Submission – Queensland Rail's Draft Access Undertaking 1 (2015)

Submissions on "A preliminary view: Regulatory economics assessment of the proposed Western System asset valuation approaches" by Professor Flavio Menezes

June 2015

1 Introduction

On 5 May 2015, Queensland Rail Limited (**Queensland Rail**) lodged a draft access undertaking (**2015 DAU**) with the Queensland Competition Authority (**QCA**) in response to an initial undertaking notice issued by the QCA under section 133 of the Queensland Competition Authority Act 1997 (**QCA Act**).

On 6 May 2015, the Queensland Competition Authority (**QCA**) notified Queensland Rail Limited (**Queensland Rail**) that it was commencing an investigation in relation to the 2015 DAU.

Also on 6 May 2015 the QCA separately by notice to parties that subscribe to the QCA website[1]:

(i) invited *"interested parties"* to make written submissions on Queensland Rail's draft access undertaking (**2015 DAU**) in response to the QCA's investigation before 5:00pm on 5 June 2015;

(ii) published a report dated 8 April 2015 by Professor Flavio Menezes entitled "A preliminary view: Regulatory economics assessment of the proposed Western System asset valuation approaches" which the QCA described as a *"preliminary independent economic expert report assessing the asset valuation methodologies which were considered by the QCA prior to the withdrawal of the 2013 DAU"* (**Menezes View**); and

(iii) invited *"stakeholders"* to make submissions on the Menezes View *"in the interests of the 2015 DAU being considered in a timely manner"*.

This submission is in relation to the Menezes View and is in addition (and without limitation to) Queensland Rails past submissions in relation to the matters referred to in the Menezes View or the 2015 DAU.

2 Executive summary

Queensland Rail's 2015 DAU approach to asset valuation and the setting of a reference tariff for coal carrying trains services using the West Moreton Network is reasoned and appropriate. In particular, Queensland Rail's decoupling of the reference tariff under the 2015 DAU from the ceiling revenue limit and effective assumption of greater volume risk has resulted in a reference tariff that is substantially below the ceiling revenue limit.

Queensland Rail has elected to take this approach in the 2015 DAU with a view to promoting volumes on the West Moreton Network and price stability.

Consistent with the past valuation methodologies promoted and approved by the QCA including for rail assets, the 2015 DAU ceiling revenue limit is based on a conventional DORC valuation methodology.

The Menezes View seeks to legitimise two alternative valuation methodologies that would materially and negatively impact on the ceiling revenue limit. The alternative methodologies discussed in the Menezes View are not supported by regulatory precedent and are not well founded for the reasons articulated in this submission.

In addition, this submission identifies:

(a) a potential serious flaw in the process surrounding the commissioning of the Menezes View by the QCA;

[1] Queensland Rail does not know if any other invitation was issued by the QCA along similar lines.

(b) a lack of procedural fairness in terms of the QCA's approach on engaging with Queensland Rail in relation to asset valuation; and

(c) material issues with the Menezes View namely, in respect of the expression of legal opinion, the apparent preliminary nature of the view and the economic rationale for the conclusions reached in the Menezes View.

3 Context and chronology

It is important to consider the Menezes View in the context of the regulatory process for the approval of Queensland Rail's initial access undertaking. Relevant to the consideration of the Menezes View are various key events including those set out below.

Date	Event
30 March 2012	Queensland Rail submits draft access undertaking (**2012 DAU**)
30 April 2012	QCA publishes an issues paper which made no suggestion of a change to the established asset valuation methodology for Queensland Rail's assets.
25 February 2013	Queensland Rail withdraws 2012 DAU and submits new draft access undertaking (**2013 DAU**).
6 June 2014	QCA publishes a "Consultation Paper: Queensland Rail's Western System Coal Tariffs" regarding *"two alternative tariff proposals"* developed by the QCA (**Consultation Paper**).
6 June 2014	QCA releases a report by B&H Strategic Services Pty Ltd (**B&H**) entitled "Review of the Queensland Rail (QR) West Moreton System Maintenance Costs, Capital Costs (Capex), Operations Costs, Depreciated Optimised Replacement Cost (DORC) for the Queensland Competition Authority" dated May 2014 (**Initial B&H Valuation**). The Initial B&H Valuation arrived at a valuation within approximately 2% of Queensland Rail's proposed valuation underpinning the reference tariffs proposed in the 2013 DAU.
28 June 2014	Queensland Rail makes a submission in respect of reference tariffs relating to the West Moreton System.
18 July 2014	Queensland Rail makes a submission in response to the Consultation Paper.
17 October 2014	QCA releases a report by B&H entitled "Supplementary Report Review of the Queensland Rail (QR) West Moreton System Depreciated Optimised Replacement Cost (DORC) Using the Timeline of Expenditure for the Queensland Competition Authority" dated September 2014 (**Second B&H Valuation**). The Second B&H Valuation adopted a different methodology from that used for the Initial B&H Valuation. The Second B&H Valuation report states that it was commissioned by the QCA and that the QCA had *"asked B&H to consider an approach that reviewed the historical expenditure and the depreciation of assets"*.

