch Kosev, "New Measures of Australian Corporate Credit Spreads", Reserve Bank of Australia Bulletin, December Quarter 2013, page 24.

Using RBA data for an averaging period of 40 business days ending 31 December 2015, and averaging over the year in each of the previous nine years, an estimate of the return on debt for the benchmark efficient entity is 7.82%.

Consistent with the ERA's approach in the Draft Decision, an allowance would be made for debt issuance costs at 0.125%, increasing the return on debt to 7.95%. No allowance would be made for hedging costs.

This historical trailing average would subsequently be updated, annually, by deleting its earliest term, and adding a new term calculated for the current year. The equal weighting of the terms would be retained in the updating process.

5.4 Averaging periods

Required amendment 9 requires that GGT nominate, as soon as practicable, the averaging period for each annual update applying in 2017, 2018 and 2019. These averaging periods are to be nominated close to the time of release of the final decision which, the Draft Decision advises, is expected during the first half of 2016.[73]

GGT will nominate the required averaging periods on advice from the ERA that it expects to issue a final decision on the revision proposal for the GGP Access Arrangement within two months.

[73] Draft Decision, paragraph 863.

6 Depreciation

Required amendment 11

The Authority requires GGT to update the calculation of depreciation and the forecast capital base for the third access arrangement period as follows:

- Apply straight-line depreciation with the Current Cost Accounting approach to the regulatory asset base from 1 January 2015.
- Remove over-depreciation adjustment from the regulatory asset base and total revenue.

Calculate the opening capital base for the GGP for the third access arrangement period by escalating it at the rate of inflation as measured by the CPI All Groups, Weighted Average of Eight Capital Cities.

In the Draft Decision the ERA does not approve GGT's proposed regulatory depreciation allowance. The ERA does not accept GGT's proposed continued use of an historic cost accounting (HCA) approach and instead requires a change to a current cost accounting (CCA) approach.

The ERA states in its Draft Decision that the basis for its rejection of GGT's approach to modelling the depreciation allowance is that:[74]

- it does not comply with criterion (a) in rule 89 of the National Gas Rules (NGR) – that is, the ERA considers that GGT's depreciation schedule is not designed so that reference tariffs will vary, over time, in a way that promotes efficient growth in the market for reference services;
- it does not comply with certain requirements of the National Gas Law (**NGL**) – namely the National Gas Objective (**NGO**) and the second of the revenue and pricing principles (**RPP**).

The ERA's primary concern with GGT's approach appears to be in relation to the use of unindexed asset values to calculate depreciation amounts. The ERA's key concern with the unindexed (HCA) depreciation approach is that, by "dragging forward depreciation", it distorts tariffs through time, thereby introducing the clear risk of inefficient growth in the market for reference services.[75] The ERA also says it is concerned with the incentives created by GGT's proposed approach and the potential for "unnecessarily high prices in the short to medium term".[76]

Following consideration of the Draft Decision, GGT has maintained its approach to calculating the depreciation allowance on the basis of unindexed asset values.

For the reasons explained in this section, GGT believes that the ERA has misapplied the limited discretion conferred on it in respect of the assessment of GGT's depreciation schedule. Amongst other matters, the ERA has incorrectly concluded that

74 Draft Decision, paragraph 1261.

75 Draft decision, paragraph 1222.

76 Draft decision, paragraph 1245.

the HCA approach can never satisfy the applicable requirements, regardless of the economic and commercial factors affecting the covered pipeline. The ERA has also erred in its application of the NGO and the RPP in the context of the exercise of its limited discretion.

GGT considers that its continued application of the HCA approach to calculating the depreciation allowance does provide for variation in reference tariffs over time in a way that promotes efficient growth in the market for reference services (that is, GGT's proposed approach does satisfy criterion (a) in rule 89 of the NGR). Further, and although this is not necessary under a limited discretion rule, GGT considers that its approach is in fact preferable to the ERA's approach in the circumstances of the covered pipeline, in the sense that it better promotes efficient growth in the market.

Insofar as the NGO and RPP bear upon the ERA's discretion, GGT considers that the HCA approach will contribute to the NGO and is consistent with the RPP. Further, GGT considers that the HCA approach contributes to the achievement of the NGO to the greatest degree and is more consistent with the RPP, compared to the ERA's proposed approach, in the circumstances of the covered pipeline.

Each of these reasons is explained further below.

6.1 Relevant requirements of the NGR

The criteria governing depreciation of the capital base of the covered pipeline are specified in Division 6 of Part 9 of the NGR. Relevantly, rule 89(1) states that the depreciation schedule should be designed:[77]

(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.

[77] NGR, rule 89(1).

Rule 89(2) states that compliance with criterion (a) may involve deferral of a substantial proportion of the depreciation, particularly where the present market for pipeline services is relatively immature, reference tariffs have been calculated on the assumption of significant market growth, and the pipeline has been designed and constructed so as to accommodate future growth in demand.

Rule 89(3) states that the ERA's discretion in respect of the depreciation schedule is limited.[78] This means that the ERA cannot withhold its approval to the depreciation schedule if the ERA is satisfied that the schedule complies with applicable requirements of the NGL and the NGR and is consistent with applicable criteria prescribed by the NGL and NGR. In other words, the ERA cannot require an amendment to GGT's proposal because the ERA considers a different approach would be preferable or in better conformity with the criteria or the principles and objectives of the NGL.[79]

The Tribunal considered Rule 89 in GasNet,[80] observing:

It is clear from rule 89 that various methods of depreciation could potentially be used in the determination of reference tariffs. There is no method specified as a default or standard approach in rule 89. Rather, all that is required is that any depreciation approach that is proposed satisfies the criteria in sub-rule (1).

Thus, the NGR makes clear that various depreciation methods may be used, and that there is no one method that is required to be adopted in all circumstances. The ERA is required to assess GGT's depreciation schedule and determine whether that schedule is consistent with the criteria in rule 89(1) and may only insist upon a change where such change is necessary to correct an inconsistency.

It is also open to a service provider to choose whether or not to index the capital base for the purpose of calculating depreciation. There is no requirement that the projected capital base for a particular period include an adjustment for inflation.[81] Moreover the NGR explicitly allows for the provision of financial information either on a nominal basis, a real basis or "some other recognised basis for dealing with the effects of inflation".[82]

6.2 The ERA's Draft Decision

In the Draft Decision, the ERA assessed GGT's proposed depreciation schedule under Rule 89 and under the NGO and RPP.

78 NGR, rule 89(3).

79 NGR, rule 40(2).

80 *Application by APA GasNet Australia (Operations) Pty Limited (No 2)* [2013] ACompT 8, [175].

81 NGR, rule 78.

82 NGR, rule 73.

In respect of Rule 89, the ERA concludes that the HCA depreciation approach adopted by GGT meets the requirements of criteria (b) to (e) in rule 89,[83] but does not meet the requirements of criterion (a). In that respect, the ERA generalises that: "HCA depreciation, by dragging forward depreciation, distorts tariffs through time, thereby introducing the clear risk of inefficient growth in the market for reference services".[84] The ERA's reasoning in respect of criterion (a) fails to have regard to the economic circumstances of the covered pipeline and is based on generalised principles that are not applicable in all cases. The ERA's reasoning in respect of rule 89(1)(a) is discussed below.

The ERA also concludes that: "…it must evaluate the depreciation method in terms of its ability to contribute to the achievement of the NGO and the Revenue and Pricing Principles".[85] The ERA then proceeds to assess the HCA method on the basis that the NGO and RPP are "applicable criteria" within the meaning of rule 40(2) of the NGR. The ERA concludes that the HCA method is not compliant with the NGO and RPP.[86]

The ERA's reasoning in respect of the NGO and the RPP involves error. The ERA is wrong to apply the NGO and the RPP as if they were applicable criteria governing the depreciation schedule. The NGO and the RPP are relevant to the ERA's decision making, but they do not supplant the express criteria in rule 89 and cannot be applied in a manner that conflicts with the permissive structure of Rule 89. Under section 28 of the NGL, the ERA must exercise its limited discretion in respect of the depreciation schedule under rule 89 in a manner that is likely to contribute to the achievement of the NGO. However this requires the ERA to apply the criteria in rule 89; not supplant that criteria with the overarching objective stated in the NGO in a manner that renders rule 89 redundant. Similarly, under section 28, the ERA must take account of the RPP in exercising its limited discretion. Again, the ERA cannot use the RPP to override rule 89.

The distinction described in the preceding paragraph is important. If the NGO and the RPP are applied by the ERA as "overarching" criteria, it is inevitable that the ERA will fail to exercise a limited discretion but will instead exercise a full discretion. For the reasons explained below, the ERA has made this error in its assessment of GGT's depreciation schedule.

6.3 Assessment of HCA approach against the rule 89(1)(a) criteria

6.3.1 GGT proposes to apply a consistent depreciation methodology

As acknowledged in the Draft Decision, GGT's proposed approach to depreciation is the same as in previous access arrangement periods.

83 Draft Decision, paragraph 1211.

84 Draft Decision, paragraph 1222.

85 Draft Decision, paragraph 1208.

86 Draft Decision, paragraph 1227.

In previous access arrangement reviews, the ERA concluded that GGT's HCA approach was consistent with the equivalent criteria in the Gas Code.[87]

The equivalent criterion in the Gas Code was that the depreciation schedule should be designed:[88]

…so as to result in the Reference Tariff changing over time in a manner that is consistent with the efficient growth of the market for the Services (and which may involve a substantial portion of the depreciation taking place in future periods, particularly where the calculation of the Reference Tariffs has assumed significant market growth and the Pipeline has been sized accordingly).

This criterion was very similar to the current criterion (a). The main difference was that the clarifying words that now appear in rule 89(2) were incorporated in parentheses.

In the Draft Decision, the ERA identifies two differences between the former Gas Code and the NGR in respect of the depreciation criteria:[89]

- the NGR goes further in explicitly allowing for deferral of a substantial proportion of depreciation where the market is immature and there is scope for significant uptake of unutilised capacity (a consideration which the ERA says does not bear on the choice of depreciation method in this case[90]); and
- the NGR provides that the decision on the depreciation schedule is subject to limited discretion.

However in this case, neither of these differences bears on the substantive question of compliance with the "efficient growth" criterion.

The ERA also observes that in this case there are additional requirements, principles and objectives in the NGL. Whilst this is true, these are additional to the NGR criteria and do not fundamentally change the character of those criteria that have been inherited from the former Gas Code.

6.3.2 GGT's proposed approach is consistent with rule 89(1)(a)

Rule 89(1)(a) states that the depreciation schedule should be designed so that reference tariffs will vary, over time, in a way that promotes efficient growth in the market for reference services. The relevant issue under rule 89(1)(a) is the variation

87 This is noted by the ERA in its draft decision on GGT's proposed revisions for the 2010-2014 period (ERA, *Draft Decision on GGT's Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline submitted by Goldfields Gas Transmission Pty Ltd*, 9 October 2009, paragraph 367).

88 Gas Code, clause 8.33(a).

89 Draft Decision, paragraphs 1205-1206.

90 Draft Decision, paragraph 1225.

in tariffs that results from the proposed depreciation approach, and whether the resulting tariff path promotes efficient growth in the market for reference services.

Under GGT's proposed depreciation schedule, there will be very little variation in the amount of depreciation to be recovered through reference tariffs as between the current access arrangement period and the next, and over the course of the next access arrangement. In other words, GGT's proposed adoption of the HCA depreciation method for the next access arrangement period, in and of itself, will cause very little variation in reference tariffs. This is because GGT proposes to simply continue with the depreciation method adopted in previous access arrangement periods.

By contrast, switching to a CCA method would lead to a very significant reduction in the amount of depreciation to be recovered through reference tariffs as between the current access arrangement period and the next. As noted by the ERA, switching from the HCA method to the CCA method would result in a significant reduction in revenue and reference tariffs. [91]

Over the longer term, if an HCA approach to depreciation were maintained, the amount of depreciation to be recovered through reference tariffs would remain essentially flat in nominal terms, and would gradually decline in real terms. Under the ERA's proposed approach, the depreciation allowance would lead to an increase in the amount of depreciation to be recovered through reference tariffs over time in real terms, after the immediate sharp decline. This is shown in Figure 4 below.

[91] Draft Decision, paragraph 1266.

Figure 4: Real depreciation allowance under ERA and GGT approaches[92]

The effect on reference tariffs is similar. Holding all other elements of GGT's proposal constant (i.e. as originally proposed by GGT), changing the depreciation approach from HCA to CCA leads to a significant change in the profile of reference tariffs. Changing to the CCA approach leads to a significant reduction in the reference tariff at the commencement of the next access arrangement period, and higher reference tariffs in later access arrangement periods (from around 2030 onwards). This is shown in Figure 5 below.

92 For the purposes of this and the next chart, it is assumed that the change in depreciation approach occurs in 2015. However, if the ERA maintains it position on this issue in the final decision, the change will not occur until the commencement of the next access arrangement period, which is currently expected to be 1 July 2016.

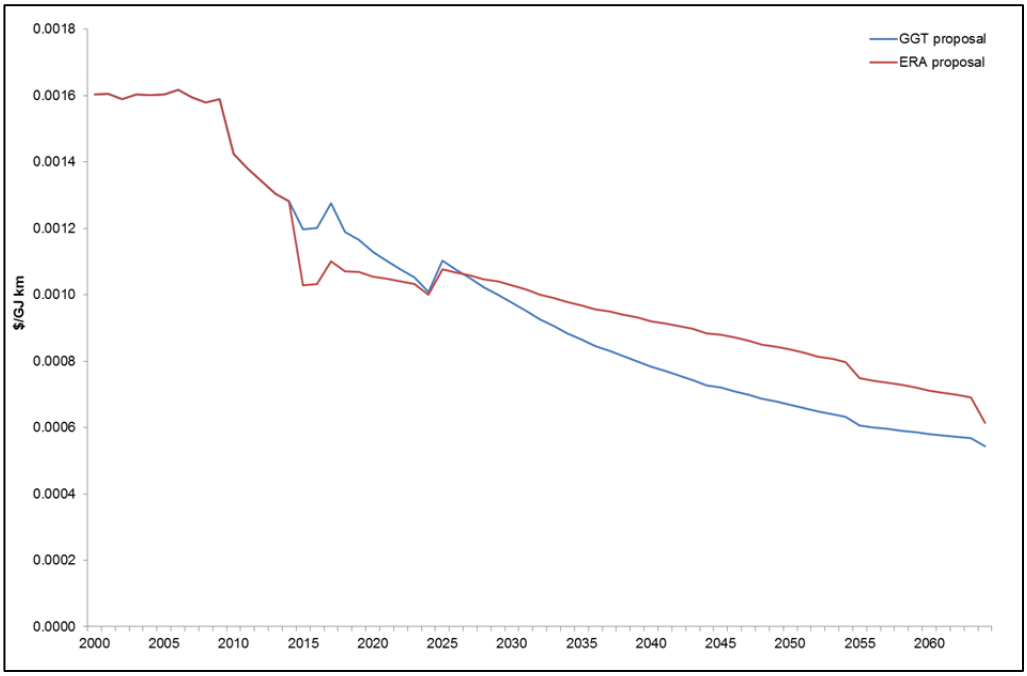


Figure 5: Indicative path of reference tariffs under ERA and GGT approaches[93]

GGT submits that its proposed approach to determining the depreciation allowance promotes efficient growth in the market for reference services. This is primarily because GGT's proposed approach provides for less volatility in the price path over time.

GGT submits that a more stable path for reference tariffs will better promote efficient growth in the market for reference services over time for several reasons, including:

- a more stable path for reference tariffs will provide more reliable signals to service providers as to the genuinely sustainable level of demand for reference services, which will in turn promote investment certainty and therefore promote efficient investment by GGT in pipeline assets;

- similarly, a more stable path for reference tariffs will provide more reliable signals to GGT's customers as to the genuinely sustainable level of reference tariffs and therefore promote efficient investment in associated facilities.

In contrast, a price path which involves substantial reductions in tariffs followed by relatively higher tariffs in later years will not provide good signals to GGT as to the sustainable level of demand, or its customers (and end users) as to the sustainable

93 Since the reference tariff has three components, an indicative average tariff is shown in the above chart. The indicative reference tariff is calculated as average revenue per GJ kilometres of contracted capacity. This is calculated by dividing forecast revenue (calculated by applying the tariff components to GGT's forecasts of capacity and throughput) by the total number of GJ kilometres of contracted capacity. The average revenue is a single number which is a good indicator of the three-component tariff.

level of reference tariffs. Such a situation will operate to undermine investment certainty for both GGT and its customers.

GGT's proposed depreciation schedule will promote efficient growth in the market for reference services, having regard to the specific circumstances of the GGP. The particular circumstances of the GGP which are relevant in this context include:

- demand for services on the GGP is currently strong, and as a result, the GGP is currently operating at close to full capacity utilisation;
- it is not expected that continuation of the current HCA approach will have any impact on the demand for reference services on the GGP or utilisation of the covered pipeline in the short term, including because almost all available capacity on the covered pipeline has been contracted until at least 2019;
- it is not expected that changing the depreciation approach to reduce tariffs in the short-term would lead to higher utilisation, including because the GGP is already operating at (or close to) full utilisation; and
- the longer term demand outlook is less certain, meaning that a depreciation approach that leads to relatively higher prices in the longer term may lead to lower usage of the GGP in the longer term.

Each of these issues is addressed below.

Current demand and capacity utilisation on the GGP

Despite recent developments in downstream commodity markets, demand for services on the GGP continues to be strong, and as a result, current capacity is almost fully contracted.

Table 6 below shows forecast contracted and available capacity on the covered pipeline over the period to 2019. As can be seen, the available capacity of the covered pipeline is forecast to be fully contracted in 2018 and 2019, and nearly so in 2016 and 2017.

Table 6: Forecast contracted and available capacity (covered pipeline), TJ/day

	2016	2017	2018	2019
Contracted	101.44	98.19	102.80	102.80
Available[94]	102.50	102.50	102.50	102.50
Utilisation	99%	96%	100%	100%

In these circumstances, a depreciation approach that provides for greater stability in reference tariffs – in this case, maintaining the HCA approach – will be consistent with the promotion of efficient growth in the market for reference services.

There is no factual basis for the ERA to suggest that maintaining the HCA approach could lead to inefficient contraction (or 'negative growth') in the market.[95] If the HCA approach were maintained, there would be very little variation in the amount of depreciation to be recovered through reference tariffs as between the current access arrangement period and the next, and over the course of the next access arrangement period. As a result, the path of reference tariffs would be relatively stable if the HCA approach were to be maintained (and indeed more stable than if there were to be a switch to the CCA approach). Therefore, maintaining the current approach is unlikely to lead to a significant reduction in demand for reference services or capacity utilisation. In any event, given that almost all available capacity on the covered pipeline has been contracted until at least 2019, there is no prospect of a significant contraction in demand for reference services, or of the covered pipeline becoming materially underutilised, over the forthcoming access arrangement period.

It should be noted that current levels of demand and capacity utilisation have been reached while reference tariffs have been calculated using an HCA depreciation approach. Use of an HCA approach has not inhibited efficient growth in the market for reference services to date.

Likely impact of reducing tariffs

Changing the depreciation approach to reduce tariffs in the short-term would not lead to greater utilisation of the existing pipeline, or efficient market growth.

This is principally because, as shown above, the pipeline is currently operating at close to full utilisation. A significant reduction in reference tariffs could not promote

94 GGT considers that the physical capacity of the covered pipeline is 102.5 TJ/d at Kalgoorlie, not 109 TJ/d as assumed by the ERA in the Draft Decision. In 2015, the State promulgated the reference specification for the GGP which is required by the Gas Supply (Gas Quality Specifications) Act 2009 (WA). The ERA requires that the gas specification of the access arrangement be consistent with the reference specification, which includes a minimum higher heating value of 35.5 MJ/m3. At this heating value, the capacity of the pipeline is 102.5 TJ/d. (If the heating value were 39.0 MJ/m3, as has previously been assumed for the GGP, the capacity would be 109 TJ/d.)

95 Draft Decision, paragraph 1217.

greater utilisation, since there is almost no spare capacity to meet any growth in demand.

Further, GGT considers that it is unlikely that a significant reduction in reference tariffs would lead to a material increase in demand. GGT is not aware of any unmet customer demand at the present time that could provide for greater utilisation of the existing covered pipeline, and/or warrant its expansion, should reference tariffs be reduced.

Uncertainty around future market conditions

While the short-term demand outlook is relatively well understood, the longer-term outlook is less certain.

As the ERA correctly observes, no-one can accurately predict the long-term direction of commodity markets.[96] Consequently, there is a risk that over the longer term, demand for services on the GGP may materially decline. The ERA acknowledged this in its 2005 final decision, as set out in an extract of that decision referenced in the Draft Decision.[97]

…Given that the level of use of the pipeline is related directly or indirectly to the level of mining activity in the Pilbara and Eastern Goldfields regions and that mines have finite but uncertain lives, the Authority accepted that it is not unreasonable to presume that the economic life of the pipeline could be circumscribed by a reduction in mining activity.

In this respect, the nature of demand for reference services on the GGP is likely to be quite different to the demand for reference services over a pipeline servicing a major population centre with a diversified load base. Over the longer term, demand for reference services over the GGP is much more uncertain, since it relies on the ongoing viability of the mining operations that it serves. Indeed, it would be reasonable to assume that the longer term demand outlook for reference services on the GGP would be weaker than the short term outlook, since the most economically attractive mining projects would already be developed and in operation, while any later projects (yet to be developed) are likely to be of less economic value and may never actually cross the threshold of being economic to develop.

In these circumstances, an approach that recovers relatively more depreciation now and provides for a gradual reduction in the real depreciation allowance over time is more likely to promote efficient growth in the market for reference services. Such an approach:

- will not damage prospects for market growth (and will not induce 'negative growth') in the short-term, given what is known about the short-term demand

[96] Draft Decision, paragraph 1255.

[97] Draft Decision, paragraph 1202.

outlook and the proposed level of reference tariffs over the forthcoming access arrangement period; and

- provides greater scope to reduce tariffs in future periods, should this be necessary in order to stimulate growth in the market (or guard against 'negative growth').

On the other hand, an approach that effectively defers more depreciation and leads to a substantial short-term reduction in reference tariffs is unlikely to promote efficient growth in the market for reference services. Such an approach potentially creates a risk of 'negative growth' over the long-term, since it reduces scope to lower reference tariffs in future periods, should the demand outlook change.

Deferral of more depreciation may also limit scope for future changes in asset lives, should this be necessary to reflect future changes in market conditions affecting the useful life of pipeline assets. If more depreciation is deferred to future periods, then any shortening of asset lives in future will have a more significant effect on reference tariffs. Therefore, such an approach may not allow for appropriate future adjustments to reflect changes in the expected economic life of a particular asset, or a particular group of assets.[98]

The accompanying expert report of HoustonKemp concludes that GGT's proposed depreciation approach does comply with the rule 89(1)(a) criteria, including for the above reasons.[99] HoustonKemp states that, given limited scope for either expansion or contraction of the market for reference services over the short to medium term, the choice of depreciation approach is unlikely to materially impact on growth in the market over that timeframe. However HoustonKemp considers that the HCA approach is likely to better promote efficient growth in the market for reference services over the longer term, given that this approach would reduce the risk of inefficient market contraction in later access arrangement periods, if and when spare capacity becomes available. HoustonKemp considers that the application of straight line depreciation in the next access arrangement period will give rise to reference tariffs that vary, over time, in a manner that assists GGT in avoiding and responding to any future inefficient contraction in the market for reference services.

6.4 The ERA's concerns in relation to GGT's proposed approach

The ERA's key concern with the HCA depreciation approach is that, by "dragging forward depreciation", the HCA approach distorts tariffs through time, thereby introducing the clear risk of inefficient growth in the market for reference services.[100]

This conclusion is based on comparison of expected depreciation profiles under the HCA and CCA approaches, assuming that the same approach is maintained over the

98 NGR, rule 89(1)(c).

99 HoustonKemp, *Review of ERA's draft decision on depreciation*, January 2016, section 3.

100 Draft Decision, paragraph 1222.

entire life of the relevant assets. The ERA's analysis indicates that, relative to the CCA approach, the HCA approach involves recovery of more depreciation earlier in the asset's life and less depreciation later. The ERA considers that the requirements of rule 89(1)(a) support apportioning capital costs equally across all users, current and future, in real terms.[101] The ERA considers that, on this basis, CCA depreciation is preferable to HCA depreciation.

It should be noted at the outset that neither the CCA approach nor the HCA approach result in capital costs being apportioned equally across all users, current and future, in real terms. As shown in Figure 28 of the Draft Decision, under both approaches more capital costs are borne by users in earlier years of the asset's life. Moreover, neither the ERA's proposed approach nor GGT's proposed approach results in depreciation being apportioned equally across all users, current and future, in real terms – Figure 27 of the Draft Decision shows that the regulatory depreciation allowance is gradually declining in real terms under GGT's proposed approach (represented by the green line in Figure 27) and increasing under the ERA's proposed approach (represented by the red line in Figure 27)[102].

The ERA's proposed approach in fact results in deferral of depreciation to later access arrangement periods, as can be seen from Figure 27 of the Draft Decision. Rule 89(2) of the NGR contemplates that a deferral of depreciation may comply with criterion (a) in rule 89(1) in certain circumstances, such as where the market for pipeline services is relatively immature, reference tariffs have been calculated on the assumption of significant market growth, and the pipeline has been designed so as to accommodate future growth in demand. However, as noted by the ERA, these circumstances do not exist in this case,[103] and therefore a deferral of depreciation cannot be justified under rule 89(2) of the NGR.

In any event, GGT considers that it is not necessary for capital costs to be apportioned equally across all users (in real terms) in order for the rule 89(1)(a) criterion to be satisfied. If this were the case, there would be very few depreciation approaches that would comply with the rule 89(1)(a). Indeed, if the rule 89(1)(a) required such an approach, the types of depreciation approaches contemplated by rule 89(2) of the NGR could never be implemented, since the deferral of a substantial amount of depreciation (as contemplated by that rule) necessarily involves a more depreciation being recovered from users in later years of an asset's life. The ERA's proposed approach would also not comply with this principle, since it involves the regulatory depreciation allowance increasing over time, in real terms.

HoustonKemp state that they are not aware of any economic principle that supports the contention that, generally, a 'more even' allocation of capital costs is more likely to promote efficient market growth, over time.[104]

---

101 Draft Decision, paragraph 1222.

102 The approach proposed by the ERA is as represented by the red line in Figure 27 – i.e. a CCA approach, with an adjustment for double counting of inflation. It would be incorrect to suggest that the ERA's proposal is as represented by the blue / yellow line in Figure 27 – i.e. a CCA approach, without any adjustment for double counting of inflation.

103 Draft Decision, paragraph 1225.

104 HoustonKemp, *Review of ERA's draft decision on depreciation*, January 2016, p16.

What is required under rule 89(1)(a) is that the depreciation schedule be designed so that reference tariffs vary, over time, in a way that promotes efficient growth in the market for reference services. This criterion refers specifically to "the market for reference services", the characteristics of which may be different in each case. It cannot be said that there is only one depreciation approach that will satisfy this criterion in all cases. The appropriate depreciation approach will depend on the circumstances of the relevant market, including whether there is significant excess capacity and scope for future growth in the market.

The ERA appears to be of the view that the CCA approach will always satisfy the rule 89(1)(a) criterion, while the HCA approach cannot satisfy that criterion, because the CCA approach, if applied over the full life of an asset, provides for a more equal apportionment of depreciation over its life in real terms (even though, as noted above, neither the ERA's approach nor GGT's provides for equal apportionment in real terms). Such an approach misapplies rule 89(1)(a). Rule 89(1)(a) requires consideration of the characteristics of the market for reference services, and the adoption of a depreciation schedule that allows reference tariffs to vary in a way that promotes efficient growth in that market.

Finally, the ERA's analysis of the relative merits of the HCA and CCA approaches does not take into account the fact that GGP has been under HCA depreciation for the past two access arrangement periods. The ERA's conclusion that CCA provides for more equal sharing of depreciation costs over time is based on the assumption that it is adopted over the full life of the relevant assets. However in the present case, HCA depreciation has been adopted for the past two access arrangement periods, and the ERA is now proposing to switch to the CCA method. As a consequence, under the ERA's proposed approach the apportionment of depreciation over time will be far from equal – there will be a very significant reduction in the depreciation allowance at the commencement of the next access arrangement period, followed by an increase in the regulatory depreciation allowance over time, in real terms. By contrast, under GGT's approach the depreciation allowance will be far more stable (albeit moderately declining) over time.

This is shown by way of example in Figure 6 below. The example shows the effect of the two alternative approaches on the path of real depreciation over time for an asset with an initial value of $100 and a 40 year life, where the depreciation approach is changed a quarter of the way through its life.[105] Far from providing for equal apportionment of depreciation, the ERA's approach results in a very uneven sharing of depreciation costs – in this example, users in the period immediately following the change in approach bear depreciation costs that are approximately a quarter of those borne by users in the immediately preceding period (and approximately a quarter of those borne by users at the end of the asset's life). This is consistent with the expected actual impact on reference tariffs of switching to the CCA method, as shown in Figure 5 above.

[105] For the purposes of this example, the rate of annual inflation is assumed to be 2.5% over the entire asset life.

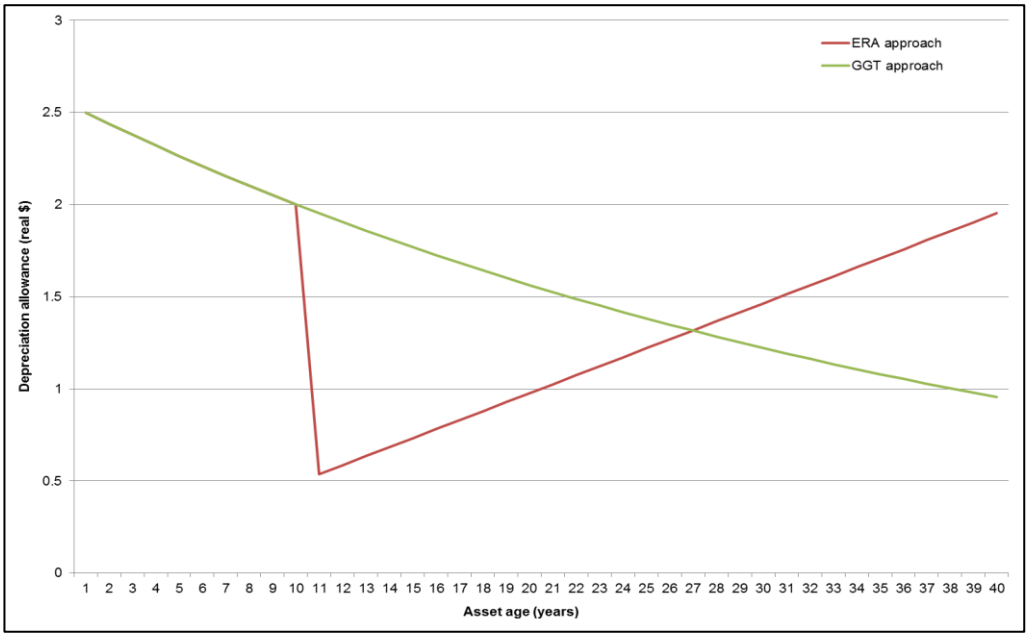


Figure 6: Comparison of ERA and GGT approaches (real depreciation allowance)

6.5 Application of the NGO and RPP

The ERA concludes that the HCA depreciation method does not meet the requirements of the NGO, or the second of the RPP.[106]

For the reasons explained earlier, the ERA's application of the NGO and the RPP to its assessment of GGT's depreciation schedule involves error. The ERA has wrongly exercised its discretion on the basis that the NGO and the RPP are "applicable criteria" governing the form of the depreciation schedule (in other words, as if the language of the NGO and the RPP were expressly included as criteria in rule 89).

The NGO and RPP are objectives and principles that guide the ERA's discretion, where it has such discretion.[107] The "applicable criteria" in respect of depreciation are those specified in Division 6 of Part 9 of the NGR.

However, for completeness, in this section we address the ERA's concerns that the HCA depreciation method may not meet the "requirements" of the NGO and RPP.

106 Draft Decision, paragraph 1261.

107 NGL, s 28.

6.5.1 Compliance with the NGO

The ERA considers that the HCA approach is not consistent with the NGO, for the following reasons:[108]

- HCA accelerates depreciation markedly;
- HCA therefore leads to highly significant real depreciation subsidies from current consumers to future consumers;
- HCA may result in unnecessarily high prices in the short to medium term – these could discourage gas usage and upstream and downstream investment; and
- HCA depreciation schedules provide for price paths that encourage inefficient utilisation of assets, that is, under or over utilisation of the asset at different times in its life cycle.

Each of these concerns is addressed below.

Time profile of depreciation and the NGO

The ERA expresses three related concerns:

- that HCA involves earlier recovery of depreciation, relative to CCA;
- HCA therefore implies a "subsidy" from current consumers to future consumers;
- HCA may result in unnecessarily high prices in the short to medium term, and this could discourage gas usage and upstream and downstream investment.

Each of these concerns relate to the time profile of depreciation. It is not suggested by the ERA (and cannot be suggested) that the HCA approach results in GGT over-recovering its costs, or consumers paying too much, over the long term. Rather, the ERA's concerns relate to how much depreciation should be recovered from "current consumers", versus "future consumers".

The NGO does not require that the burden of capital cost recovery be shared equally among current and future consumers, in real terms. If that were the case, there would be very few depreciation approaches that would comply with the NGO (and, as noted above, the ERA's approach would also be non-compliant in that case). Indeed, if the NGO required such an approach, the types of depreciation approaches contemplated by rule 89(2) of the NGR could never be implemented, since the deferral of a substantial amount of depreciation (as contemplated by that rule) necessarily involves a "real depreciation subsidy" from future consumers to current consumers.

[108] Draft Decision, paragraph 1245.

The NGO is an objective, not a requirement for depreciation schedules to comply with. The NGO is to promote efficient investment in, and efficient operation and use of, natural gas services for the long-term interests of consumers.[109] Achieving that objective may well involve a depreciation profile that is uneven in real terms. In other words, achievement of the NGO may involve recovering more depreciation earlier (or later) in an asset's life, if that would promote efficient investment in, and efficient operation and use of, natural gas services. This is reflected in the NGR, which allow the service provider to choose its depreciation approach, subject to compliance with the rule 89(1) criteria. As noted above, the NGR expressly contemplate that compliance with the rule 89(1) criteria may lead to a depreciation profile that is uneven in real terms – i.e. the NGR contemplate that deferral of a substantial amount of depreciation may be necessary to promote efficient use of natural gas services in some cases, particularly where there is some prospect of future market growth.[110]

HoustonKemp state that there is no economic foundation for the ERA's conclusion that, as a matter of principle, equal treatment of current and future users promotes economic efficiency for the long term interests of consumers, as required by the NGO.[111]

GGT understands that the ERA's concern may be that, relative to a CCA approach, an HCA approach may result in higher prices in the short to medium term, and that this may lead to lower usage of the GGP in the short to medium term (i.e. lower usage than is efficient).

Of course, a similar concern could be expressed in relation to the CCA approach. It could equally be said that, relative to an HCA approach, a CCA approach may result in higher prices in the longer term, and that this may lead to lower usage of the GGP in the longer term.

All the ERA appears to be saying is that it would prefer lower prices now and higher prices later, rather than the reverse, or that it presumes that such an outcome would better promote efficient growth in the market for reference services. However as a matter of economics, no such presumption can be made. The impact of a particular tariff profile on efficiency will depend on the maturity of the market, existing capacity constraints and likely future demand.