17 October 2014	QCA issues a draft decision *"declining to approve"* the 2013 DAU and proposing a new valuation methodology – a methodology that proposed to attribute a zero value to assets that the QCA described as "life expired". The proposed new methodology departed materially from regulatory precedent.
12 December 2014	Queensland Rail withdraws the 2013 DAU. That DAU was withdrawn on 12 December 2014 following the draft decision by the QCA which foreshadowed a material change to the valuation of Queensland Rail's assets that, if implemented, would result in significant reduction of 42% in the value of Queensland Rail's assets in the West Moreton Network and the consequent inability of Queensland Rail to recover at least its efficient costs and a return as required by the pricing principles in the QCA Act.
4 February 2015	QCA issues an initial undertaking notice which required Queensland Rail to submit a draft access undertaking within 90 days.
2 April 2015	Letter from Queensland Rail to the QCA which amongst other matters stated that: *"As you may know, we have been seeking to meet with officers of the QCA to discuss matters relevant to the Draft Access Undertaking (DAU) being developed in response to the initial undertaking notice, and in respect of various matters, that will inform our drafting of the DAU based on the QCA's Draft Decision on the 2013 DAU. To date, the QCA has not been willing to meet with Queensland Rail.* *While there are a number of other issues we would like to discuss with the QCA before finalising our DAU, there are two we would appreciate a prompt response on."* The letter went on to specifically refer to the two issues. The first being *"the QCA's approach on the value attributed to "life expired" assets"*. The second issue being *"the QCA's approach to train path allocation"*. The letter indicated that: *"We would be happy to discuss these issues for clarification in conference with you, although a written response would be much appreciated so as to ensure we correctly understand the QCA's position"*. A copy of the letter from Queensland Rail to the QCA is attached to this submission as **Attachment A**.
8 April 2015	Letter from the QCA to Queensland Rail in response to Queensland Rail's letter of 2 April 2015. On the issue of treatment of "life expired" assets, the letter merely referred Queensland Rail to the QCA's draft decision on the 2013 DAU and the two B&H reports. On the issue of train path allocation, the letter simply referred Queensland Rail to the QCA's draft decision on the 2013 DAU. But also indicated that *"the QCA assumes for assessing revenue adequacy that all services are paying the highest tariff"*. The QCA did not offer to, and did not, meet with Queensland Rail or provide any additional information. No mention was made of the report commissioned by the QCA from Professor Menezes dated 8 April 2015 on asset valuation

	approaches. A copy of the letter from the QCA to Queensland Rail is attached to this submission as **Attachment B**.
5 May 2015	Queensland Rail submits the 2015 DAU. The 2015 DAU proposed a reference tariff based on a DORC valuation consistent with the existing valuation methodology and was accompanied by specific submissions on the appropriateness of this valuation methodology (including as compared to the QCA's proposed approach to valuation in its draft decision relating to the 2013 DAU).
6 May 2015	QCA: • commences investigation relating to 2015 DAU; and • releases the Menezes View (which is dated 8 April 2015).

4 Potential serious flaw in process

The chronology set out in section 3 of this submission indicates that the QCA commissioned the Menezes View after the withdrawal of the 2013 DAU and before either the submission of the 2015 DAU or the notice of investigation was issued under section 146 of the QCA Act in respect of the 2015 DAU.

If that is the factually the case, it reveals a potentially serious flaw in the QCA's process which would have a material adverse affect on the interests of Queensland Rail.

The QCA's functions are described in section 10 of the QCA Act and the QCA's general powers in relation to the performance of its functions are described in section 11 of the QCA Act. There is nothing in either of those sections which would empower the QCA to commission the Menezes View.

In the absence of a formal investigation or an ongoing consideration in respect of a draft access undertaking submitted by Queensland Rail for the QCA's approval, the QCA does not appear to have any statutory power or function to commission a report about the valuation methodologies to be applied in respect of Queensland Rail's assets.

In the absence of a statutory power to commission the Menezes View, the QCA would not be entitled to commission the Menezes View. Consequently, in those circumstances, the QCA cannot rely upon the Menezes View, or on any stakeholder submissions in respect of the Menezes View, for any purpose associated with a consideration of the 2015 DAU. At best, the Menezes View relates to the 2013 DAU which is no longer before the QCA for consideration.

5 Lack of procedural fairness

In addition, events referred to in section 3 above reveal that Queensland Rail has been denied procedural fairness.

In the preparation of the 2015 DAU Queensland Rail sought on several occasions to meet with the QCA about asset valuation and other issues. Throughout that period the QCA refused to meet with Queensland Rail. Queensland Rail's efforts culminated in its letter dated 2 April 2015 in which Queensland Rail specifically asked for a meeting to discuss asset valuation issues.

The QCA responded by letter dated 8 April 2015 providing no explanation as to why it would not meet with Queensland Rail and no meaningful response to the matters raised by Queensland Rail's 2 April 2015 letter.

It would have been clear to the QCA that asset valuation was a key issue in the development of the 2015 DAU, which was one of the two issues on which Queensland Rail specifically requested a meeting.

It is now apparent that at the very time the QCA was refusing to meet with Queensland Rail about the valuation issue the QCA had commissioned and received the Menezes View relating to asset valuation methodologies for Queensland Rail's assets.

The QCA is now considering the 2015 DAU for approval and in that context has specifically sought submissions on the Menezes View.

Queensland Rail was denied the opportunity to consider the Menezes View in its preparation of the 2015 DAU even though the QCA had clearly commissioned the Menezes View with a view to it forming part of its consideration of the 2015 DAU for approval.

If Queensland Rail had been given an opportunity to consider the Menezes View prior to its submission of the 2015 DAU it may well have altered the approach to the 2015 DAU or its supporting submissions.

The denial of procedural fairness to Queensland Rail has the consequence that the QCA should not rely on the Menezes View or any stakeholders submissions in respect of it.