Such an approach could only be justified by reference to the NGO if there was considered to be a much greater risk to efficient usage from higher prices now than in the future. In other words:

- there must be an imperative to reduce prices now in order to spur efficient use natural gas services; and
- it must be expected that this need to keep prices low will recede over the longer term, such that relatively higher prices can be allowed in later periods.

109 NGL, s 23.

110 NGR, rule 89(2).

111 HoustonKemp, Review of ERA's draft decision on depreciation, January 2016, p19.

GGT considers that neither of these conditions holds in the present case. On the contrary, as explained above:

- the market is currently mature, and demand for services on the GGP is strong;
- it is not expected that continuation of the current HCA approach will materially reduce demand for services on the GGP or utilisation of the pipeline in the short term, including because continuation of the HCA approach will provide for a more stable tariff path, and because almost all available capacity on the covered pipeline has been contracted until at least 2019 in any event;
- it is not expected that changing the depreciation approach to reduce tariffs in the short-term would lead to greater usage, including because the GGP is current operating at (or close to) full utilisation; and
- the longer term demand outlook is less certain, meaning that a depreciation approach that leads to relatively higher prices in the longer term may lead to lower usage of the GGP in the longer term.

Therefore, it cannot be said that continuation of the current HCA approach would be non-compliant with the NGO.

As discussed below, in terms of ensuring that GGT has a reasonable opportunity to recover the efficient cost of its investments in the GGP, a depreciation approach that provides for relatively more capital costs to be recovered in the short term (i.e. the HCA approach) ought to be preferred. Therefore, such an approach is likely to better promote efficient investment, consistent with the NGO.

Inefficient asset utilisation and management

The ERA appears to suggest in its Draft Decision that by providing for a lower depreciated value of the RAB in future, the HCA approach could create incentives for replacement of assets sooner than may otherwise be the case. It is suggested that GGT may dispose of assets or ignore maintenance near the end of an asset's life, and instead opt for early replacement of the asset.

GGT submits that the rate at which the existing RAB is depreciated will have no impact on incentives to undertake future capital expenditure.

GGT's decision between replacing an asset or continuing to maintain it will be based on the trade-off between ongoing maintenance costs and the cost of asset replacement, in addition to asset reliability and safety considerations (i.e. an asset will need to be replaced if it can no longer be operated safely and reliably). GGT will replace assets as the need arises, and provided that a reasonable return on its investment is provided for by the regulatory framework. The remaining RAB value of existing assets will not factor into this decision.

In any event, future capital management and replacement programs will be subject to oversight and approval by the ERA. To the extent that the ERA considers that any proposed asset replacement program is not consistent with efficient asset management practices, the ERA may choose not to approve all or part of it (in which case GGT would not be allowed a return on this investment through tariffs).

6.5.2 Compliance with the RPP

The ERA considers that the HCA approach does not comply with the second of the RPP.[112] The ERA does not appear to consider there to be any issue of non-compliance with the other RPP.

The second RPP is that:[113]

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.

It is difficult to understand how the HCA approach (but not the CCA approach) could be non-compliant with this principle. The HCA approach and the CCA approach are identical in terms of the amount of capital cost they allow GGT to recover over the life of the relevant assets, in NPV terms. If the CCA approach is compliant with this principle (as the ERA says it is[114]) then the HCA approach must also be compliant.

The HCA approach, if applied consistently over the life of the relevant assets, will provide GGT with a reasonable opportunity to recover the efficient cost of its investments in the GGP. Therefore the HCA approach does comply with the second RPP.

The HCA approach is in fact more likely to comply with the second RPP than the CCA approach, since it provides for earlier recovery of efficiently incurred investment costs. To the extent that there is any risk that capital costs may be unrecoverable in future periods (e.g. if there is a significant downturn in demand) a depreciation approach that defers more capital cost recovery to future periods may not comply with this principle. If capital cost recovery is deferred to periods in which there may not be sufficient demand to support that recovery, then the service provider may not have reasonable opportunity to recover the efficient cost of its investments.

---

112 Draft Decision, paragraph 1261.

113 NGL, s 24(2).

114 Draft Decision, paragraph 1262. The ERA considers that the CCA approach complies with all of the RPP, as well as other relevant requirements of the NGL.

The ERA correctly observes that:[115]

…no-one can foretell whether natural resource prices will increase, continue to decrease, or stabilise over the longer term future, which is commensurate with the life of the pipeline.

That is precisely the reason why, in order to ensure compliance with the second RPP, one would prefer a depreciation approach that provides for earlier recovery of capital costs. It is known that in the short-term, conditions in commodity markets are such that there will be sufficient demand for pipeline services to support recovery a substantial proportion of the remaining value of the RAB. However it is not known whether such conditions will persist in future. Therefore, in terms of ensuring that GGT has a reasonable opportunity to recover the efficient cost of its investments in the GGP, a depreciation approach that provides for relatively more capital costs to be recovered in the short term ought to be preferred. In other words, the second RPP must favour the HCA approach over the CCA approach.

Finally, the ERA notes some concern in respect of the third RPP, although the Draft Decision does not state a conclusion that the GGT proposal does not meet the requirements of this RPP. The ERA merely expresses some concern in respect of the third RPP, for the same reasons that it expresses concern in relation to the rule 89(1)(a) criterion.[116] For reasons set out above, GGT considers that its proposal to maintain the HCA approach complies with the rule 89(1)(a) criterion. For the same reasons, GGT considers that its proposal is entirely consistent with the third of the RPP.

6.6 Removal of the over-depreciation adjustment

The use of an over-depreciation adjustment to correct the capital base at the conclusion of an access arrangement period during which a service provider's actual capital expenditure is less than the forecast made at the commencement of that period was introduced by the ERA in its earlier regulatory decisions.

GGT accepts the removal of the adjustment from the capital base roll forward and from the calculation of total revenue for the period 2015-2019.

6.7 Escalation of the opening capital base

GGT has not adopted the Current Cost Accounting method of depreciation for the reasons set out in this section 6. Adjustment of the capital base for inflation, for the purpose of determining current cost accounting depreciation is not required.

115 Draft Decision, paragraph 1255.

116 Draft Decision, paragraph 1258.

7 Cost of tax and value of imputation credits

The total revenue from which a revised reference tariff is to be determined is to include, as one of its "building blocks", the estimated cost of corporate income tax.[117]

In this section of this submission, GGT addresses the requirements of the Draft Decision which pertain to the cost of tax, and addresses the related issue of the value the imputation credits which, notionally, would be available to equity investors as a result of tax paid by the benchmark efficient entity.

7.1 Cost of tax

Required amendment 12

The Authority requires GGT to update the calculation of the estimated cost of corporate income tax (net of imputation credits) as per Table 72.

The Authority requires that GGT:

- Base its taxable income calculation on the smoothed tariff revenue rather than on the building block revenue.
- Update the rolled forward TAB to ensure that it includes commissioned assets only.
- Update its cost of debt financing to $61.055 million, operating expenditure to $112.204 million and the value of gamma to 0.4.

GGT has updated the estimate of the cost of corporate income tax used in the calculation of the total revenue for the GGP.

GGT has calculated the estimate of the taxable income that would have been earned by a benchmark efficient entity providing the GGP reference service using the smoothed tariff revenue rather than the (building block) total revenue.

GGT agrees that the tax asset base should be constructed in such a way that it includes commissioned assets only. GGT is, however, of the view that a substantial part of the pipeline should be considered, for the purpose of calculating the cost of tax, as having been commissioned at the end of the third quarter of 1996, and not at the end of the fourth quarter, as appears to be the case in the ERA's tariff model. Commercial operation of the pipeline, and the earning of taxable income, commenced in October 1996.

GGT has updated the estimates of the cost of debt financing and operating expenditure used in the calculation of the estimate of taxable income. However, the updated estimates are not those of Required amendment 12 for the reasons set out in this submission.

GGT addresses the value of gamma in the following section of the submission.

[117] NGR, rule 76.

7.2 Value of imputation credits

Required Amendment 10
GGT is required to adopt a gamma of 0.4.

GGT does not accept this Required Amendment, demonstrating below that the correct value for Gamma is 0.25.

Rule 87A(1) requires that the cost of corporate income tax be estimated for each year of an access arrangement period using the formula:

$$ETC_t = ETI_t \times r_t \times (1 - \gamma)$$

where ETC_t is the estimated cost of income tax in year t; ETI_t is an estimate of the taxable income for regulatory year t 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; and r_t is the expected statutory income tax rate in year t.

Rule 87A(1) defines γ (gamma) as "the value of imputation credits".

The ERA estimates gamma as the product of two parameters. These are:

(a) the distribution rate (F) – the proportion of imputation credits generated that is distributed to investors; and

(b) the utilisation rate (theta) – the value, per dollar, to investors of imputation credits distributed.[118]

The key challenge in estimating gamma is, the Draft Decision advises, estimation of theta.[119]

7.2.1 Estimating theta

Paragraph 1063 of the Draft Decision explains that the ERA's previous approach, which used the results from dividend drop off studies, may not correctly estimate theta. The reasons for this are:

(a) the utilisation rate is a complex weighted average determined by the value of equity that investors hold, and their relative wealth and risk aversions;

(b) dividend drop off studies focus on returns in short periods around the issue of dividends, so that the estimates of theta which they produce reflect the

[118] Draft Decision, paragraph 1038.

[119] Draft Decision, paragraph 1059.

composition of shareholders during those short periods and not across entire years; and

(c) a number of econometric problems arise in estimating theta using dividend drop off studies.

For these reasons, the ERA has decided to place limited weight on the results of dividend drop off studies, and on market value estimates of theta more generally.[120]

The key data for estimation of theta are, the Draft Decision advises, equity ownership statistics, and tax statistics on the utilisation of imputation credits.[121]

7.2.2 Estimating the distribution rate

The widely accepted approach to estimating the distribution rate uses statistics published by the Australian Taxation Office. The Draft Decision advises that an estimate of 0.7, made using those statistics, has been supported by a range of evidence and submissions.[122] It is the estimate proposed in the ERA's Rate of Return Guidelines.

Since the Rate of Return Guidelines were made and published, the ERA has re-examined the estimation of gamma. The ERA now concludes that the estimate of the distribution rate of 0.7 made from Australian Taxation Office statistics is an estimate for all – both listed and unlisted – equity.[123]

Taxation statistics can also be used to make an estimate of the distribution rate for listed equity only. The Draft Decision advises that Associate Professor John Handley has made such an estimate, and that the ERA will rely on this estimate – 0.8 – where use of an estimate for listed equity only is required.[124]

7.2.3 Estimating gamma

In the Draft Decision, the ERA considers three methods of estimating gamma which differ in the way in which theta is estimated. These are:

(a) the equity share ownership method;

(b) the taxation statistics method; and

(c) dividend drop off studies.

120 Draft Decision, paragraph 1064.
121 Draft Decision, paragraph 1091.
122 Draft Decision, paragraph 1153.
123 Draft Decision, paragraphs 1157, 1164.
124 Draft Decision, paragraph 1162.

Dividend drop off studies, the Draft Decision advises, indicate that gamma is in the range 0.3 and 0.5. However, only limited weight is given to this range in view of the ERA's concerns about those studies not correctly estimating theta.[125]

The taxation statistics method indicates an estimate of gamma of 0.3, but the ERA is concerned about the robustness of the data and does not place much weight on the result.

The equity share ownership method provides a gamma estimate of 0.4. The ERA places most reliance on this method.[126]

The ERA concludes that the evidence supports a point estimate of the value of imputation credits of 0.4.

In placing most reliance on the equity share ownership method, the ERA is in error. This method cannot lead to an estimate of gamma which is a measure of the value of imputation credits required by rule 87A(1). Equity ownership rates do no more than indicate the maximum proportion of equity investors who may be eligible to redeem imputation credits and who may place some value on those credits.

"Value" is a term which ordinarily has a wide meaning. However, in the context of the regulatory regime of the NGR, it should be given its narrow technical economic meaning.

This is clear from the reasoning of the Western Australian Supreme Court in *Re Dr Ken Michael*. Although the Court, in that case, was considering the National Third Party Access Code for Natural Gas Pipeline Systems, its reasoning is equally applicable to the successor regime of NGR. After examining the structure of the Code, Parker J. concluded:

This persuasively indicates, in my view, that the concepts and objectives of the legislation have their basis in the particular field of the discipline of economists to which I have referred. The purpose of the legislation is to guide and regulate the affairs of a quite narrow and specialised section of the community versed in economic theories of infrastructure regulation and the practical application of those theories. To the extent, therefore, that words or phrases used in the Act and Code reflected, at the relevant time, generally established and accepted concepts in this specialised field of economics, albeit not necessarily universally held or expressed with precise uniformity, there is strong reason to favour the view that the words were intended to refer to such generally established and accepted economic concepts.[127]

Economists have debated the meaning of the term value for well over 200 years. By 1900, metaphysical notions of value had been abandoned in favour of the modern –

125 Draft Decision, paragraphs 1174, 1178.

126 Draft Decision, paragraph 1176.

127 Re Dr Ken Michael AM; Ex Parte Epic Energy (WA) Nominees Pty Ltd & Anor [2002] WASCA 231, paragraph 119.

economic – meaning of the term deriving from the conditions of exchange.[128] In the field of economics, value refers to market value.

The value to be assigned to imputation credits should, then, be their market value.

Rule 87(4)(b) of the NGR requires that the rate of return be determined on a nominal vanilla basis that is consistent with the estimate of the value of imputation credits in rule 87A. The Officer framework provides a means for the consistent estimation of gamma: it provides a consistent framework for determining the rate of return for a business, which takes into account the value that investors receive from imputation credits. An important implication of this is that gamma is not a standalone concept or parameter. It is part of a broader framework, and should be interpreted and estimated accordingly.[129]

That broader framework assigns a market value to equity. In considering the extent to which equity investors are compensated via the tax system, and do not need to be compensated through the return on equity component of the allowed rate of return, consistency then requires that the extent of that compensation via the tax system be measured by reference to its market value, and not by what are no more than indicators of that value. The approach to estimating theta set out in the Draft Decision is incorrect. It assigns significant weight to an indicator of the market value of imputation credits, and effectively assigns no weight to direct estimates of the market value of those credits.

Consistent with the value of imputation credits meaning the market value of those credits, the ERA should have placed significant reliance on the results from dividend drop off studies, and limited reliance on the equity ownership and taxation statistics methods. Dividend drop off studies provide direct estimates of the market value of imputation credits. Equity ownership statistics, and tax statistics, provide no more than wide bounds on estimates of the market value of the credits which can, and should, be made by other means.

The definitive estimate of theta – the market value of distributed credits – remains the estimate made by SFG in 2011, using a dividend drop-off study. This estimate, 0.35, was accepted by the Australian Competition Tribunal in *Energex Limited (No.5)*. Professor Stephen Gray, author of SFG's 2011 report, has continued to update the work which led to the 2011 estimate, and has recently advised that 0.35 continues to be a conservative estimate of the market value of distributed imputation credits.[130]

GGT acknowledges the issue arising in the dividend drop off studies carried out by Professor Gray that joint estimation of theta and the value to investors of $1 of dividends may be interpreted as the value to investors of $1 of dividends being less

128 See Mark Blaug (1997), *Economic Theory in Retrospect*, fifth edition, Cambridge: Cambridge University Press; and Joseph A Schumpeter (1954), *History of Economic Analysis*, Unwin: London.

129 The ERA acknowledges this in paragraph 1180 of the Draft Decision:
The Authority considers that the resulting estimate of 0.4 is consistent with its approach used elsewhere in this Draft decision, and in particular the use of the value of imputation credits within the building block framework.

130 See, for example, AER, *Draft Decision Amadeus Gas Pipeline Access Arrangement 2016-2021*, Attachment 4, page 4-32.

than $1.[131] However, it is not clear that the "solution" proposed – division of the estimate of theta from a given study by investors' estimated valuation of dividends from the same study – does, in fact, address the issue. Associate Professor Handley also proposed a specific adjustment. However, he was unable to precisely identify the factors in respect of which the adjustment was required.[132] The specific adjustment proposed by Associate Professor Handley followed earlier advice to the AER from Dr Lally. Dr Lally had suggested an adjustment after reinterpreting the regression equation from which the estimate of theta is obtained. The ERA has been quick to make an adjustment to theta on grounds which are inherently arbitrary.

GGT notes that the utilisation rate may be interpreted as a complex weighted average determined by the value of equity that investors hold, and their relative wealth and risk aversions. However, this interpretation does not address the market value of those credits, and does not inform an estimate of theta which can lead to the estimate of gamma required by rule 87A. It leads to a measure of the "face value" of imputation credits, which differs from the market value of those credits because:

(a) only some imputation credits are distributed;

(b) foreign investors cannot utilise imputation credits;

(c) the "45 day rule" precludes some Australian investors utilising imputation credits;

(d) some shareholders (for example small shareholders) may be entitled to utilise imputation credits but do not because to do so requires knowledge they may not have or the incurrence of costs which they may choose not to incur;

(e) transaction costs, portfolio effects and the time value of money result in shareholders who utilise imputation credits valuing those credits at less than "face value".

GGT understands that dividend drop off studies focus on short periods around the issue of dividends, but sees no reason why this detracts from those studies leading to providing the market estimate of theta required for estimation of the value of gamma required by rule 87A.

Notwithstanding recognised issues with the econometrics, issues which were addressed by Professor Gray in his 2011 study, the best possible estimate of theta in the circumstances is 0.35.

Were gamma to be estimated using an estimate of theta from dividend drop off studies, the estimate of gamma should, the Draft Decision advises, be made with an

131 Draft Decision, paragraphs 1130-1144.

132 John C Handley, *Report prepared for the Australian Energy Regulator: Advice on the Value of Imputation Credits*, 29 September 2014, page 43; also Draft Decision, paragraph 1142.

estimate of the distribution rate for listed equity.[133] Dividend drop off studies use prices for listed equity.

The distribution rate for listed equity only is not, however, a good proxy for the distribution rate of the benchmark efficient entity of rule 87(3). In the Australian market, the top 20 firms contribute around two thirds of the value of listed entities. These firms tend to be large multinationals businesses with significant foreign earnings. Now, although imputation credits are only created where tax is paid on Australian earnings, the credits may be distributed by franking any dividend, irrespective of whether the dividend is available from Australian earnings or foreign earnings. An entity with significant foreign profits, and corresponding foreign tax liabilities, will, in consequence, have a higher distribution rate than an entity with the same levels of dividends and imputation credits distributed, but with low or no foreign profits.

An Australian company with only domestic earnings, which distributes 70% of those earnings can only distribute 70% of the franking credits created. However, an Australian company with significant foreign earnings can distribute 70% of its overall earnings, and can also distribute significantly more than 70% of imputation credits, by attaching the credits produced by tax on Australian earnings to dividends paid on a mix of Australian and foreign earnings. The distribution rate for listed equity should, then, be higher than the distribution rate for all equity as, indeed, the ERA indicates.

But, the benchmark efficient entity is, in accordance with the ERA's definition, an entity with 100% Australian income. Such an entity cannot maintain a distribution rate above its earnings distribution rate. Therefore, the distribution rate of listed equity (with material foreign earnings) is not a good proxy for the distribution rate for the benchmark entity. The all equity rate is a better estimate of the distribution rate of the benchmark efficient entity. The ERA is, therefore, incorrect in proposing that an estimate of the distribution rate for listed equity should be used if gamma were to be estimated using an estimate of theta obtained from dividend drop off studies. The listed equity estimate of the distribution rate of 0.8 would not represent the best estimate possible in the circumstances.[134] The estimate of 0.7 for all equity is the best possible estimate in the circumstances, and should be used.

Since gamma is estimated as the product of the distribution rate and theta, the best estimate possible in the circumstances is 0.7 x 0.35 = 0.25.

133 Draft Decision, paragraph 1173, and footnote 514.

134 NGR, rule 74(2).

8 Forecast operating expenditure

In this section of this submission, GGT addresses the issue of key performance indicators raised by *Required amendment 4* of the Draft Decision before addressing the specific aspects of forecast operating expenditure which are the subject of *Required amendment 5*.

8.1 Key performance indicators

Required amendment 4

GGT must provide an operating expenditure cost per Km KPI in units of $/Km of pipeline to facilitate benchmarking with comparable firms.

GGT must provide operational expenditure linked KPIs that relate to pipeline integrity, availability and reliability as shown in its asset management plan.

Rule 72(1)(f) requires that the access arrangement information for a full access arrangement proposal include:

the key performance indicators to be used by the service provider to support expenditure to be incurred over the access arrangement period.

GGT provided, in the access arrangement information and in the Supporting Information submitted with its August 2014 revision proposal for the GGP Access Arrangement:

(a) annual operating expenditure trend for the period 2010 to 2019 at constant (December 2013) prices);

(b) trends in forecast and projected operating expenditures for 2010 to 2019;

(c) unit operating expenditure trend in $/PJ per day at constant (December 2013) prices);

(d) unit operating expenditure trend in $/PJ km per day at constant (December 2013) prices); and

(e) unit engineering and field services expenditure trend in $/PJ km per day at constant (December 2013) prices.

The indicators which used a PJ km measure were, GGT considered, particularly important. Neither costs nor revenues vary directly with contracted capacity, which GGT has measured in PJ per day. Nor do they vary directly with distance. The facilities which provide the capacity of the pipeline include both the pipe and the compression plant, but the compression plant is not uniformly located along the length of the pipeline. The single measure of the service delivery provided by the GGP is the product of capacity and distance. It is not capacity alone; nor is it distance alone.

All of the performance indicators which GGT provided showed a decline in forecast operating expenditure relative to past expenditure.

ERA technical consultant, EMCa, is quoted in the Draft Decision as stating that:

GGT's KP in units of operating expenditure/PJ per day supports its expenditure over the third access arrangement period.[135]

The first part of *Required amendment 4* requires that GGT provide an operating expenditure cost per Km KPI in units of $/Km of pipeline to facilitate benchmarking with comparable firms.

The Draft Decision provides the context for this requirement:

187. The Authority concurs with EMCa's suggestion that there are likely to be opportunities for further reductions in operating expenditure over the third access arrangement period, given the results of the benchmarking conducted by EMCa.

188. The Authority notes EMCa's conclusion that GGT has provided no link between its expenditure and KPIs and that the units provided by GGT do not facilitate benchmarking with comparable firms. Therefore, the Authority requires GGT to provide operating expenditure cost KPIs in units of $/Km of pipeline so that the Authority can compare GGT's expenditure against the operating expenditure of other transmission pipelines.

The first part of *Requirement 4* is, then, driven by a requirement to compare GGT with comparable firms.

GGT understands that the ERA is tasked with assessing operating expenditure to ensure operating expenditure is "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."[136] The construction of indicators to facilitate comparison across entities might be undertaken by the ERA, were it to find these comparisons useful.[137]

But this is not a requirement which the regime of the NGL and the NGR imposes on a service provider; it is not the purpose for which rule 72(1)(f) requires that the access arrangement information include key performance indicators.

The second part of *Required amendment 4* requires that GGT provide operational expenditure linked KPIs that relate to pipeline integrity, availability and reliability as shown in its asset management plan.

---

135 Draft Decision, paragraph 185.

136 NGR, rule 91(1).

137 They are not, in GGT's view, useful. Differences in the indicators which such comparisons produce are indicative of underlying differences in the circumstances of the entities compared as well as being indicative of the performance of entity management. The effects of these differences in circumstances cannot be separated from possible performance differences, and therefore do not allow inferences to be made about relative performance.

This requirement has been based on a suggestion from EMCa following its review of GGT's Asset Management Plan (AMP), which includes a range of operational performance measures.

EMCa has provided no indication of what these operational expenditure linked KPIs might be (the performance measures in the AMP relate to asset operations rather than expenditure), and to how they might be constructed given the fact that the AMP is for management of the GGP; it is not limited to the Covered Pipeline.

Performance indicators derived from the AMP, in the way EMCa seems to anticipate, could not support the expenditure proposal of the access arrangement. They would not be the performance indicators required by rule 72(1)(f).

Required amendment 4 seeks to impose requirements which are beyond the scope of the access regime of the NGL and the NGR.

GGT has provided key performance indicators to support its expenditure proposal as required by rule 72(1)(f).

8.2 Forecast operating expenditure

Required amendment 5

The Authority requires GGT to amend its forecast operating expenditure to the amounts in Table 14 to account for the Authority's required reductions under rules 91 and 74 of the NGR.

GGT has amended its forecast of operating expenditure for the GGP to address *Required amendment 5* of the Draft Decision.

GGT's amended forecast, at current prices (nominal), is shown in Table 7. Table 8 shows the forecast in constant (December 2013) prices (real).

Table 7: Goldfields Gas Pipeline (Covered Pipeline): Forecast operating expenditure at current prices (nominal): 2015-2019

		GGT proposed					ERA Draft Decision					Difference					GGT response				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Forecast OPEX: ERA tariff model format (current prices (nominal))																					
Operations costs: APA and GGT	$m	13.227	14.063	14.927	14.874	14.953	12.564	13.228	13.903	13.693	13.608	-0.663	-0.835	-1.024	-1.182	-1.345	13.227	14.063	14.927	14.874	14.953
Management fees: APA Operations and Commerci	$m	2.619	2.731	2.816	2.901	2.988	2.563	2.611	2.661	2.712	2.763	-0.056	-0.119	-0.155	-0.189	-0.224	2.585	2.731	2.816	2.901	2.988
Corporate costs	$m	6.391	6.583	6.781	6.984	7.194	4.399	4.483	4.568	4.655	4.743	-1.992	-2.100	-2.213	-2.329	-2.450	6.391	6.583	6.781	6.984	7.194
Regulatory costs	$m	2.301	1.275	0.859	1.330	2.297	1.800	0.964	0.732	0.979	1.869	-0.501	-0.311	-0.128	-0.351	-0.428	1.477	2.115	0.859	1.330	2.297
Insurance	$m	0.739	0.761	0.784	0.808	0.832	0.522	0.532	0.542	0.552	0.563	-0.217	-0.229	-0.242	-0.255	-0.269	0.581	0.592	0.603	0.614	0.626
	$m	**25.277**	**25.413**	**26.168**	**26.897**	**28.263**	**21.849**	**21.818**	**22.406**	**22.591**	**23.547**	**-3.429**	**-3.596**	**-3.762**	**-4.306**	**-4.717**	**24.261**	**26.083**	**25.987**	**26.704**	**28.057**

Table 8: Goldfields Gas Pipeline (Covered Pipeline): Forecast operating expenditure at constant (December 2013) prices (real): 2015-2019

		GGT proposed					ERA Draft Decision					Differences					GGT response				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Forecast OPEX: ERA tariff model format (constant prices, Dec-2013)																					
Operations costs: APA and GGT	$m	12.738	13.291	13.845	13.538	13.356	12.100	12.502	12.895	12.463	12.155	-0.639	-0.789	-0.950	-1.076	-1.201	12.738	13.291	13.845	13.538	13.356
Management fees: APA Operations and Commerci	$m	2.522	2.581	2.612	2.640	2.669	2.468	2.468	2.468	2.468	2.468	-0.054	-0.113	-0.144	-0.172	-0.200	2.490	2.581	2.612	2.640	2.669
Corporate costs	$m	6.155	6.222	6.289	6.357	6.425	4.237	4.237	4.237	4.237	4.237	-1.919	-1.985	-2.052	-2.120	-2.189	6.155	6.222	6.289	6.357	6.425
Regulatory costs	$m	2.216	1.205	0.797	1.211	2.052	1.734	0.911	0.679	0.891	1.670	-0.482	-0.294	-0.119	-0.319	-0.382	1.422	1.999	0.797	1.211	2.052
Insurance	$m	0.712	0.720	0.727	0.735	0.743	0.503	0.503	0.503	0.503	0.503	-0.209	-0.217	-0.225	-0.232	-0.240	0.559	0.559	0.559	0.559	0.559
	$m	**24.344**	**24.018**	**24.270**	**24.481**	**25.245**	**21.041**	**20.620**	**20.781**	**20.562**	**21.032**	**-3.302**	**-3.398**	**-3.489**	**-3.920**	**-4.213**	**23.365**	**24.651**	**24.102**	**24.305**	**25.061**

8.3 APA Operations

GGT notes the ERA's acceptance of its proposed APA Operations expenditure forecasts based on the following EMCa assessments:

(a) EMCa found that GGT's required Full Time Equivalent (FTE) expenditure for administration, field services and engineering is reasonable and would be incurred by a prudent service provider in accordance with rule 91(1) and rule 74(2) of the NGR; and

(b) EMCa also determined that the labour rates applied by GGT to derive forecasts APA operating expenditure are acceptable.[138]

8.4 GGT Operations

GGT acknowledges the ERA's acceptance of $16.770 million of proposed GGT Operations expenditure as satisfying rules 91 and 74 of the NGR.[139]

The Draft Decision requires adjustment of the forecast for *Projects/operations*.

Projects/operations is a forecast of expenditure for rectification of damage to the pipeline and its easement caused by cyclones. GGT's proposal provided evidence from the Bureau of Meteorology regarding the frequency and severity of cyclones in the Pilbara region, which result in heavy rains to inland regions and causes significant damage to the Covered Pipeline easement.

The ERA's technical consultant, EMCa, was of the view that GGT had not provided sufficient information to justify increased expenditure under *Projects/operations*. EMCa found that $1.200 million was a reasonable estimate of the total expenditure likely to be incurred on these activities during the third access arrangement period.[140]

EMCa's technical report, at page 65, further clarified:

GGT spent an average of $0.24m pa in AA2 and has not provided sufficient information to justify the increased provision in accordance with r.91(1). We therefore find that only $1.20m is a reasonable estimate of the total operating costs likely to be incurred on this activity during AA3 in accordance with r.91(1) and r.74(2).

. . .

We find that GGT's proposed GGT operations activities are consistent with the requirements of managing the GGP Covered Pipeline operations in accordance with good industry practice (per r.91(1)). However GGT has not justified its proposed

138 Draft Decision, paragraphs 249-251.

139 Draft Decision, paragraph 266.

140 Draft Decision, paragraph 264.

increase in expenditure on the Projects/operations activity; on this basis we consider that it is not reasonable and does not satisfy r.74(2).

GGT acknowledges that the proposed annual allowance for *Projects/operations* for AA3 of $0.320 million is higher than the average expenditure for 2010 to 2014 of $0.225 million per year. The higher amount recognises:

(a) recognises that flooding can be extensive and may cause substantial damage when it does occur (Figure below, which shows flooded sections of the easement indicate of the potential scale of the problem; and

(b) the likelihood that La Niña events, which result in higher than average rainfall and increased frequency and severity of cyclones, will characterise much of the remaining AA3 period (although GGT understands that Australia is moving out of an El Nino cycle during the period).

Figure 7: Flooding of GGP easement caused by cyclonic rainfall

8.5 APA Commercial Operations

GGT acknowledges the ERA's acceptance that $14.324 million of APA Commercial Operations expenditure proposed by GGT satisfies rules 91 and 74 of the NGR.[141]

The Draft Decision requires amendments in relation to three aspects of APA Commercial Operations expenditure:

(a) labour rates underpinning Administration, Marketing, and GGT Regulatory costs;

(b) FTE required for GGT Regulatory costs; and

(c) insurance.

[141] Draft Decision, paragraph 284.

8.5.1 Labour rates: Administration, Marketing and Regulatory

Labour rates for APA Commercial Operations were identified by EMCa as being "27 per cent higher than the equivalent APA Group rates"[142]. On the basis of EMCa's assessment, the ERA has determined to accept forecasts which reflect an adjustment of 27 per cent to the labour components of administration, marketing and GGT regulatory cost components of APA Commercial Operations expenditure.

In response to ERA Information requests, GGT advised that the labour costs for APA Commercial Operations had been developed by applying the hourly rates reflected in the Commercial Services Agreement which underpins delivery of services under this category.

On the basis that there is adequate incentive for joint venture partners to renegotiate labour rates and the mechanisms to do so are in place, GGT disagrees that the labour rates should be adjusted.

GGT further notes that the issue of the labour rates for Non Capital Costs was raised in the previous access arrangement period and the ERA accepted the labour costs based on the rates in Commercial Services Agreement:

602. The Authority notes that Users of the GGP would be in a better position than the Authority to determine the reasonableness of GGT's forecast labour costs.

However, the Authority has not received any public submissions which express concern about this particular issue (other than the general submission made by the GGP Users). The Authority has no evidence to suggest that GGT's forecasts in respect of labour costs do not meet the prudent Service Provider test or the best estimates test.

603. The Authority, taking into account all the available information, considers that GGT's forecasts in respect of labour costs satisfy the requirements of the Code.[143]

142 Draft Decision, paragraph 276.

143 ERA, *Draft Decision on GGT's Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline*, 9 October 2009, page 104.

GGT has not amended the labour rate estimates for its forecast of APA Commercial Operations expenditure.

8.5.2 Regulatory costs

The Draft Decision requires two adjustments to forecast costs for GGT regulatory activities during the next access arrangement period.

Adjustment of the labour rates was discussed above. Adjustment to FTE based on EMCa's assessment of proposed resourcing for regulatory activities is addressed in the paragraphs which follow.

Paragraph 278 of the Draft Decision states:

278. EMCa is not satisfied that GGT's proposed resourcing for its regulatory activity meets the criteria under rule 91(1) of the NGR. EMCa considers that the FTE amount for the regulatory function is too high and appears disproportionate in relation to the rest of the entities within the APA Group and recommends a reduction of $0.446 million.[144]

GGT has reviewed EMCa's report recommending this adjustment and has been unable to establish a direct link between the apparent proposed method for cutting forecast expenditure and the rationale provided by EMCa.

EMCa list a number of disjointed concerns with GGT's forecast resourcing activity, however, the recommended cuts to regulatory expenses involve unspecified and unjustified "adjustments to corporate-level resourcing of the regulatory function" to reduce the total from $5.110 million to $4.660 million.

It is unclear to GGT what the "adjustments to corporate-level resourcing of the regulatory function" specifically involve. No corporate-level activity has been taken into account in the estimates of regulatory expenditure.

GGT acknowledges that some variation in the timing of regulatory expenditure is now expected for the period 2015 to 2019 as a result of release of the Draft Decision some six to nine months later than anticipated. GGT has reflected the timing change in its amended operating expenditure forecast (see Table 7 and Table 8, columns headed "GGT response").

8.5.3 Insurance

Paragraph 282 of the Draft Decision states:

[144] ERA, Draft Decision, p. 59

The Authority considers that GGT has not provided reasonable evidence to justify why its proposed annual insurance costs of $0.697 million exceed the comparable amount net of self-insurance. Accordingly the Authority considers that GGT's annual amount of $0.697 million for forecast insurance costs should be reduced by the amount of self-insurance costs incurred in by GGT in the base year (2012).

The ERA's decision regarding approval of an insurance value based on 2012 is inconsistent with its view that "The Authority generally accepts EMCa's assessment of GGT's operating expenditure that it does not consider base-lining operating expenditure costs based on 2012 costs".[145]

The decision to reverse their rejection of 2012 as base year comparison for insurance is inconsistent. No reasons for the reversal of the decision have been provided. More concerning, the cuts to forecasts result in an insurance allowance which is well below the estimate provided by Marsh when applied to the Covered Pipeline.

The total expenditure for the period 2010-2014 on insurance less self-insurance was $2.796 million which equates to an average annual cost of $0.559 million.

Given the nature of risks associated with the pipeline have not materially changed and current market quote indicates a significantly higher insurance cost should the pipeline be insured on a standalone basis, GGT submits that forecast insurance expenditure should, as a minimum, be adequate to cover the average annual cost for AA2 of $0.559 million per year.

8.6 Corporate costs

The Draft Decision states:

294. EMCa found that it is reasonable for GGT to allocate a proportion of APA Group corporate costs for services that GGT would otherwise incur in undertaking the prudent operation of the covered pipeline. However, EMCa considered that GGT's proposed allowance for corporate overheads has not been derived on a reasonable basis and is biased towards imposing a higher proportion of APA Group's corporate overheads on the GGP.