6 Material issues

For the reasons set out above, it is not appropriate for the QCA to have regard to the Menezes View. In any case, this section 6 discusses a number of material issues relating to the Menezes View which fundamentally affect its conclusions and the weight that the QCA could put on the Menezes View if it were able to consider it.

6.1 Expressions of legal opinion

The Menezes View is expressed to be a "regulatory economics assessment" of asset valuation approaches for the West Moreton Network. However, the author of the Menezes View expresses legal opinions on the legal requirements of the QCA Act and the way in which the QCA should apply the QCA Act.

Given that, Queensland Rail does not propose to respond to the expressions on matters of law in the Menezes View but notes that in some material instances they do not accord with Queensland Rail's understanding of the QCA Act and its legal operation.

In any case, as the author of the Menezes View is not qualified to advise on legal matters, the QCA should not take into account any aspects of the Menezes View that:

- express legal opinion on the QCA Act or how it operates; or
- any conclusion in the Menezes View that relies on a legal interpretation of how the QCA Act is to be applied.

6.2 Preliminary view

Queensland Rail notes that the Menezes View is expressed to be "A preliminary view".

It is not clear how any expert opinion on an economic assessment of possible asset valuation approaches could be preliminary in nature.

The QCA may be swayed by submissions on the most appropriate asset valuation methodology for the West Moreton Network assets. However, for the Menezes View to be afforded weight as a truly independent expert opinion on asset valuation methodologies, Professor Menezes cannot be influenced by any subsequent submissions the QCA receives in response to Menezes View.

6.3 Regulatory economic issues

The Menezes View was commissioned by the QCA from Professor Menezes for his view in relation to the asset valuation approaches relating to Queensland Rail's West Moreton Network.

Queensland Rail has made submissions to the QCA in the past in relation to asset valuation methodologies including most recently for its 2015 DAU. However, for the purpose of considering the Menezes View, Queensland Rail engaged PwC and Frontier Economics to each independently review the Menezes View and provide their expert opinions. Their reports are attached to this submission as **Attachment C** and **Attachment D** respectively.

The reports by PwC and Frontier Economics were prepared independently of each other and without knowledge of each other's expert analysis and conclusions. Despite this their reports complement each other and raise similar issues and conclusions in relation to the Menezes View.

Both the PwC and Frontier Economics reports support the position that a conventional DORC valuation (without any exclusion of assets) is the most appropriate valuation methodology for the valuation of the assets in the West Moreton Network.

It is Queensland Rail's submission that the concerns raised in the PwC and Frontier Economics reports in relation to the Menezes View are so material that they adversely affect the weight (if any) that the QCA can give the Menezes View, even if the QCA was otherwise entitled to consider it.

Attachment A

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Mr John Hindmarsh
CEO
Queensland Competition Authority
Level 27, 145 Ann Street
Brisbane Qld 4000

Dear Mr Hindmarsh

Queensland Rail Draft Access Undertaking

As you may know, we have been seeking to meet with officers of the QCA to discuss matters relevant to the Draft Access Undertaking (DAU) being developed in response to the initial undertaking notice, and in respect of various matters, that will inform our drafting of the DAU based on the QCA's Draft Decision on the 2013 DAU. To date, the QCA has not been willing to meet with Queensland Rail.

While there are a number of other issues we would like to discuss with the QCA before finalising our DAU, there are two we would appreciate a prompt response on. The first issue relates to the QCA's approach on the value attributed to "life expired" assets. As you know, in the Draft Decision the QCA proposed a zero value for certain assets (e.g. tunnels and earthworks) on the basis that they were fully depreciated in an accounting sense.

In particular, Queensland Rail would like to better understand:

1. The basis on which the QCA has determined that the asset value proposed by Queensland Rail in DAU1 "over-compensates" (p.136) Queensland Rail for regulatory and commercial risks, and further the basis on which this valuation approach was determined to be "not consistent with the efficient investment in and use of the rail infrastructure ...", noting that the asset valuation approach proposed by Queensland Rail is not dissimilar to that accepted by the QCA for other regulated entities.

2. The evidence that the QCA has relied on to form a view that it is "reasonable to consider that these assets have been fully depreciated and including them would amount to 'double counting'" (p.138). Also, what evidence has the QCA relied on to conclude that the previously levied below-rail access charges have fully recovered the full economic costs of the West Moreton system?

The second issue relates to the QCA's approach to train path allocation, where the QCA's Draft Decision proposes to allocate certain costs (including opening asset value, future capital expenditure and operating costs) to coal services based on coal's share of available paths. Given that this train path allocation methodology will cause costs to be allocated to unused train paths, Queensland Rail would like to understand the manner in which the QCA considers that this train path allocation methodology is consistent with the QCA Act pricing principles, in particular s.168A(a) that prices should "generate expected revenue for the service that is at least enough to meet the efficient costs of providing access to the service and include a return on investment commensurate with the regulatory and commercial risks involved".

We would be happy to discuss these issues for clarification in conference with you, although a written response would be much appreciated so as to ensure we correctly understand the QCA's position.

Please let me know if the QCA is able to assist us with these issues and how you would like to proceed. Given the time constraint on the development of our DAU, in response to the initial undertaking notice, your earliest reply would be appreciated.

Yours sincerely

[redacted]

Mark Hope
Chief Financial Officer

02 April 2015

Attachment B

Queensland Competition Authority

File Ref: 819260

8 April 2015

Mr Mark Hope
Chief Financial Officer
Queensland Rail
GPO Box 1429
Brisbane QLD 4001

Mark

Dear Mr Hope

We refer to your letter of 2 April 2015, seeking information on issues relating to the draft access undertaking (DAU) being developed in response to the initial undertaking notice.

Asset value

The basis on which the QCA, in its draft decision in respect of the now-withdrawn DAU, determined the asset value of the western system is detailed in section 8.3.2 of our October 2014 draft decision (pp. 128–141). The analysis draws on the May 2014 and September 2014 technical reports by B&H Strategic Services (B&H) which the QCA has relied on to form its views about expected useful lives and related valuation issues.

Revenue adequacy and non-coal traffic

The issue of revenue adequacy and the treatment of non-coal traffic is discussed in the introduction to section 8.4.3 of our October 2014 draft decision (p.150). In its assessment the QCA assumes for assessing revenue adequacy that all services are paying the highest tariff. This is based on a principle in the current undertaking that was also proposed by Queensland Rail in its now-withdrawn DAU.

Yours sincerely

[redacted]

John Hindmarsh
Chief Executive Officer

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Attachment C

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Asset Valuation

Response to the QCA's independent economic expert report

Queensland Rail

Supporting analysis for submission to the QCA

5 June 2015

pwc

Contents

1 Purpose and summary

1.1 Purpose

PwC has been asked by Queensland Rail to comment on the conclusions in a preliminary independent economic expert report prepared by Professor Flavio Menezes (**the Preliminary Report**) which assesses the appropriateness of regulatory asset valuation methodologies for the West Moreton Network.

The Preliminary Report considers the relative advantages and disadvantages of two valuation approaches - Depreciated Actual Cost (**DAC**) and a modified form of Depreciated Optimised Replacement Cost (**DORC**). While suggesting that both approaches would satisfy the QCA's statutory obligations, the Preliminary Report *concludes* that in the case of the West Moreton Network:

- a DAC approach is simpler to construct and will ensure that there is no over-recovery of costs
- a DORC approach that places a positive value on 'assets with expired expected lives'[1] would yield a 'windfall gain' for Queensland Rail, leading to an increased risk that prices are 'sufficiently high to impact competition in relevant markets'.[2]

In relation to the valuation of the West Moreton Network assets, the Preliminary Report's conclusions rest upon a number of *propositions* which include:

- an assertion that DORC values are higher than DAC, implying a higher return than expected at the time assets were constructed
- whether or not cost recovery is actually achieved is irrelevant, rather it is whether there was an intention or opportunity to recover costs
- it is 'very difficult to determine how to depreciate the optimised new network to reflect the existing configuration of assets'[3] and that determining 'the cost of building a facility that can provide the same services as the existing facility is problematic at best'[4]
- a DAC valuation, if set lower than DORC, 'is less likely to impact negatively on competition in relevant markets as it is less likely to embody monopoly rents.[5]

1.2 Overview

The findings of the Preliminary Report are premised on a *conceptual framework* which represents, in a simplified model, the economic issues facing regulated businesses, access seekers and holders, and the regulator. The 'NPV=0' model presented in the Preliminary Report is a theoretical construct and, whilst this is a useful device to illustrate the conceptual challenge confronting an economic regulator, it abstracts from important practical and

1 "Life expired assets" refers to the concept of "long standing assets with an expired expected asset life" in the Preliminary Report.

2 Menezes, F. (2015), A *preliminary view – Regulatory economics assessment of the proposed Western System asset valuation approaches*, prepared for the QCA, page 26.

3 *Ibid*, page 4.

4 *Ibid*, page 14.

5 *Ibid*, page 24.

commercial realities. The Preliminary Report then reaches definitive conclusions, based on this model, which go beyond the evidence presented in the paper.

PwC disagrees with the conclusions reached in the Preliminary Report in relation to the appropriate regulatory asset valuation approach for the West Moreton Network. Our review has identified a number of concerns with the methodology and findings of the Preliminary Report, and its relevance to the method by which the QCA should value Queensland Rail's West Moreton Network.

Generally we consider the Preliminary Report:

1. implies definitive or highly-likely outcomes without presenting sufficient arguments and evidentiary support
2. does not acknowledge the strong regulatory precedent for DORC and overstates the practical complexities of this valuation approach
3. presents efficiency concerns that are biased towards the user and in doing so does not appropriately acknowledge the implications for investment incentives for the service provider
4. introduces a new regulatory valuation concept, implying that regulators ought to consider the intention at the point of investment in deciding whether to include assets in the regulatory valuation
5. relies on precedents from international jurisdictions which are of limited relevance to Australian regulatory considerations.

Reflecting these concerns, our view is that the Preliminary Report should not be used or relied on by the QCA in its regulatory valuation of the West Moreton Network assets. Further, the Preliminary Report does not consider the approach proposed by Queensland Rail in the 2015 DAU, and as such presents conclusions without reference to the specific approach proposed by Queensland Rail.

2 Background

2.1 Reference tariff for the West Moreton Network

Queensland Rail's primary business is the delivery of public transport through the provision of passenger rail services and supporting private freight services through the provision of rail infrastructure. Queensland Rail's intra-state rail network is declared for access under Part 5 of the *Queensland Competition Authority Act 1997* (**the QCA Act**). It also is subject to the terms of access undertaking approved by the Queensland Competition Authority (**QCA**) in 2008 (as revised in 2010).