295. EMCa is concerned that GGT has not been able to provide reasonable justification to explain its derivation of an allocation of corporate costs to its GGP business. EMCa states that its confidence in GGTs calculation is undermined by the significant changes in data and formulae in the successive spreadsheets, the presence of hard coded data that does not add but contains excluded amounts that are not evident from inspection of the spreadsheet and changing descriptions of what value is used as the revenue denominator in the allocation.

[145] Draft Decision, paragraph 234.

> *296. EMCa also states that GGT has not supported its claim that its allocation follows the same process as it has applied in regulatory resets with the AER and is as used internally for GGTJV budget approvals*.[146]

Some of the statements made by the ERA's technical consultant, EMCa, which are noted in these paragraphs, are not correct. To the extent that the ERA has relied on those statements, the conclusions the regulator has reached on the forecast of corporate costs included in the operating expenditure forecast used to calculate the total revenue and the revised reference tariff for the GGP, are not correct. In consequence, the forecast of operating expenditure in Table 14 of the Draft Decision – the forecast designated *Authority Approved Operating expenditure under rules 91 and 74 of the NGR* – is not a forecast of the operating expenditure which 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. Nor is it a forecast which has been arrived at on a reasonable basis, and which represents the best forecast possible in the circumstances.

EMCa's assertions, reported in paragraph 294 of the Draft Decision, that GGT's proposed allowance for corporate overheads has not been derived on a reasonable basis and is biased towards imposing a higher proportion of APA Group's corporate overheads on the GGP, are incorrect. GGT explains, in this section of this submission, why the way in which it proposed allowance for corporate overheads has been derived on a reasonable and consistent basis, and is not biased towards imposing a higher proportion of APA Group's corporate cost on the GGP (or on any other asset).

EMCa's concern, reported in paragraph 295, that GGT has not been able to provide reasonable justification for the allocation of corporate costs to the GGP, is not warranted. GGT explains in the paragraphs which follow that the value used as the revenue denominator in the allocation is reasonably and correctly derived.

EMCa's statement that GGT has not supported its claim that its allocation follows the same process that has been applied in regulatory resets with the AER, and that has been used internally for GGTJV budget approvals is, similarly, without foundation. If EMCa had had concerns about the material provided by GGT, it should have made the inquiries necessary to address these concerns. Nevertheless, in the following paragraphs, GGT elaborates on the common approach to the allocation of corporate costs across APA Group regulated assets.

8.6.1 APA's commercial drivers to contain corporate costs

As discussed in the Supporting Information accompanying the August 2014 revision proposal for the GGP Access Arrangement, APA Group comprises multiple businesses, including businesses which are regulated and businesses which are not regulated. A regulated business within a corporate group may be in a position to make a case for recovery of corporate overheads through regulator-approved prices.

[146] Draft Decision, paragraphs 294-296.

But APA's unregulated businesses are not in that position. Unregulated businesses face commercial pressures in competitive markets to contain costs, including any part of corporate costs which they may bear, to efficient levels.

This exposure to commercial incentives drives the APA Board budget process. Corporate level budgets are not prepared for any regulatory purpose; they are prepared independently of any regulatory process. There is no presumption, at corporate level, that corporate costs can be recovered from customers through regulated tariffs.

In the budgeting process, the Board is required by the Corporations Law to act in the interests of APA Group shareholders. Excessive corporate costs are not in the interests of those shareholders. There are, then, strong corporate governance reasons for the ERA to be confident that APA Group corporate costs are prudent and efficient – at the lowest sustainable level as would be incurred by a prudent service provider, acting efficiently in accordance with good industry practice.

GGT notes that shareholder scrutiny will be facilitated following APA's announcement, in August 2015, that corporate costs would be reported as a separate line item in the audited financial statements for the Group.[147]

GGT notes that neither the ERA nor its consultant raised any concerns with the aggregate level of corporate costs incurred by APA Group.

8.6.2 Absence of bias in the corporate cost allocation process

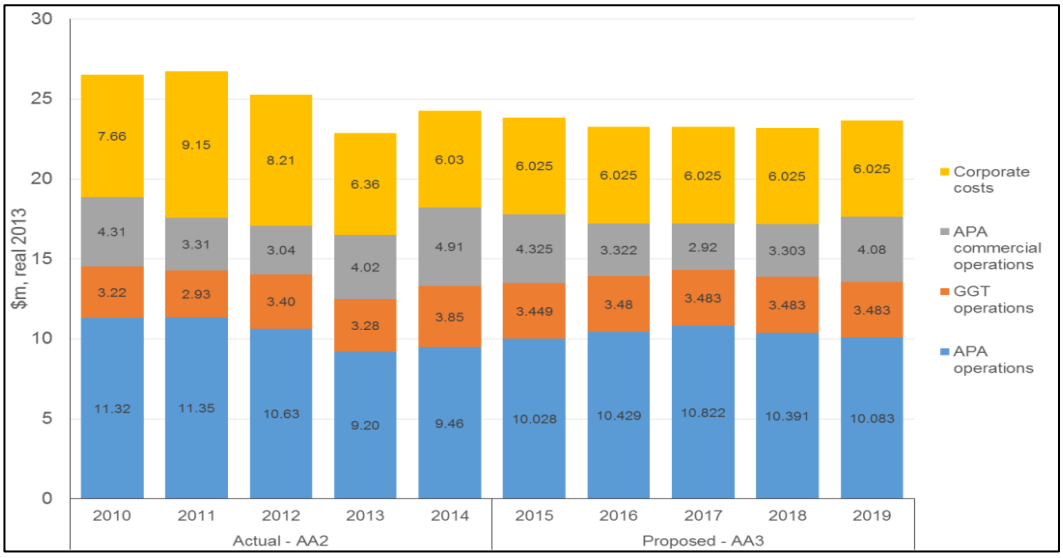
EMCa expressed concern that the way in which APA corporate costs are allocated across businesses in the Group "is biased towards imposing a higher proportion of APA Group's corporate overheads on GGP".[148] How this conclusion might have been reached is difficult to ascertain from EMCa's report to the ERA. GGT rejects it for the following reasons.

Bias would be demonstrated by the presence of a "spike" in the corporate costs for the base year used in establishing the operating expenditure forecast used in revision of an access arrangement. High levels of allocated corporate costs in other years are of little relevance, since they are not used in calculating the total revenue and the revised reference tariff.

Figure 14 in EMCa's report to the ERA shows the corporate costs allocated to the GGP during the periods 2010 to 2014 (AA2), and the forecast of allocated corporate costs for the period 2015-2019 (AA3). Figure 14 is reproduced as Figure 8 below.

147 APA Group corporate costs are reported as a separate line item in Note 4 to the Consolidated Financial Statements for the year ended 30 June 2015.

148 Draft Decision, paragraph 294.



Source: EMCa, *Review of Technical Aspects of the Proposed Access Arrangement - Report to Economic Regulation Authority of Western Australia*, December 2014, page 59.

Figure 8: GGP corporate cost allocation (EMCa report, Figure 14)

Figure 8 clearly shows that there is no "spike" in the allocation of corporate costs to the GGP in 2013, the relevant "base year" for the forecast of corporate costs used in the revision proposal for the GGP Access Arrangement.

In the Supporting Information submitted with the revision proposal, GGT advised that APA Group owns a number of regulated assets, each of which is subject to periodic price review, principally by the AER, and that APA applies the same corporate cost allocation methodology to each of those assets. Were APA to allocate corporate costs in a biased way to inflate the base year costs of an entity undergoing a price review, the time series of the data available to the AER would make this readily apparent.

The allocations of corporate costs to APA Group regulated assets over a number of recent regulatory price reviews are shown in Table 9 below.

Table 9 shows that, while there is some variability year-on-year, there is no obvious variation in the allocation of corporate costs among businesses for price review purposes (that is, there is no indication in Table 9 of "spikes" for any of the businesses). Moreover, there is clearly no indication of bias in the allocation of corporate costs to the GGP.

Table 9: Corporate costs across a number of regulatory price reviews

Price review	Allgas 2011 AA FY 2010 $ million	RBP 2012 AA FY 2011 $ million	VTS 2013 AA FY2012 $ million	GGP 2014 AA FY 2013 $ million
APT Allgas Allgas Queensland gas distribution network	4.533	5.420	2.888 (part year)	(Divested)
APTPPL Roma Brisbane Pipeline	3.016	4.161	4.418	4.245
APA GasNet Australia Victorian Transmission System	10.839	13.368	13.617	11.380
Total Goldfields Gas Pipeline	**8.992**	**11.161**	**11.223**	**9.360**

Any corporate costs attributable to specific projects, which are unrelated to regulated service provision, should be deducted from the totals shown in Table 9. For the GGP, these costs were, in 2013, $0.880 million, resulting in corporate costs for regulatory purposes of $8.480 million. The allocation of corporate costs to the GGP was further allocated between the Covered Pipeline and to services provided using uncovered assets.

8.6.3 Regulatory approval of corporate overhead allocation process

The cost allocation methodology used within APA Group was developed when APA owned a number of electricity transmission assets, which were subject to the rigorous cost allocation requirements of the National Electricity Rules.

This revenue-based allocation methodology has been accepted by the AER for both electricity and gas assets owned, wholly or partially, by the Group. It was proposed, and approved by the AER, for the cost allocation manuals required under the regime of the National Electricity Rules, for the Murraylink and Directlink transmission interconnectors when these assets were wholly owned by APA Group.[149] The AER's consultant in this process noted that the corporate cost allocation approach was consistent with National Electricity Rules cost allocation principles.[150]

The Directlink manual advises:

149 AER, *Final Decision Electricity Transmission Network Service Providers - Cost Allocation Methodologies*, August 2008, page 10.

150 McGrathNicol, Review of Cost Allocation Methodology Directlink 30 July 2008 page 11.

An annual cost allocation is undertaken for all shared costs arising from the provision of the above services by the APA Group. The allocation of these shared costs is made on the basis of revenue. As shown in Table 1, each business unit is allocated corporate overhead costs in proportion to their contribution to the APA Group's Total Revenue.[151]

The April 2008 Final Decision on proposed revisions to the access arrangement for the Victorian Principal Transmission System[152] stated that service provider, GasNet, which then been recently acquired by APA Group, had made further confidential submissions on the issue of corporate costs. These submissions had advised that corporate costs had been allocated on the basis of revenue attributable to particular assets. In responding to these submissions in the Final Decision, the ACCC did not raise any issues or concerns with the corporate cost allocation methodology.

As noted in the Supporting Information accompanying the revision proposal for the GGP Access Arrangement, the AER accepted the APA Group approach to allocating its corporate costs in its recent decision on revisions to the access arrangements for the APT Allgas Queensland gas distribution system.[153] The AER also accepted the approach for APA's Amadeus Gas Pipeline in the Northern Territory:

The AER accepts NT Gas's forecast corporate overhead costs and considers that they are costs which would be incurred by a prudent service provider acting efficiently as required by r. 91 of the NGR. The AER also considers that the level of corporate overhead expenditure proposed by NT Gas represents the best estimate possible in the circumstances as required by r. 74(2)(b) of the NGR.[154]

As demonstrated above and discussed in more detail below, the corporate costs put forward by GGT are determined in the same way as the corporate costs which APA has incorporated in revisions of the access arrangements for other assets owned by the Group.

8.6.4 Corporate cost allocation process

EMCa's assertion, reported in paragraph 294 of the Draft Decision, that GGT's proposed allowance for corporate overheads has been derived in a way which biases the outcome towards imposing a higher proportion of APA Group's corporate costs on the GGP, is not correct. In this section, GGT demonstrates that the allocation of corporate costs to the GGP is conducted on the same basis as other APA Group assets, and consistently over time and in a number of regulatory submissions.

151 APA Group, *Directlink Cost Allocation Manual*, 2008, page 10.

152 ACCC, *Final Decision, Revised Access Arrangement by GasNet Australia (Operations) Pty Ltd and GasNet (NSW) Pty Ltd for the Principal Transmission System*, April 2008, page 80.

153 AER, *APT Allgas - Access arrangement proposal for the Qld gas network, 1 July 2011 – 30 June 2016*, June 2011, section 7.4 p53 and Table 7.1.

154 AER, *Final decision - N.T. Gas, Access Arrangement Proposal for the Amadeus Gas Pipeline 1 August 2011 – 30 June 2016, July 2011*, section 7.4 and Table 7.2.

It should be noted for completeness that the amount of corporate costs allocated to GGT reflect only the APA Group 88.8% ownership of the GGP. No corporate costs are attributed to GGT from the other owner.

The Draft Decision describes the process of corporate cost allocation as follows:

APA Group's corporate costs were allocated, on the basis of revenues earned, to each of the entities within the APA Group, including APT Goldfields Pty Ltd, and GGP service providers Southern Cross Pipelines Australia Pty Ltd and Southern Cross Pipelines (NPL) Australia Pty Ltd.[155]

This statement, although broadly correct, is superficial in its description of the allocation of corporate costs on the basis of revenues earned. The actual allocation process is more complex. Corporate costs are:

(a) directly attributed to cost centres where possible;

(b) allocated among cost centres using causal allocators where possible, and

(c) if there are remaining unallocated costs, allocated on the basis of contributions to revenues.

The direct attribution of costs to particular cost centres is undertaken at the individual invoice level and, as a result, is not evident in aggregate data from APA's general ledger system. These aggregate data were loaded into a spreadsheet for communication to the ERA. Hence, EMCa's observation: *"the presence of hard coded data that does not add but contains excluded amounts that are not evident from inspection of the spreadsheet."* A further spreadsheet was provided, with additional material and explanation, to assist EMCa. EMCa's comment that "*its confidence in GGTs calculation is undermined by the significant changes in data and formulae in the successive spreadsheets"* is unwarranted. It is preferable that, had EMCa not understood the material which GGT had provided, that this was raised at the time.

Due to the nature of corporate support activity, only a relatively small proportion of the costs can be directly attributed to any particular operating business. In order to test the reasonableness of the allocation process, APA monitors the difference between the finance system application of the process described above, and a direct allocation over revenue. This is shown in cells FE13:FI26 of the corporate cost spreadsheet previously provided to the ERA.

8.6.5 Reasonableness of corporate cost allocation process

Table 9 above shows the corporate costs allocated to regulated APA Group business through the more detailed allocation process described in section 8.6.4 above. The paragraphs which follow demonstrate, through Steps 1 to 5, the reasonableness of the allocation process by calculating the allocation of corporate costs that would have

[155] Draft Decision, paragraph 288.

been obtained on a direct revenue allocation basis. This allocation of corporate costs made solely on the basis of revenue, should be different from the allocation which results from APA's actual allocation process, but it should not be materially different. It is a test of the reasonableness of the allocation process of section 8.6.4.

It is clear from the EMCa report that it did not understand the corporate cost allocation methodology and the revenue based reasonableness test. This section attempts to make this reasonableness test as simple and clear as possible.

Measures of revenue applied in allocation test

EMCa's primary error is revealed in the second dot point of para 297 of the draft decision:

297. EMCa has determined that GGT's annual costs before allocation between the covered and uncovered pipeline should be $6.053 million based on a contribution of revenue of 13 per cent, not $8.480 million as calculated by GGT. EMCa has based this on the following information provided by GGT:

- *APA Group corporate costs of $45.6 million, per GGT's response to EMCa 36 and excluding the items referred to in GGT's response to EMCa 31.*
- *APA Group revenue of $911.5 million, which it has determined from GGT's response to EMCa 36.*
- *Revenues for APT Goldfields, Southern Cross Pipelines Australia and Southern Cross Pipelines (NPL) Australia of $121 million, per GGT's response to EMCa 36.*

EMCa has 1) mistakenly used a measure of total corporate overheads calculated by double counting costs related to the former Epic Energy assets; and 2) mistakenly used a measure of total corporate revenue that incorrectly includes amounts that are either removed on consolidation or do not attract corporate overheads, as discussed below.

This section addresses the second error – the calculation of corporate revenues to serve as the denominator in a corporate cost allocation reasonableness test.

It is not correct for EMCa to attempt to measure the allocation basis for corporate costs as the sum of the revenues of the various businesses from all sources.[156] This is the error EMCa has made in assuming a revenue denominator of $911.5 million as discussed above.

In the first instance, revenues with directly offsetting expenses (pass-through revenues) are not included in the allocation base for allocating corporate overheads.

[156] EMCa, pp71-72.

No corporate overheads are assigned to these revenues, as they are fundamentally a direct reimbursement of costs.

Corporate overheads are also not allocated to a number of categories of revenue that do not drive corporate management activity, notably dividend and interest income, income from equity-accounted associates,[157] and other investments in which APA (as investor) receives a share of net profits (that is, APA does not contribute to the management of the business).

It is not surprising then that EMCa was unable to verify GGT's corporate cost allocation when it determined the allocation percentage over gross revenues.

GGT also understands EMCa's struggle in trying to back-solve the arithmetic in the spreadsheet, and acknowledges that the corporate cost allocation spreadsheet contains very few formulae.[158] This is because the spreadsheet provided is an exported report from the financial system – it is a reporting tool rather than a spreadsheet that performs any calculations.[159] GGT acknowledges that it is not transparent, even to those trained in consolidation accounting.

The analysis below demonstrates the consistent methodology applied to calculate the revenue base over which corporate overheads are allocated, and the consistency of the allocation process across a number of different assets and a number of different price review processes.

The amounts allocated through this reasonableness test are then compared with the amounts allocated through previous regulatory submissions (and approved by the regulator), as outlined in Table 9 above.

Step 1: Calculate base revenue for corporate cost allocation purposes

In this step, the revenues over which corporate costs are allocated, are determined by reference to the APA Group audited financial statements. These revenues are summarised in Table 10.

157 The equity method in consolidation accounting relates to the treatment of equity investments in associate companies where the entity holds 20–50%of voting stock. Under the equity method, the investor records the investment as an asset on its balance sheet. The investor's proportional share of the associate company's net income increases the investment, and payments of dividends decrease it. In the investor's consolidated income statement, the proportional share of the investor's net income is reported as a single-line item.