Queensland Rail owns and operates the West Moreton Network and Metropolitan Network which extends from Macalister to the Port of Brisbane. While the entirety of Queensland Rail's intra-state rail network is subject to declaration and the 2008 undertaking, a reference tariff only exists for coal train services on the West Moreton Network and Metropolitan Network.[6]

2.2 Draft Access Undertaking for the West Moreton Network

Queensland Rail provided to the QCA a submission in June 2013 (**2013 DAU**) that included a proposed tariff for the West Moreton Network of $22.22/'000 gtk (in $2013-14).[7] The 2013 DAU proposed a DORC valuation of the West Moreton Network assets of $419.6m.

In October 2014, the QCA's Draft Decision concluded that a tariff of $14.29/'000 gtk was appropriate based on stakeholder feedback and a revised DORC valuation of $246.6m. The QCA's revised DORC valuation approach included:

- placing a zero value on assets (e.g. tunnels and earthworks) built so long ago that they can be reasonably considered to be fully life expired
- placing a zero value on assets (e.g. wooden sleepers) that are still in service after their assessed useful lives have expired, because of ongoing maintenance).[8]

Due to significant changes in the business environment and changes to the QCA's regulatory approach, Queensland Rail withdrew the 2013 DAU in December 2014.[9] In order to take into account these changes and ensure that Queensland Rail's access undertaking is fit for purpose, Queensland Rail determined that amendments to the 2013 DAU were required. A revised draft access undertaking (**2015 DAU**) was submitted to the QCA on 5 May 2015.

Queensland Rail's 2015 DAU proposes to 'decouple' the ceiling tariff the regulator would determine, using conventional building block methods, from the reference tariff that would apply to current and future users (for the term of the 2015 DAU). This allows the network valuation to be assessed using generally-accepted regulatory principles based on a building block approach including a DORC methodology, knowing that it does not impact directly the reference tariff that would apply to the West Moreton Network during this regulatory period.

Queensland Rail sought comment from PwC on certain asset valuation issues including an assessment of the QCA's application of DORC and the treatment of 'life expired' assets within a DORC valuation methodology. PwC provided supplementary analysis to its July 2014 review including commentary on certain asset valuation issues, the appropriate asset

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6 Queensland Competition Authority (2014), *Consultation Paper on Queensland Rail's 2013 Draft Access Undertaking*, page 2.

7 The current 2013-14 price is $18.56/'000 gtk.

8 Queensland Competition Authority (2014), D*raft Decision on Queensland Rail's 2013 Draft Access Undertaking*, page 139.

9 Queensland Rail: 2013 DAU withdrawal letter addressed to Mr Hindmarsh, Chief Executive Officer of QCA, dated 12 December 2014.

valuation methodology for the West Moreton Network and an assessment of the QCA's application of DORC.[10]

PwC also was engaged by Queensland Rail to provide advice on factors that are relevant to Queensland Rail determining a reference tariff below the ceiling price.[11] Our view, set out in that report, is that there is no single, formulaic way to express how a reference tariff may appropriately vary from a conventionally-calculated ceiling. Rather, the difference reflects a range of commercial, economic, user and system-specific factors, which may vary over time.

On 6 May 2015, the QCA published a preliminary independent economic expert report assessing the asset valuation methodologies which were considered by the QCA prior to the withdrawal of the 2013 DAU. As the Preliminary Report was published on the day after Queensland Rail's 2015 DAU, and supporting PwC documents, were lodged, it could not have contemplated the approach and issues as currently proposed by Queensland Rail. The QCA has invited stakeholders to make submissions on the report as part of commenting on Queensland Rail's 2015 DAU. Queensland Rail has requested that PwC review the Preliminary Report and provide a response to its key arguments.

2.3 Disclaimer

This Report has been prepared for Queensland Rail under the terms of our Engagement Contract with Queensland Rail. As an independent report, it has been prepared for Queensland Rail but does not necessarily reflect the views of Queensland Rail.

In preparing this Report we have only considered the circumstances of Queensland Rail. Our Report is not appropriate for use by persons other than Queensland Rail, and we do not accept or assume responsibility to anyone other than Queensland Rail in respect of our Report.

The information, statements, statistics and commentary (together the 'Information') contained in this report have been prepared by PwC from material provided by Queensland Rail, and from other industry data sources external to Queensland Rail. PwC may at its absolute discretion, but without being under any obligation to do so, update, amend or supplement this document.

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10 PwC (2015), *Asset Valuation of the West Moreton Network – Supporting analysis for submission to the QCA.*

11 PwC (2015), *Reference Tariff for the West Moreton Network – Supporting analysis for submission to the QCA.*

3 Analysis and elaboration

Queensland Rail requested that PwC review the Preliminary Report, and provide a response to the key arguments put forward in that document. Generally we consider the Preliminary Report:

1. implies definitive or highly-likely outcomes without presenting sufficient arguments and evidentiary support
2. does not acknowledge the strong regulatory precedent for DORC and overstates the practical complexities of this valuation approach
3. presents efficiency concerns that are biased towards the user and in doing so does not appropriately acknowledge the implications for investment incentives for the service provider
4. introduces a new regulatory valuation concept, implying that regulators ought to consider the intention at the point of investment in deciding whether to include assets in the regulatory valuation
5. relies on precedents from international jurisdictions which are of limited relevance to Australian regulatory considerations.

Each of these concerns and the implications for the conclusions in the Preliminary Report is discussed in further detail below.