158 EMCa comments a number of times that numbers in the spreadsheet were hard-coded rather than formulaically derived. See also ERA draft decision paragraph 295.

159 It is important then, to have confidence in the financial system from which the dump was produced, and here we revert back to reliance on the cost allocation methodology and the audit thereof.

Table 10: APA Group revenues for cost allocation

Price review	Allgas 2011 AA FY 2010 $ million	RBP 2012 AA FY 2011 $ million	VTS 2013 AA FY2012 $ million	GGP 2014 AA FY 2013 $ million
Group revenue, from audited financial statements	989.490	1,101.989	1,060.661	1,272.267
Less:				
Pass-through revenue – energy infrastructure[1.]	152.501	170.024	6.626	8.449
Pass-through revenue – asset management[1.]	177.441	211.709	296.007	344.294
Interest income[1.]	17.637	17.082	11.465	18.588
Dividends[1.]	4.051	11.017	11.153	3.243
Equity accounted profits	13.687	23.876	28.263	44,868
Total APA Group revenue for corporate cost allocation purposes	**575.263**	**627.913**	**662.927**	**756.298**

1. Source: APA Group Annual Report, Note 6 to audited Financial Statements for relevant year.

Step 2: Obtain revenues by operating entity

Revenue for each of the relevant APA Group operating entities is obtained from the consolidated trail balance spreadsheet. GGP revenues are earned by GGT Joint Venture participants Southern Cross Pipelines (NPL) Australia Pty Limited and Southern Cross Pipelines Australia Pty Limited, and by commercial services provider APT Goldfields Pty Limited. The revenues for the operating entities are shown in Table 11.

Table 11: Revenue by operating entity

Price review	Allgas 2011 AA FY 2010 $ million	RBP 2012 AA FY 2011 $ million	VTS 2013 AA FY2012 $ million	GGP 2014 AA FY 2013 $ million
APT Allgas Allgas Queensland gas distribution network	55.047	56.600	29.830 (part year)[1.]	(Divested)
APTPPL Roma Brisbane Pipeline	40.744	43.458	46.875	55.683
APA GasNet Australia Victorian Transmission System	138.817	139.667	145.572	151.784
Total Goldfields Gas Pipeline	**115.651**	**115.905**	**118.796**	**123.396**

Step 3: Calculate allocation percentage for each operating entity

The corporate cost allocation percentages used to test the reasonableness of the APA Group corporate cost allocation process are calculated by dividing the operating entity revenues from Table 11 by the Group revenue base from Table 10. The results are summarised in Table 12.

Table 12: Corporate cost allocation percentages

Price review	Allgas 2011 AA FY 2010	RBP 2012 AA FY 2011	VTS 2013 AA FY2012	GGP 2014 AA FY 2013
APT Allgas Allgas Queensland gas distribution network	9.6%	9.0%	4.5% (part year)	(Divested)
APTPPL Roma Brisbane Pipeline	7.1%	6.9%	7.1%	7.4%
APA GasNet Australia Victorian Transmission System	24.1%	22.2%	22.0%	20.1%
Total Goldfields Gas Pipeline	**20.1%**	**18.5%**	**17.9%**	**16.3%**

Table 12 demonstrates the consistent approach to the allocation of corporate costs across APA Group. The relative stability of the allocation percentages across businesses and over years indicates that that there has been no attempt to allocate corporate costs opportunistically to impose higher base year costs which then bias the outcome of price review.

GGT notes that the allocation percentages are not constant, and may show variations, leading to corresponding variations in allocated corporate costs, when assets are divested, or when major assets are acquired by APA Group.

Step 4: allocation of corporate costs using revenues

In this step, the total amount of APA Group corporate costs is allocated to the operating entities using the percentages shown in Table 12. The results are summarised in Table 13.

Table 13: Revenue based allocation of corporate costs

Price review	**Allgas 2011 AA** **FY 2010** **$ million**	**RBP 2012 AA** **FY 2011** **$ million**	**VTS 2013 AA** **FY2012** **$ million**	**GGP 2014 AA** **FY 2013** **$ million**
Group level corporate costs	**47.212**	**60.090**	**61.878**	**56.018**
Allocations				
APT Allgas Allgas Queensland gas distribution network	4.518	5.416	2.784 (part year)	(Divested)
APTPPL Roma Brisbane Pipeline	3.344	4.159	4.375	3.686
APA GasNet Australia Victorian Transmission System	11.393	13.366	13.588	10.048
Total Goldfields Gas Pipeline	**9.491**	**11.092**	**11.088**	**8.169**

Step 5: Compare results from APA Group corporate cost allocation process with results from revenue based allocation

In this step, the results of the corporate cost allocation carried out in APA Group's corporate financial system (the APA Group allocation process described in section 8.6.4 above) are compared with the results of revenue based allocation of corporate

costs (Table 13). The comparison is shown in Table 14: the difference shown in the table are small, indicating that the APA Group allocation process produces results which are reasonable.

Table 14: Comparison of corporate costs from APA Group allocation process with the corporate costs from revenue based allocation

Price review	**Allgas 2011 AA** **FY 2010** **$ million**	**RBP 2012 AA** **FY 2011** **$ million**	**VTS 2013 AA** **FY2012** **$ million**	**GGP 2014 AA** **FY 2013** **$ million**
APT Allgas Allgas Queensland gas distribution network	0.015 0.3%	0.004 0.1%	0.1104 3.7%	(Divested)
APTPPL Roma Brisbane Pipeline	0.328 9.8%	0.002 0.1%	0.043 1.0%	0.121 2.9%
APA GasNet Australia Victorian Transmission System	0.554 4.9%	0.002 0.0%	0.029 0.2%	0.137 1.2%
Total Goldfields Gas Pipeline	**0.499** **5.3%**	**0.069** **0.6%**	**0.135** **1.2%**	**0.220** **2.4%**

8.6.6 Corporate costs: conclusions

In paragraph 205 of the Draft Decision, the ERA concludes that $21.183 million (constant prices, December 2013) of corporate costs satisfies rules 91 and 74 of the NGR. This conclusion was reached on the basis of advice from EMCa.

Paragraph 297 of the draft decision makes clear that in reassessing GGT's corporate cost allocation, EMCa has, incorrectly:

(a) used a measure of APA group corporate costs which excludes – and therefore "double deducts" costs related to the former Epic Energy assets; and

(b) used as its measure of corporate revenue a total that incorrectly includes amounts that are either removed on consolidation, or do not attract corporate costs.

EMCa's measure of corporate revenue, $911.5 million, is the sum of the revenues of the various businesses from all sources. EMCa has not excluded revenues with directly offsetting expenses (pass-through revenues). These pass-through revenues should be excluded because they represent a direct reimbursement of costs. Interest income, dividends and equity accounted profits recognised in the Group's financial statements should also be excluded; they are not part of the base of revenues to be

used in allocating corporate costs across businesses within the Group. They are incidental to, rather than directly related to, the costs of the corporate management activity which are necessary to operation of the businesses which comprise APA Group. APA Group does not contribute to the management of the businesses which earn those items of income.

EMCa has concluded that GGT's proposed allocation of corporate costs to the GGP is biased and unreasonable. However, no evidence of bias was provided. GGT has demonstrated above, in section 8.6.2, the absence of bias in its corporate cost allocation process. In section 8.6.5, GGT sets out the reasons why its process of corporate cost allocation is reasonable. Approval of the allocation process by the AER in regulatory approval process for other regulated assets owned by APA Group (section 8.6.3) further attests to its reasonableness.

There is, in these circumstances, no basis for the ERA's acceptance of EMCa's assessment that GGT's proposed corporate costs have not been derived on a reasonable basis and have been biased towards imposing a higher proportion of APA Group's corporate overheads on the GGP. In consequence, the ERA cannot conclude that $21.183 million (constant prices, December 2013) of corporate costs satisfies rules 74 and 91.

The forecast of corporate costs which GGT proposed as part of its August 2014 revision proposal for the GGP Access Arrangement was a forecast of corporate costs that had been arrived at on a reasonable basis, and represented the best forecast possible in the circumstances. That forecast was an allocation of corporate costs incurred by a corporate management team cognisant of the commercial and shareholder pressures to keep those costs as low as possible. The corporate costs allocated to the GGP were, therefore, costs 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.

GGT has retained, for the purpose of its response to the Draft Decision, the forecast of corporate costs proposed in August 2014 used to calculate the total revenue and the revised reference tariff for the GGP. GGT's forecast of corporate costs, at current prices (nominal), is shown in Table 7 of this submission. GGT's forecast of corporate costs at constant (Dec-2013) prices is shown in Table 8.

The issue of the allocation of these costs between the Covered Pipeline and services provided using the uncovered GGP assets is addressed in section 9 of this submission.

8.7 Verification of operating expenditure: regulatory accounts

GGT provided the ERA with schedules of operating expenditure (and capital expenditure) for the Covered Pipeline which had been reviewed by Deloitte. (Deloitte audits, each year, the Special Purpose Statement of Accounts prepared for the Goldfields Gas Transmission Joint Venture).

In paragraph 222 of the Draft Decision, the ERA advises that it requires GGT to submit its reviewed regulatory accounts for the year ending 31 December 2014 in any response to the decision.

The schedules of operating and capital expenditures for 2014 which have been reviewed by Deloitte, and Deloitte's review report (dated 23 April 2015) form Attachment 2 to this submission.

9 Cost allocation and total revenue

Required amendment 13

The total revenue to be allocated for the calculation of reference tariffs for the third access arrangement period must be amended to reflect Table 99 of this Draft Decision.

9.1 Cost allocation

In the access arrangement revision proposal, GGT proposed that total revenue be calculated as the total cost of providing pipeline services using the covered pipeline. GGT noted that the covered pipeline is used to provide services to the GGT JV participants, negotiated services, and reference services. GGT calculated total revenue as the total of the costs of providing services by means of the covered pipeline—being the costs of offering to provide, and providing, the reference service, negotiated services, and services to the GGT JV participants.[160]

More specifically total revenue was calculated as the total of the costs of providing services using the GGP excluding:

a. the capital costs of those parts of the pipeline system (a second compressor added at Paraburdoo, in 2006, and compressors installed at Wyloo West and at Ned's Creek in 2009) which are uncovered;

b. the capital costs of the recent expansion for Rio Tinto Iron Ore and for BHP Billiton Iron Ore, which GGT has elected to be uncovered and in respect of which the ERA gave its consent to GGT's election on 30 May 2014; and

c. the costs of operating and maintaining those parts of the GGP which are uncovered, and the costs of operating and maintaining the expansion for Rio Tinto Iron Ore and BHP Billiton Iron Ore.[161]

In accordance with rule 93(2), GGT allocated the total of the costs of providing services using the GGP, excluding the costs as set out above, to services provided by means of the covered pipeline. In accordance with rule 93(1), GGT allocated total revenue between reference services and other services provided by means of the covered pipeline.

The issues paper published by the ERA on GGT's proposed revisions to the GGP Access Arrangement invited submissions from interested parties on GGT's approach to allocate all costs on a standalone basis to the covered pipeline and whether GGT's approach is consistent with the NGR and NGO. [162]

160 GGP, Access Arrangement Revision Proposal: Supporting Information, 15 August 2014, p 25.

161 GGP, Access Arrangement Revision Proposal: Supporting Information, 15 August 2014, p 25.

162 ERA, *Issues Paper on Proposed Revisions to the Goldfields Gas Pipeline Access Arrangement*, 3 November 2014, p 6.

BHB Billiton (**BHPB**) made a submission to the ERA in response to GGT's proposed revisions to the GGP Access Arrangement.[163] In this submission, BHPB contended that the methodology for allocating costs in respect of the GGP "should ensure that users are treated fairly" and that a fair allocation of costs would allocate costs incurred jointly in providing services provided by means of the covered pipeline and services provided by means of the uncovered pipeline, "so as to avoid one group of users unfairly subsiding another group of users".[164]

BHPB argued that there had been "significant developments in the regulation of gas transmission pipelines" in moving from the Gas Code to the NGL and NGR that "compel a different approach to cost allocation".[165] More specifically, BHPB argued that the NGL defines the term 'pipeline service' as a service provided by means of a "pipeline" and that there is no appearance of the word "covered" before "pipeline".[166] BHPB submitted that the removal of the word 'covered' indicates that when allocating costs, services provided by means of the pipeline, and not only the covered pipeline, should be included in the calculation of total revenue.[167]

The removal of the word 'covered' indicates that, when allocating costs, services provided by means of the pipeline (not just a 'covered' pipeline) should be included in the calculation of total revenue. This conclusion is reinforced by the fact that the term 'covered' is used in a number of other places in the NGL/NGR, suggesting that the omission from this particular definition was intentional.

GGT responded to the BHPB submission on 18 February 2015.[168] GGT submitted that in rule 93, references to "other services" and "pipeline services that are not reference services" are properly to be read as references to services provided by means of the covered pipeline that have not been specified as reference services.[169]

In the Draft Decision the ERA does not accept GGT's submission. This is apparent from the ERA's conclusion that "other costs" are joint costs that are incurred by services provided by means of the covered pipeline as well as services provided by means of the uncovered pipeline, and that rule 93(2)(c) allows the ERA to make a determination on the cost allocation methodology that is used to allocate these costs either in full or in part to services provided by means of the covered pipeline.[170] That is, the ERA interprets rule 92(3)(c) such that the reference to "other services" is a reference to services provided by means of the uncovered pipeline.

GGT submits that the ERA's construction of rule 92(3)(c) is incorrect and if the ERA gives effect to revisions to the GGP Access Arrangement based on the construction of

163 BHPB, Public Submission in response to the Goldfields Gas Transmission Pty Limited's Proposed Revisions to the Goldfields Gas Pipeline Access Arrangement, 27 November 2014 (**BHPB November 2014 submission**).

164 BHPB November 2014 submission, p 3.

165 BHPB November 2014 submission, p 4.

166 BHPB November 2014 submission, p 4.

167 BHPB November 2014 submission, p 4.

168 Letter from GGT (J Williams) to the ERA (G Watkinson), 18 February 2015 (**GGT February 2015 submission**).

169 GGT February 2015 submission, p 7.

170 Draft Decision, p 319, paragraph 1476.

the rule as set out in the Draft Decision, the ERA will have engaged in legal error. If GGT is wrong about the construction of rule 93 and it is permissible for the ERA to read "other services" as a reference to services provided by means of the uncovered pipeline, the ERA is in error in the economic and factual conclusions it relies upon to support its decision on cost allocation. The next section of this submission deals with the proper construction of rule 93. The following section deals with the economic and factual conclusions reached by the ERA on cost allocation.

9.1.1 Proper construction of rule 93

In determining issues of statutory construction the High Court has recently stated that the task of statutory construction begins (and ends) with a consideration of the statutory text, considered in context.[171] As set out below, GGT submits that when rule 93 is read in the context of the NGR and the NGL, it is clear that references to "services" in Part 9 of the NGR are to be read as "services provided by means of the covered pipeline".

Rule 93 relevantly provides:

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 AER.

The construction of rule 93 starts with the text of the rule itself. Rule 93 commences with rule 93(1), which requires total revenue to be allocated between reference and other services in the ratio in which costs are allocated between reference and other services.

Rule 93(2) elaborates on rule 93(1), setting out the manner in which costs are to be allocated between reference and other services. Rule 93(2)(a) requires that costs directly attributable to reference services are to be allocated to those services. Rule 93(2)(b) requires that costs directly attributable to pipeline services that are not

171 *Commissioner of Taxation v Consolidated Media Holdings Ltd* [2012] HCA 55, [39] (French CJ, Hayne, Crennan, Bell and Gageler JJ).

reference services are to be allocated to those services. Finally, rule 93(2)(c) requires that 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 position is that in rule 93(1) and 93(2), the words "provided by means of the covered pipeline" are to be read as following "services". That is:

a. rule 93(1) requires total revenue to be allocated between reference and other services provided by means of the covered pipeline in the ratio in which costs are allocated between reference and other services; and

b. rule 93(2) requires costs to be allocated between reference services and other services provided by means of the covered pipeline as follows:

    i. costs directly attributable to reference services are to be allocated to those services; and

    ii. costs directly attributable to pipeline services provided by means of the covered pipeline that are not reference services are to be allocated to those services; and

    iii. other costs are to be allocated between reference and other services provided by means of the covered pipeline on a basis (which must be consistent with the revenue and pricing principles) determined or approved by the ERA.

GGT submits that this construction of rule 93 is plain from the following textual and contextual aspects of the NGL and the NGR.

First, the scheme of regulation under the NGL/NGR is based upon the concept of a "covered pipeline". Chapter 3 of the NGL governs the procedure for a coverage determination. Although coverage is determined in respect of a "pipeline", the definition of "pipeline" makes clear that the coverage may be confined to part of the capacity of the pipe. This is reinforced by the definitions and rules relating to expansions.

Secondly, consistently with that scheme, the NGL defines the expressions "covered pipeline" and "covered pipeline service provider". However, there is no definition of "covered pipeline services" in the NGL or in the NGR. The absence of such a definition is overcome by use of the expression "provided by means of a covered pipeline" where the text might otherwise be unclear. So, for example, the definition of "covered pipeline service provider" is a service provider that provides or intends to provide pipeline services by means of a covered pipeline.

Other examples of the use of the qualifier "provided by means of the covered pipeline" in the NGL are as follows:

a. section 2, in the definition of "pipeline service standard";

b. section 18, which defines when extensions and expansions are to become part of the covered pipeline;

c. section 111, relating to applications for light regulation determinations;

d. section 122, which sets out the principles relating to the making or revoking of light regulation determinations;

e. section 131, which provides that a service provider must be a legal entity of a specified kind to provide pipeline services by means of a covered pipeline;

f. section 133, which prohibits conduct that prevents or hinders access; and

g. section 181, which relates to notification of access disputes.

Chapter 4 of the NGL is headed "General requirements for provision of covered pipeline services". The use of the expression "covered pipeline services" is clear in context: it means pipeline services provided by means of a covered pipeline. As noted above, section 131 uses that expression. In contrast, section 132 states that a covered pipeline service provider must submit to the AER a full access arrangement in respect of the pipeline services the provider provides or intends to provide in the circumstances specified by the NGR, and within the period of time specified by the NGR. It is unnecessary to use the qualifier "provided by means of a covered pipeline" in that context, because the effect of the qualifier is contained in the NGR. The applicable rules are 46 and 48. Rule 46 requires the submission of an access arrangement in respect of the covered pipeline. Rule 48, when read with rule 46, requires the access arrangement to identify the pipeline (being the covered pipeline referred to in rule 46) and describe the pipeline services the service provider proposes to offer to provide "by means of the pipeline" (being the covered pipeline).

GGT submits that the qualifier "provided by means of the covered pipeline" is not found in Part 9 of the NGR because it is redundant. It is clear from the text of the NGL and the NGR that references to pipeline services, or services, in Part 9 of the NGR is to "services provided by means of the covered pipeline", because it is precisely these services to which the access arrangement applies.

Similarly, references to "the pipeline" in Part 9 are to be read as references to the covered pipeline because access arrangements apply to services provided by covered pipelines. Rule 48 requires a full access arrangement to identify the pipeline to which the access arrangement relates. An access arrangement relates to a covered pipeline (rule 46). Therefore, the "pipeline" to be identified in an access arrangement is the covered pipeline. This is reinforced by rule 77, which sets out how the opening capital base for a pipeline is to be calculated when the pipeline first becomes a covered pipeline. Also rules 15 and 16, which require an identification of the pipeline for which coverage is sought, and for a coverage recommendation to identify the pipeline to which a recommendation for coverage relates.

Reading references to "pipeline" in Part 9 of the NGR as references to a "covered pipeline", and "services" as "services provided by means of a covered pipeline", makes sense where those terms are used in Part 9. In fact, where those terms are

used in Part 9 of the NGR it often only makes sense to read them in this way. The expression "pipeline" is used to mean the covered pipeline that is the subject of the access arrangement throughout Part 9: see for example rules 72, 77, 88. Likewise, the expression "pipeline services" is used to mean such service provided by means of the covered pipeline in many rules including rules 72 and 91.

The most striking example of this is the use of the expression "reference services". That expression is defined in the NGL as "a pipeline service specified by, or determined or approved by the AER under, the Rules as a reference service". Thus, there is no reference to services provided by means of a covered pipeline in the definition. However, various contextual considerations make it clear that that limitation is required. As noted above Rule 48 requires a full access arrangement for a covered pipeline to specify the reference services. Further, rule 101 requires a full access arrangement to specify as a reference service at least one "pipeline service" that is likely to be sought by a significant part of the market and "any other pipeline service that is likely to be sought by a significant part of the market". In light of the regulatory regime, and given the mandatory requirements of both rule 48 and 101, it can only make sense for these services to be services provided by means of the covered pipeline; it would make no sense for "reference services" to include services that are provided by means of an uncovered part of the pipeline.

Returning to rule 93, the ERA's construction would require the expression "reference services" as used in the rule to be interpreted with the use of the qualifier "provided by means of the covered pipeline", but the expression "other services" not to be so limited. Such an approach involves inconsistency.

Furthermore, the construction the ERA places on "other services" in rule 93(2)(c) is inconsistent with the construction the ERA places on the same term where it appears in rule 93(1). The ERA accepts that total revenue is to be allocated between reference services and other services provided by means of the covered pipeline,[172] and therefore appears to interpret "other services" in rule 93(1) as a reference to other services (being non-reference services) provided by means of the covered pipeline.

Extrinsic materials

The broader context of the NGL and the NGR, including the legislative history and extrinsic materials, assists in fixing the meaning of the text of rule 93. The NGL permits consideration to be given to extrinsic materials.[173] GGT referred to these extrinsic materials in its submission of 18 February 2015. [174] These materials confirm that the approach taken to price and revenue regulation under the Gas Code is replicated under the NGR. For example, the second reading speech to the National Gas (South Australia) Bill noted that the intention has been for the rules concerning access arrangements to replicate the economic regulatory model operating under the

172 Draft Decision, pp 317-318, paragraphs 1465-1467.

173 NGL sch 2 cl 8.

174 GGT February 2015 submission, pp 3-4.

Gas Code and that "consistency with current practice will ensure business and user certainty in the transition between the current and new regimes".[175]

GGT relies on the extrinsic material to confirm what GGT submits is the ordinary meaning of the provisions when construed in the context of the NGL and NGR. Alternatively, to the extent BHPB submits that the ordinary meaning to be given to the term "pipeline services" in Part 9 of the NGR is that it refers to both services provided by means of a covered pipeline and services provided by means of an extension or expansion that does not form part of the covered pipeline, GGT relies on the extrinsic material to provide an interpretation of that term that avoids a result that is manifestly absurd or unreasonable.

Other errors in the ERA's reasoning

Central to the ERA's reasoning is a conclusion that it would be unacceptable if the regulatory framework operated such that:

a. no adjustment was permitted to be made to the capital base of a covered pipeline to reflect expansions of capacity that, pursuant to extension and expansion requirements, are not treated as forming part of the covered pipeline; and

b. as a consequence, the capital and operating costs associated with the capital base of a covered pipeline were allocated only to services provided by means of the covered pipeline.

The ERA argues:[176]

In this context, the Authority is of the view that the absence of a mechanism to adjust the projected capital base for uncovered expansions under rule 77 tends to suggest that the physical reality of a covered gas pipeline that would actually have the capacity to deliver both covered and uncovered services, like the GGP, was not fully contemplated under the NGL(WA) and the NGR despite this being a possibility under Section 2 of the NGL(WA) and rule 48(1)(g) of the NGR.

There is no basis for the ERA's opinion that the "physical reality" of a covered pipeline that would have the capacity to provide services by means of the covered pipeline, and services by means of extensions and expansions that do not form part of the covered pipeline, was not fully contemplated under the NGL and the NGR. The matter is not only contemplated, it is expressly dealt with. Moreover, it is clear from secondary material that the MCE was aware when drafting the NGL/NGR regime that expansions could be uncovered and not have any effect on reference tariffs. The ERA refers to this material at paragraphs 1399 and 1474 of the Draft Decision.

175 South Australia, *Parliamentary Debates*, Legislative Council, 30 April 2008, p 2544 (Paul Holloway).

176 Draft decision, pp 318-319, paragraph 1473.

The regulatory regime makes a clear distinction between covered and uncovered capacity of a pipeline, both in terms of costs and revenues, and operates in the following manner.

The scope of coverage of a pipeline is determined at the time of the initial coverage determination and subsequently in accordance with the extension and expansion policy specified in an access arrangement.

At the time of the initial coverage determination, the National Competition Council (NCC) may recommend that only a part of the pipeline the subject of the application be covered or may recommend that the pipeline not be covered (see section 95 of the NGL, the example to subsection (3) and the example in section 104(3) that relates to revocation). The NCC may recommend that only a part of the pipeline the subject of the application be covered, and the relevant Minister may determine that different parts of the pipeline to those recommended by the NCC be covered (see section 99 of the NGL, the example to subsection (7) and the example in section 106(7) that relates to revocation). Also, rule 18 provides that any application for revocation of coverage must state whether the application is for revocation of coverage for the whole, or part only, of the covered pipeline.

At the time of an extension or expansion, a decision is made whether the extended or expanded part of the pipeline will become covered and subject to regulation under the access arrangement. The definition of “extension and expansion requirements” in the NGL states that these are the requirements contained in an access arrangement that, in accordance with the NGR, specify:

a. the circumstances when an extension to, or expansion of the capacity of, a covered pipeline is to be treated as forming part of the covered pipeline; and

b. whether the pipeline services provided or to be provided by means of, or in connection with, spare capacity arising out of an extension to, or expansion of the capacity of, a covered pipeline will be subject to the applicable access arrangement applying to the pipeline services to which that arrangement applies; and

c. whether an extension to, or expansion of the capacity of, a covered pipeline will affect a reference tariff, and if so, the effect on the reference tariff; and

any other requirements specified by the Rules as extension and expansion requirements.

As discussed in GGT’s related submission concerning the extension and expansion policy, the decision of coverage may involve a commercial and economic assessment of the risks associated with the extension or expansion. For example:

a. the demand for the extension or expansion may be uncertain and existing users of the covered pipeline may not wish to incur financial responsibility for the additional costs to be incurred; and

b. incremental demand for the extension or expansion may only be generated by pricing the additional capacity at the marginal cost of the additional capacity.

The significant point is that the decision in relation to coverage of the extension or expansion is made in accordance with the policy stated in the access arrangement. If the extension or expansion becomes part of the covered pipeline, the costs are taken into account in setting total revenue. If it does not, the costs are excluded.

The NGL and the NGR operate to permit a regular assessment of the circumstances in which extensions and expansions are to be treated as forming part of the covered pipeline. At each interval where the service provider submits revisions to an access arrangement, the regulator is able to assess the service provider's proposal as to the circumstances when an extension or expansion is to be treated as forming part of the covered pipeline. Where the regulator does not consider that the extension and expansion requirements as proposed by the service provider are consistent with the requirements of the regulatory framework, the regulator is empowered to draft and approve its own revisions to those extension and expansion requirements.

Further, the question of coverage of extensions and expansions can be revisited. An application for coverage of the uncovered part of a pipeline can be made at any time.

As set out below, the extension and expansion requirements applying to the GGP have operated such that the capacity created by certain expansions has not formed part of the covered pipeline. In 2006, the capacity of the GGP was increased by installing a second compressor at Paraburdoo. In 2009, compressors were installed at Wyloo West and Ned's Creek, further increasing the capacity of the pipeline. Elections were made, pursuant to the extensions / expansions policy that the additional capacity provided by the compressors at Paraburdoo, Wyloo West and Ned's Creek would not be covered. On 4 November 2013, GGT notified the ERA that the capacity of the GGP was being expanded and pursuant to the extensions / expansions policy, GGT was electing not to treat the expanded capacity as part of the covered pipeline for any purpose under the Gas Code. In 2014, the ERA determined to approve GGT's election not to treat the capacity from the expansion of the GGP as part of the covered pipeline for any purpose under the Gas Code.

The ERA's construction of rule 93 has the effect of revisiting and revising earlier decisions made in accordance with the applicable extensions and expansions policy and that were subject to ERA (and stakeholder) review at the relevant time. Revising the financial consequences of earlier decisions in that manner is contrary to the NGO and the RPP.

9.1.2 Consistency with the national gas objective and the revenue and pricing principles

After concluding that rule 93 of the NGR provides the ERA with the discretion to allocate total revenue calculated under rule 76 either towards (or away from) covered

services, [177] the ERA states that it is required to ensure that the total revenue allocation complies with the NGO and the revenue and pricing principles.[178] For the reasons stated above, GGT submits that the NGR does not provide the ERA with any discretion to allocate total revenue away from services provided by means of the covered pipeline. However, even if that was not correct, the matters relied upon by the ERA in the Draft Decision do not support the exercise of that discretion in the manner proposed by the ERA.

In the Draft Decision, the ERA considers that the cost allocation methodology that allocates what it terms "joint costs" to covered services must seek to minimise the allocative, productive and dynamic inefficiencies across all services provided by the GGP in its entirety.[179] The ERA finds that GGT's proposed cost allocation gives rise to a "risk that the reference tariff determination for AA3 could be too high to be consistent with economically efficient outcomes as broadly defined".[180] More specifically, the ERA concludes that if the allocation of all joint costs to covered services results in a reference tariff that exceeds what the ERA terms the "efficient cost" of covered services, then there is a risk that the use of covered services could be dissuaded and that existing covered capacity could become, and remain, idle.[181] The ERA considers that this situation could eventuate if existing and potential users withdraw their demand for covered services by substituting towards services provided by the uncovered capacity of the GGP and other fuels, scaling back operations, or re-locating. [182] The ERA further considers that if the use of covered services is dissuaded as a consequence of reference tariffs that are "too high" relative to their efficient cost, the risk of inefficient investment outcomes under AA3 could be exacerbated in subsequent access arrangements in which higher reference tariff determinations would be required to recovered total revenue.[183]

The ERA's conclusions as to the efficiency implications of GGT's proposed cost allocation are incorrect both as a matter of economics generally, and in respect of actual circumstances of the GGP specifically.

GGT does not accept that reference tariffs based on GGT's proposed cost allocation results in reference tariffs that are "too high" to be consistent with economically efficient outcomes. In terms of broad guidance, it is generally accepted in economics that prices between standalone and avoidable costs are efficient.

Incenta considers that economic efficiency is consistent with the following outcomes:[184]

177 Draft Decision, p 319, paragraph 1475.

178 Draft Decision, p 320, paragraph 1480.

179 Draft Decision, p 320, paragraph 1486.

180 Draft Decision, p 231, paragraph 1487.

181 Draft Decision, p 321, paragraph 1488.

182 Draft Decision, p 321, paragraph 1488.

183 Draft Decision, p 321, paragraph 1489.

184 Incenta, Cost Allocation between Covered and Uncovered Services: Report for Herbert Smith Freehills, November 2014, p 7 (**Incenta November 2014 report**).

a. consumption/use of the regulated services occurs when the benefit from that consumption/use exceeds the cost caused by that use (and conversely, consumption/use does not occur if the benefit is lower than the cost);

b. new or continued investment occurs to support efficient consumption/use (and, equally, does not occur if the associated consumption would be inefficient);

c. production of the service occurs at least cost; and

d. these outcomes continue to be met over time.

GGT considers that its proposed cost allocation is consistent with the outcomes identified by Incenta, and that the ERA's proposed cost allocation is inconsistent with these outcomes.

First, the costs "caused" by the use of the covered pipeline are the standalone costs. The assets that are used to provide services by means of the covered pipeline were created first and the provision of these services caused the costs associated with the pipeline to be incurred.[185] Therefore, reference tariffs that are based on the standalone costs of providing those services is consistent with (a) above. Further, where an expansion takes place, the costs that are caused by the use of the incremental capacity created by the expansion are the incremental costs associated with that expansion. If a cost allocation methodology is adopted which has the effect of tariffs for expanded capacity to be charged above incremental cost paragraphs (a) and (b) above will not be satisfied.[186]

The ERA notes that a potential outcome of the ERA's proposed cost allocation methodology is that investment projects that could be undertaken at marginal cost may not proceed, but appears to discount this potential source on inefficiency.[187]

However, the Authority notes that the incremental costs of providing additional services on an existing pipeline with surplus capacity are likely to be substantially lower than for a pipeline that is operating at capacity (and, hence, which would require an investment to expand its capacity through the installation of additional compressors or looping). Hence, the Authority considers that a total revenue allocation to covered services that includes a CAM that allocates joint costs across all services delivered by the GGP will minimise the burden of economic inefficiencies across all services provided by the GGP in its entirety — and, in particular, when compared to the burden of economic inefficiencies that may emerge as a result of the CAM proposed by GGT, in which all joint costs are allocated only to covered services.

GGP does not understand the basis upon which the ERA has discounted the inefficiency that may arise from the ERA's cost allocation where uncovered expansions that would be profitable had the pipeline owner had been able to charge new customers a price equal to marginal cost will not proceed. Any expansion to the

185 Competition Economists Group, *Cost Allocation for the Goldfields Gas Pipeline*, January 2016, paragraph 55. (**CEG January 2016 report**)

186 CEG January 2016 report, [20], [38]-[40].

187 Draft Decision, p 321, paragraph 1492.

GGP will require an investment through the installation of additional compressors or looping. In short, the ERA's Draft Decision does not address this source of inefficiency that arises from its cost allocation.

The ERA also notes that a potential consequence of the ERA's cost allocation methodology is that GGT may be required to bear a share of the joint costs under AA3 that were previously borne by the reference tariff for covered services during AA2 and that this may lead to higher tariffs for uncovered services in the future.[188] The commercial arrangements that GGT has entered into with respect to services provided by expansions that do not form part of the covered pipeline set out price and non-price terms and conditions that represent the assessment of the respective parties as to the risk and rewards associated with the expansion. Under these arrangements there is no ability for GGT to pass through any of the share of the joint costs that were previously borne by the reference tariff. The ERA's proposed cost allocation has a significant impact on how GGT views the commerciality of these arrangements, which in turn impacts upon GGT's incentives to undertake efficient investment. The introduction of this regulatory risk may have broader consequences for the promotion of efficient investment more generally.

In the circumstances of the GGP, there is no evidence to suggest that reference tariffs arising from GGT's proposed cost allocation methodology creates a risk the use of covered services could be dissuaded. For all relevant purposes, the capacity of the covered pipeline is fully contracted. GGT does not anticipate any material tranches of capacity on the covered pipeline to be uncontracted before 2029. To the extent small tranches of capacity on the covered pipeline have become available over the current access arrangement period, GGT has been able to successfully recontract that capacity.

GGT does not consider reasonable the ERA's finding that, if GGT's proposed cost allocation is maintained, existing and potential users may withdraw their demand for covered services including by re-locating or scaling back their operations. As the ERA is aware, users of the GGP are predominately involved in the resources sector. It is not credible to suggest that such users would re-locate their operations as a consequence of GGT's proposed cost allocation in order to withdraw their volumes from the GGP. Similarly, as the ERA's consultant, Frontier, noted in the previous access arrangement revision process, these users are unlikely to withdraw volumes so long as their operations are profitable.[189]

Even where the customer is free to reduce volume without consequence, volume is likely to be maintained so long as continued operations are viable for the customer. This, in turn, depends upon the customer's own sale contracts and its costs of production. So long as the mining company's customer's operation continues to be economically viable (profitable), that customer is unlikely to withdraw volume from the pipeline.

188 Draft Decision, p 321, paragraph 1492.

189 Frontier Economics, Review of Weighted Average Cost of Capital Estimate Proposed by Goldfields Gas Transmission, 15 March 2010, pp 17-18.