3.1 Implies certain or highly likely outcomes without presenting arguments and evidentiary support

The Preliminary report makes strong claims about the likely outcomes that will arise if the West Moreton Network assets are valued using a DORC approach including:

- setting the asset valuation based on a DORC methodology will 'yield Queensland Rail a windfall gain' as asset values will be set at a level higher than historical costs due to the inclusion of so-called 'life expired' assets[12]
- due to the nature of DORC methodologies, it will allow 'Queensland Rail to earn returns on an asset that will never be built'[13]
- if a DORC valuation differs from DAC it would breach the 'NPV=0' principle.

The Preliminary Report, in support of its arguments concerning 'windfall gains', refers to a report prepared by PwC and NERA in 2009[14] which stated that:

> *regulators in Australia have not generally placed significant weight on estimates of the amount of an investment that remains 'unrecovered' given historical expenditure, revenues and required returns.*[15]

12 Menezes, F. (2015), *A preliminary view – Regulatory economics assessment of the proposed Western System asset valuation approaches*, prepared for QCA, pages 2, 17 and 25-26.

13 *Ibid*, page 24.

14 NERA/PWC (2009), *Initial Value of Regulatory Assets – the Australian Experience: report for Orion and Powerco*

The concept of a windfall gain, as suggested in the Preliminary Report, is different to the context described in the PwC/NERA report. The PwC/NERA report explains that historical levels of expenditure and revenues potentially *are* relevant matters when establishing an asset value but they have not been given 'significant weight' by Australian regulators due to the difficulty in determining past pricing, costs and discount rates.[16] That report recognises that estimating the residual value may be feasible only if assets have:

> *not been in existence for an extended period and had set cost-based prices.*[17]

The PwC/NERA report presents two examples of where the level of 'unrecovered investments' was used to inform an asset valuation, as the assets in question had been in operation for a short period and the level of historic revenue and expenditures was 'straight-forward' to calculate. Indeed, in both these cases – the Goldfields Gas Pipeline in Western Australia and the Central West Pipeline in NSW – the asset value was set above the replacement cost valuation.[18]

In any event, this is not the issue at hand. Queensland Rail is not proposing a valuation approach which seeks to capitalise historic under-recovery of costs, sometimes referred to as a loss-capitalisation approach. It is proposing simply to value assets as they exist today, by reference to the current value of the service potential embodied in those assets.

There are a range of reasons why a (current) DORC valuation may differ from DAC, even where historic costs have been indexed (assuming a depreciated indexed historic cost approach, as a surrogate for depreciated *actual* cost). A replacement cost valuation is a forward-looking concept and is a hypothetical value.[19] A replacement cost valuation is not dependent on whether the assets would be built in their current form, rather it is concerned with the value of the *service potential* offered by existing assets, by reference to what it would cost to replace with a modern equivalent (which may be the same or different).

A generally accepted proposition is that the current configuration of the assets need not directly impact a regulatory asset valuation, and this has contributed to DAC not being widely used in Australia. The QCA has acknowledged this, even in circumstances where the optimal configuration of the assets is different to what historically was constructed. In fact, the QCA has determined that an appropriate asset valuation should reflect the cost structures facing an 'efficient new entrant'.[20] The QCA's Statement of Regulatory Pricing Principles confirms its preference for a DORC approach to assess asset values.[21]

Whether or not setting an asset valuation may lead to a windfall gain over the life of the asset requires empirical analysis of past pricing and the historical pattern of expenditures. Indeed, it also has been recognised that getting an estimate of the historical returns – and hence the asset value required in order to generate a NPV neutral outcome over the asset's life is a substantial exercise for most assets and is 'expected to have a large margin of error'.[22]

Moreover, even where infrastructure services are priced based on sound economic principles capital may have been returned to investors at a slower rate than assumed for a hypothetical new entrant. For instance, a recent report prepared for New Zealand telecommunications carrier Chorus concluded that:

> *it may be equally be the case that DORC valuations understate the RAB required to ensure an NPV=0 over the relevant asset's life.*[23]

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15 Menezes, F. (2015), *A preliminary view – Regulatory economics assessment of the proposed Western System asset valuation approaches*, prepared for QCA, pages 21.

16 NERA/PWC (2009), *Initial Value of Regulatory Assets – the Australian Experience: report for Orion and Powerco,* page 5.

17 *Ibid,* page 5.

18 *Ibid,* page 3.

19 *Application by East Australian Pipeline Limited* [2004] ACompT 8, para 18.

20 Queensland Competition Authority (2004) *Dalrymple Bay Coal Terminal - Draft Access Undertaking*, page 144.

21 Queensland Competition Authority (2001), *Statement of Regulatory Pricing Principles*, page 13.

22 Incenta Economic Consulting (2014), *TSLRIC for UCLL service – Asset valuation issues, prepared for Chorus*, page 3.

23 *Ibid*, page 3.

The claims presented in the Preliminary Report that a DORC valuation will lead Queensland Rail to yield 'windfall gains' are unsubstantiated, putting into dispute its conclusion that a DORC valuation is not appropriate for the West Moreton Network. Further, claims that a DORC-based access charge would impact adversely on allocative efficiency, in effect discouraging use of the West Moreton Network, suggests an understanding of the commerciality of export coal mining that has not been presented in the Preliminary Report.

Concerns regarding so called 'windfall gains' do not take into account Queensland Rail's approach in 2015 DAU. Specifically, in the 2015 DAU Queensland Rail is proposing a new arrangement whereby the reference tariff is set below the price ceiling, but at a level which is similar to the currently applied access charge. This 'de-coupling' approach is discussed in further detail in Queensland Rail's 2015 DAU submission and supporting documentation provided to the QCA.