In this regard, the ERA has previously found that with any expiration of customer contracts on the covered portion of the capacity on the GGP, it is reasonable to assume that existing customers and/or new customers, would provide continued demand for the covered capacity. The ERA has relevantly concluded that it is "reasonable to assume that there is limited volume or price risk for the covered portion of the GGP capacity".[190] Those findings were in the context of reference tariffs calculated on the basis of GGT's proposed cost allocation (and the HCA to depreciation).

Further, as noted by CEG, even if there was a material risk of users of the covered pipeline being unwilling to pay the stand-alone costs of the covered pipeline, that risk is adequately managed via the prudent discount provisions in rule 96 of the NGR. CEG finds that use of prudent discounts to manage such risk, as opposed to allocating costs to users of the uncovered capacity (assuming that this can even be done), is appropriate because it maintains efficient usage of the covered capacity without compromising efficient investment in uncovered capacity.[191]

The extensions and expansion requirements set up a regime that allows for extensions and expansions not to form part of the covered pipeline. This is appropriate including for the reasons set out in the CEG report:

a. it enables a service provider to signal the marginal costs of the new investment to the prospective customers;

b. efficient investments will not be abandoned simply because of the inclusion of a share of non-marginal sunk common costs; and

c. it will avoid the situation in which customers inefficiently reduce their use of the pipeline because of the inclusion of non-marginal sunk costs.[192]

The extensions and expansion requirements also facilitate a mechanism whereby the decision as to whether any particular extension or expansion will form part of the covered pipeline at the time of undertaking the investment. This is appropriate because whether or not it is desirable that a particular extension or expansion should form part of the covered pipeline or should not form part of the covered pipeline may vary depending on the circumstances prevailing at the time the investment is undertaken.

If it is determined that the extension or expansion will not form part of the covered pipeline, the service provider wears the risk / reward associated with that investment, and users of the covered pipeline are in effect shielded from any risks associated with that investment.

190 ERA, Final Decision on GGT's Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline, 13 May 2010, paragraph 249.

191 Competition Economists Group, Cost Allocation for the Goldfields Gas Pipeline, January 2016, paragraphs 22-27.

192 CEG, Cost Allocation for the Goldfields Gas Pipeline, July 2014, [50]-[51].

Issues raised by BHPB/Incenta concerning the NGO

BHBP's consultant, Incenta, considers that the national gas objective has two components, a requirement to promote economic efficiency, and a reference to the pursuit of the long term interests of consumers.[193] In light of these two components, Incenta considers that it is unclear whether the national gas objective has a pure efficiency objective, or gives priority to the interests of consumers.[194] Incenta considers that if the objective gives priority to the interests of consumers, the case for allocating a share of what Incenta calls the "joint costs" to uncovered services is stronger than with an economic efficiency objective.[195]

On the basis of the material set out below, GGT submits that it is unambiguous that the national gas objective is a pure efficiency objective, and the requirement to promote economic efficiency and the pursuit of the long term interests of consumers are not two individual components to be assessed or approached separately. The promotion of efficiency is how the long term interests of consumers are achieved.

The second reading speech accompanying the National Gas (South Australia) Bill makes clear that the long term interests of end users are to be achieved through the promotion of efficiency:[196]

This Bill incorporates a new national gas objective which mirrors the National Electricity Objective in the National Electricity Law.

The alignment between the objectives of the gas and electricity regime is an important foundation for the regime. A single consistent objective across gas and electricity will increase the prospect that the regimes remain closely aligned over the long term, even in light of the capacity in both regimes for interested parties to make applications to change rules through the Australian Energy Market Commission.

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

The national gas objective is an economic concept and should be interpreted as such.

The long term interest of consumers of gas requires the economic welfare of consumers, over the long term, to be maximised. If gas markets and access to pipeline services are efficient in an economic sense, the long term economic interests of consumers in respect of price, quality, reliability, safety and security of natural gas services will be maximised. By the promotion of an economic efficiency objective in access to pipeline services, competition will be promoted in upstream and downstream markets.

---

193 Incenta, Cost Allocation Between Covered and Uncovered Services, November 2014, p 4 (**Incenta November 2014 report**).

194 Incenta November 2014 report, p 14.

195 Incenta November 2014 report, p 15.

196 House of Assembly, 9 April 2008, p 2884.

Just as the Australian Energy Market Commission must test changes against the objective of the law when making rules, the Australian Energy Regulator must perform its functions in a manner that will or is likely to contribute to achieving the objective of the law.

The purpose of the National Gas Law is to establish a framework to ensure the efficient operation of pipeline services, efficient investment, and the effective regulation of gas networks.

As set out below, the background to the development of the national gas objective confirms the efficiency focus of the objective.

In December 2005, the Expert Panel on Energy Access Pricing (Expert Panel) was established by the MCE to provide policy guidance and recommendations on policy principles and regulatory methodologies suitable for inclusion in a national energy access regime. [197] The Expert Panel considered the objectives for the energy access regimes in detail. The MCE had proposed an object for the NGL in the following form:

The object of this law is to promote the long term interests of consumers of natural gas with respect to the price, quality, safety, reliability and security of supply of natural gas services including through:

(a) promoting material increases in efficient competition in natural gas services; and

(b) promoting efficient investment in, and efficient use of natural gas services.

The Expert Panel noted that there was a material difference in the significance attached to consumer interests as between the national electricity market objective and the MCE's proposed object clause for the National Gas Law.[198]

The national electricity market objective expresses the long-term interests of consumers as a presumed outcome of the promotion of efficient investment in, and efficient use of, electricity services. Efficient investment in and use of electricity services is said to be for the long term interests of consumers. Hence, while long term consumer interest is the ultimate goal, the role of the NEL in achieving this is through the promotion of efficiency and not by other means (such as by measures directed at distributional impacts).

The Expert Panel considered that the proposed objects clause for the NGL reversed the approach taken in respect of the national electricity objective, in identifying the long term interests of consumers as the core concept, with the role of the NGL being to achieve this through means which include the promotion of efficient competition and the promotion of efficient investment in, and use of, natural gas services. The Expert Panel considered that the proposed MCE formulation "opens up (and invites) the

197 Expert Panel on Energy Access Pricing, *Report to the Ministerial Council on Energy*, April 2006, p 6.

198 Expert Panel on Energy Access Pricing, *Report to the Ministerial Council on Energy*, April 2006, p 36.

possibility of other, non efficient related sub-objectives being identified and advanced on the basis that they promote long term consumer interests".[199]

The Expert Panel queried whether the long term interests of consumers should be referenced, however the Expert Panel noted that such a reference was already a feature of the NEL and that it had been identified as a particular feature of the energy market reform program.[200] In that context, the Expert Panel recommended that the NEL formulation of the objective be adopted, which makes clear that the long term consumer interest is achieved through the promotion of efficiency.[201]

Given that express reference to consumer interests is to be included, it is important that this not detract from the efficiency focus of the objective. For that reason, the Panel prefers the NEL formulation outlined above.

The Expert Panel's recommendation on the drafting of the national gas objective was accepted by the MCE and that objective appears in the current NGL.[202]

…the MCE has agreed with the recommendations of the Expert Panel, such that the electricity and gas regimes will be given a common objects clause, and these clauses will be clearly inserted as the object of both the NEL and NGL.

…

The primary focus of the Expert Panel's formulation of the objective is economic efficiency. The ultimate purpose is expressed in terms of the long-term interests of consumers. The promotion of efficient investment and efficient operation will encourage productive efficiency, allocative efficiency and dynamic efficiency, and will maximise the long-term interests of consumers.

…

The objective emphasises the adoption of a long-term perspective with respect to consumer interests, and that a critical factor in such a long-term perspective is the impact of decisions on investment in gas infrastructure and services.

Relevant to this issue of the efficiency focus of the national gas objective is BHPB's submission that costs should be allocated "fairly".[203] GGT submits that notions of "fairness" are not relevant to the cost allocation issue. Concepts of economic efficiency are at the centre of the access regime, and it would be an error to seek to construe the provisions of Part 8 of the NGL in light of notions of "fairness" or "reasonableness". This is consistent with advice commissioned by the Standing Committee of Officials of the MCE on the initial NGR considered that it was

199 Expert Panel on Energy Access Pricing, *Report to the Ministerial Council on Energy*, April 2006, p 37.

200 Expert Panel on Energy Access Pricing, *Report to the Ministerial Council on Energy*, April 2006, p 37.

201 Expert Panel on Energy Access Pricing, *Report to the Ministerial Council on Energy*, April 2006, p 38.

202 Standing Committee of Officials of the Ministerial Council on Energy, *2006 Comprehensive Legislative Package: Overview and Response to Expert Panel on Energy Access Pricing*, November 2006, pp 9-10.

203 BHP Billiton, Submission in response to Goldfields Gas Transmission Pty Limited's Proposed Revisions to the Goldfields Gas Pipeline Access Arrangement, 27 November 2014, p 3 (**BHPB November 2014 submission**).

inappropriate to include "fairness and reasonableness" as a criterion in the assessment of cost allocation because their inclusion is not consistent with an economic efficiency objective. [204]

Relevance of approaches taken in other industry sectors

In the Draft Decision the ERA states that it has "noted the regulatory approaches that have been taken in other industry sectors". [205] The CEG report has considered each of the examples referred to by Incenta and noted in the ERA's Draft Decision. As identified by CEG, there are significant differences between each of these approaches and the nature of the industries (and their regulatory frameworks) differ from the gas industry and the applicable regulatory framework.[206] As noted by the ERB, approaches taken by regulators operating under different regulatory regimes do not assist in construing the provisions of the applicable regulatory framework.[207]

While approaches to cost allocation in other industries will generally be of no assistance in seeking to interpret the cost allocation provisions in the NGR, GGT submits that the presence of the detailed shared asset provisions in the National Electricity Rules (and the corresponding absence of such rules in the NGR), tends to suggest that the regimes do operate differently.

The electricity shared assets rule was made by the AEMC in November 2012. The relevant clause is 6.4.4(a), set out below.

Shared assets

(a) Where an asset is used to provide both standard control services and either:

(1) distribution services that are not classified under clause 6.2.1; or

(2) services that are neither:

(i) distribution services; nor

(ii) services that are provided by means of, or in connection with, dual function assets that are owned, operated or controlled by the Distribution Network Service Provider,

the AER may, in a distribution determination for a regulatory control period, reduce the annual revenue requirement for that Distribution Network Service Provider for a regulatory year in that regulatory control period by such amount as it considers reasonable to reflect such part of the costs of that asset as the

204 Standing Committee of Officials of the Ministerial Council on Energy, 2006 Legislative Package: Initial Gas Rules, November 2006, Attachment A (Advice from Allen Consulting Group), p 24.

205 Draft decision, p 315, [1449].

206 CEG January 2016 report, [74]-[89].

207 Western Australian Electricity Review Board, Applications No 1 and 2 of 2010, 22 November 2011, [234].

Distribution Network Service Provider is recovering through charging for the provision of a service referred to in subparagraph (1) or (2).

As part of making the shared assets rule, the AEMC developed the "shared asset principles" to which the AER is required to have regard in making a decision under clause 6.4.4(a). The AEMC also made rules requiring the AER to publish shared asset guidelines that set out the approach the AER proposes to take in applying the shared asset principles. The AER is also required to have regard to these guidelines in making a decision under clause 6.4.4(a).

The NGR do not contain equivalent provisions to NER clauses 6.4.4 and 6A.5.5. This highlights a particular difficulty with the ERA's approach because the ERA's proposed approach involves reading into the NGR provisions similar to those made by the AEMC in 2012 for the NER. There is no basis upon which such provisions can be read in to the NGR.

It is also instructive that the rule changes proposed by the AER on 29 September 2011, which included provisions relating to shared assets, concerned both the NER and the NGR. The AER only proposed provisions relating to shared assets in respect of the electricity rules, and did not make a similar proposal with respect to the NGR. Where the AER considered it was beneficial to align the electricity and gas regimes (which it did in respect of the setting of the rate of return), the AER proposed similar amendments across the NER and the NGR.

10 Reference tariff and tariff variation mechanism

Calculation of the revised reference tariff, and the way in which GGT has addressed *Required amendments 13*, *14* and *15*, are discussed in this section of this submission.

GGT has calculated the revised reference tariff using the tariff model prepared by the ERA for the Draft Decision. The model is provided as Attachment 3 to this submission.

Before addressing the required amendments, GGT notes it has amended the capacity and throughput forecasts used in the revision proposal for the GGP Access Arrangement.

10.1 Capacity and throughput forecasts

The capacity and throughput forecasts used in preparing the August 2014 revision proposal for the GGP Access Arrangement were prepared during the first half of 2014.

GGT has updated those forecasts using information current in December 2015.

The updated forecasts, which have been used in the tariff model attached to this submission, are not substantially different to those which were used in 2014.

GGT notes that it not planning for the total contracted capacity of the Covered Pipeline to exceed the physical capacity of the pipeline at the minimum higher heating value of the GGP reference specification.

10.2 Reference tariff calculation

Required amendment 14

The Authority requires that GGT amend its Reference Tariffs and Charges section of the proposed revised access arrangement in accordance with paragraphs 1603 to1618.

The Authority requires that GGT update its calculation of the reference tariff for the third access arrangement period, as per Table 103 of this Draft Decision.

GGT has amended the reference tariffs and charges section of the proposed revised GGP Access Arrangement. These amendments reflect the way in which GGT has addressed the required amendments set out in earlier sections of this submission.

The revised reference tariff is not, in consequence, the tariff shown in Table 103 of the Draft Decision. The reference tariff which GGT proposes as applying from 1 July 2016 is as shown in Table 15.

Table 15: Reference tariff to apply from 1 July 2016

Tariff component		
Toll tariff	($/GJ MDQ)	0.245608
Capacity reservation tariff	($/GJ MDQ km)	0.001488
Throughput tariff	($/GJ km)	0.000458

10.3 Reference tariff variation mechanism

Required amendment 15

The Authority requires that GGT amend section 4.5 of the proposed revised access arrangement and sections A1 and A2 of Schedule A to the proposed revised access arrangement as set out in paragraphs 1652 to 1684.

GGT has made a number of amendments to the reference tariff variation mechanism set out in section 4.5 of the proposed revised GGP Access Arrangement, and in sections A1 and A2 of Schedule A.

In amending its access arrangement revision proposal in response to the Draft Decision, GGT has adopted the ERA's forecast of inflation of 1.9%. GGT has, therefore, amended the formula for the quarterly scheduled variation of reference tariffs (section A1 of Schedule A) by replacing its earlier inflation forecast of 2.5% with the ERA's forecast.

In the section of this submission which addressed the rate of return, GGT advised that the method for estimation of the return on debt required by the Draft Decision could not lead to an estimate which would contribute to the allowed rate of return objective of rule 87(3). In these circumstances, the ERA's annual update of the trailing average debt risk premium is not relevant to GGT's amended revisions proposal, and has been omitted.

Paragraph 1658 of the Draft Decision advises that the ERA has removed from the formulae of the reference tariff variation mechanism the adjustment of tariffs for a difference between actual and forecast regulatory costs. The adjustment for the difference was part of the reference tariff variation mechanism in the current GGP Access Arrangement, and was part of regulator-approved variation mechanisms in the access arrangements of other service provider.

The ERA's reason for now removing the adjustment for a difference between actual and forecast regulatory costs is that its inclusion would not provide GGT with the right

incentive to incur efficient expenditure on regulatory costs. Removing the adjustment would, the ERA contends, ensure that GGT forecast its future regulatory costs reasonably and that regulatory expenditure is prudently incurred.

This is premised on a narrow view of regulatory costs (that such costs are those associated with the economic regulatory regime), and ignores the principal reason for the ERA's earlier decision to allow the adjustment.

The modern state has been characterised as "the regulatory state". In the regulatory state, the government actively intervenes, for good or ill, across a wide range of private activities. This intervention, through legislation and regulation, may impose costs which are difficult to predict in advance of legislation and regulations being promulgated.

Where legislation and regulation impose costs on a pipeline service provider, the service provider can do little to control those costs. The costs which GGT and other pipeline service providers incur under the Economic Regulation Authority (National Gas Access Funding) Regulations 2009 are a pertinent example.

The variation of reference tariffs via an adjustment for the difference between actual and forecast regulatory costs was intended to allow the recovery, via the reference tariff, of unanticipated regulatory costs which were not under the control of the service provider.

The reason for the adjustment remains, and the inclusion of the adjustment in the reference tariff variation mechanism provides the service provider with the opportunity to recover costs efficiently incurred in providing reference services. In so doing, it ensures that the price signal to users of pipeline capacity is reflective of the costs of providing that capacity and is, then a signal for allocative efficiency consistent with the efficiency focus of the national gas objective of section 23 of the NGL.

GGT has therefore retained the adjustment in the reference tariff for differences between actual and forecast regulatory costs. This retention of the adjustment precludes operation of the tariff variation mechanism in the way intended in the formulae of paragraph 1655, and GGT has retained mechanism of its August 2014 proposed revised GGP Access Arrangement.

GGT has also retained its earlier scheme of cost pass through variation with only minor amendments. The changes proposed, particularly in paragraphs 1668 to 1681 have no real basis in either the NGL or the NGR. They are facilitative of the regulator's task rather than providing a mechanism for cost recovery, and ultimately efficiency in the provision of natural gas services.

Attachments

Attachment 1:	Submission re Terms and Conditions
Attachment 2:	Schedules of Operating Expenditure and Capital expenditure for 2014, and Deloitte's review report
Attachment 3:	Tariff model 29-Jan-2016
Attachment 4:	Capital Expenditure business cases
Attachment 5:	Frontier Economics, *Response to the Economic Regulation Authority on accounting benchmarks*, January 2016
Attachment 6:	Frontier Economics, *Response to the Economic Regulation Authority on the cost of equity*, January 2016
Attachment 7:	HoustonKemp, *Review of ERA's draft decision on depreciation*, January 2016
Attachment 8:	Competition Economists Group, *Cost Allocation for the Goldfields Gas Pipeline*, January 2016