3.2 Does not acknowledge the strong regulatory precedent for DORC

In considering the appropriateness of the two valuation approaches, the Preliminary Report claims that either DORC or DAC would satisfy the QCA's statutory requirements under the QCA Act. The Preliminary Report presents as significant problems the complexities and subjectivity of constructing a DORC valuation, concluding that DAC is a comparatively easier and lower risk valuation approach.

We have two concerns with this– that the concerns raised with DORC are overstated, and that the challenges of constructing a DAC for the West Moreton Network are not addressed. We address each separately below.

3.2.1 Concerns with DORC approach are overstated

The Preliminary Report 'questions the often expounded view that a DORC valuation allows regulatory prices to be consistent with a perfectly contestable market'.[24] In doing so, it raises multiple concerns regarding constructing a DORC valuation including that:

- it is 'very difficult to determine how to depreciate the optimised new network to reflect the existing configuration of assets'[25] and that determining 'the cost of building a facility that can provide the same services as the existing facility is problematic at best'[26]
- a DAC valuation, if set lower than DORC, 'is less likely to impact negatively on competition in relevant markets as it is less likely to embody monopoly rents'[27]
- setting a DORC asset value 'could potentially impact competition in relevant markets'[28], suggesting that access charges based on a DORC valuation, would be set so high as to discourage existing/future access seekers from using Queensland Rail's rail services.

24 Menezes, F. (2015), *A preliminary view – Regulatory economics assessment of the proposed Western System asset valuation approaches,* prepared for QCA, page 17.
25 *Ibid*, page 4.
26 *Ibid*, page 14.
27 *Ibid*, page 24.
28 *Ibid*, pages 2 and 23.

- a DORC valuation will set prices that are 'close to those that would apply to new infrastructure assets built today at today's prices, allowing access providers to earn returns on investment levels that they will not make'.[29]

The Preliminary Report provides only limited acknowledgement to the strong practical support for DORC by Australian regulators over the last two decades. 'Regulatory precedent overwhelmingly supports the application of a DORC methodology in order to value assets owned by regulated businesses', yet this is understated in the Preliminary Report.[30]

The QCA in particular has been a prominent advocate for a replacement cost valuation method in the past, utilising it to value assets for numerous regulated entities including the Dalrymple Bay Coal Terminal (DBCT), Gladstone Area Water Board, SunWater, Energex and Ergon, and previously even predecessors of Queensland Rail.

The problems highlighted in the Preliminary Report as affecting a DORC valuation for Queensland Rail are arguably just as prevalent for other sectors, yet regulators have successfully grappled with them, including the QCA:

- ***Electricity Networks (Victoria)*** – The valuations for each of the five electricity distribution networks in Victoria were all set around the time of privatisation of those utilities.[31] In 1994 the National Performance Monitoring Subcommittee of the Industry Commission concluded that asset values should be based on 'the replacement cost of the services or benefits currently embodied in the asset'.[32]

- ***Dalrymple Bay Coal Terminal (Queensland)*** – The QCA in its Final Decision for the DBCT Draft Access Undertaking in 2006 set an asset value of $850m based on a DORC valuation. This included a brownfield optimisation of the terminal to ensure that the assets relevant to provide the desired level of service provision were incorporated.[33]

- ***Gladstone Area Water Board (Queensland)*** – The QCA, when recommending that the Gladstone Area Water Board's assets be valued using DORC, considered the service potential of the assets during the optimisation process. The QCA recognised that a DORC should be used for establishing asset values as a basis for setting maximum prices for customers as the replacement cost, 'more closely approximates the actual cost of a new entrant in the market, thereby more closely replicating the outcomes that might be expected from a competitive market'.[34]

The Preliminary Report further references the PwC/NERA work emphasising that this report identifies that valuation methodologies other than DORC have been used by Australian regulators.

Whilst regulatory valuation practice is not universally in favour of DORC, the PwC/NERA report found that a DORC valuation is most often the starting point or reference point for asset valuations in Australia. The PwC/NERA report concluded that any departures from a DORC methodology are usually accompanied with a broader consideration of other valuation methods.[35]

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29 *Ibid*, page 17.

30 PwC (2015), *Asset Valuation of the West Moreton Network - Supporting analysis for submission to the QCA*, page 6.

31 Council of Australian Governments Communiqué (1994), *Attachment A - Report on Electricity Reform*, 19 August.

32 Industry Commission – Steering Committee on National Performance Monitoring (1994), *Guidelines on Accounting Policy for Valuation of Assets of Government Trading Enterprises*, page 3.

33 Queensland Competition Authority (2004), *Dalrymple Bay Coal Terminal Draft Access Undertaking, Draft Decision,* page 122.

34 Queensland Competition Authority (2002), *Gladstone Area Water Board: Investigation of Pricing Practices – Final Report*, page 44.

35 NERA/PWC (2009), *Initial Value of Regulatory Assets – the Australian Experience: report for Orion and Powerco,* page 2.

The QCA previously has considered that a DORC valuation provides more relevant measures of value for the 'purposes of decision making than a valuation based on historical cost'. [36] A DORC valuation, based on the current service potential of the assets, reflects a workably competitive market that:

> *deliver(s) an asset value that in turn generates a price that would be consistent with what would be observed in a workably competitive market in long run equilibrium.*[37]

By implication, if the asset value is reflective of workable competition, then the prices set, based on that asset value, are unlikely to adversely impact competition in upstream and downstream markets.

The ACCC in its determination for the Hunter Valley Coal Network found that a DORC valuation is commonly used in most regulated industries. [38] And the QCA has observed that it provides a conceptually sound basis for regulatory pricing setting'.[39] The advantages of a replacement cost approach such as DORC, as outlined by the QCA, include:

- better approximates the actual cost of a new entrant into the market
- replicates the outcomes that might be expected from a competitive market
- allows for technological change so that assets can be valued in a way that reflects current technology
- allows a firm's financial records to be expressed in current terms
- makes the relationship between costs and revenues more meaningful.[40]

In fact, the QCA notes that the appropriate way to overcome any subjectivity associated with DORC is to ensure that 'the DORC asset valuation process is conducted in a transparent manner.' [41]

The Preliminary Report questions the view that a DORC valuation reflects the outcomes of a workably competitive market, raising various complexities and subjectivities. This fails to appropriately recognise the strong regulatory precedence for DORC and that a well-constructed DORC valuation can overcome the challenges raised by the Preliminary Report.

36 Queensland Competition Authority (2004), *Dalrymple Bay Coal Terminal Draft Access Undertaking – Draft Decision*, page 125.

37 Incenta Economic Consulting (2014), *TSLRIC for UCLL service – Asset valuation issues,* prepared for Chorus, page 4.

38 Australian Competition and Consumer Commission (2010), *Hunter Valley Coal Network – Access Undertaking Draft Decision*, page 495.

39 Queensland Competition Authority (2004), *Dalrymple Bay Coal Terminal Draft Access Undertaking – Draft Decision*, page 125.

40 *Ibid*, page 125.

41 *Ibid*, page 125.

3.2.2 *Difficulties in re-creating a DAC are not acknowledged*

The Preliminary Report concludes that DAC is a 'simple and transparent approach' and 'ensures no over-recovery of costs',[42] further stating that:

- determining replacement cost has a largely subjective component', with 'actual (historical) cost approaches stand in contrast to the subjectivity associated with estimating replacement cost and also figure prominently in regulators' approaches to asset valuation'.[43]

- if 'technology has not evolved quickly and input prices have not changed significantly, the original costs will be similar to a replacement cost'.[44]

The inference here is that any DAC or DORC valuation for rail infrastructure should be similar, due to the pace of technological change.

It is our view that the simplicity and applicability of DAC for the West Moreton Network has been overstated in the Preliminary Report. For Queensland Rail, specifically, there are particular challenges in (re)constructing a DAC valuation due to the fact there are limited historic expenditure and revenue records for the West Moreton Network. The implied 'advantage of' this valuation method is therefore overstated in the Preliminary Report.

There have been multiple organisational restructures which have impacted the reliability of historic cost data. Assets have been transferred, in whole or in part, to various entities, making the tracing of asset costs and values prior to 1995 very difficult. Further, prior to 1992, there was no requirement on the network owner to value its assets, which resulted in a lack of records in relation to asset values. Indeed, a review prepared by B&H Strategic Services for the QCA, acknowledged the lack of robust historic data when calculating an optimised replacement cost (ORC) valuation for the West Moreton Network.[45]

Any asset valuation methodology has its challenges and these should be balanced against its advantages. Many of the complexities regarding a replacement cost approach raised by the Preliminary Report have been successfully addressed by various regulators over the last two decades, including the QCA.

When considering the appropriate asset valuation for the Dalrymple Bay Coal Terminal (**DBCT**) in 2004, the QCA considered the relative merits of the DORC and DAC approaches. The QCA concluded that while DAC avoids subjectivity, it is only easy to establish if there are detailed data and asset registers available.[46]

This is simply not the case for Queensland Rail. The limited information on historic expenditures and revenues makes a historic cost value practically impossible to re-create. A DAC valuation is not simply an extrapolation of current book values, as the Preliminary Report implies.

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42 Menezes, F. (2015), *A preliminary view – Regulatory economics assessment of the proposed Western System asset valuation approaches, prepared for QCA*, page 26.

43 *Ibid*, page 14-15.

44 *Ibid*, page 15.

45 B&H Strategic Services (2014), *Review of the Queensland Rail (QR) West Moreton System – Supplementary Report,* prepared for the QCA, page 3.

46 Queensland Competition Authority (2004), *Dalrymple Bay Coal Terminal - Draft Access Undertaking,* page 124.

Although the so-called 'line in the sand' approach has been utilised by Australian regulators in certain circumstances, it often retains a DORC valuation as a reference point. This was observed in a submission to the NZ Commerce Commission:

> *the 'line in the sand' method has typically been applied in conjunction with a broader assessment of valuation methods and factors.*[47]

Finally, as the QCA previously has acknowledged, a DAC valuation does 'not provide the appropriate economic signals for future investment or consumption of services by users'.[48]

The Preliminary Report over-simplifies the ease with which a DAC valuation could be developed. There is very little regulatory precedent for using a DAC, particularly in circumstances where historic revenue and expenditure data is not available. Many regulators in Australia have dismissed the application of DAC for asset valuations, including the QCA, the ACCC, and the NZ Commerce Commission.

3.3 Efficiency concerns are biased towards the user

In considering the appropriateness of the two valuation approaches, the Preliminary Report claims that both DAC and DORC will satisfy the QCA's statutory requirements to:

> *promote the economically efficient operation of the Western System, to provide incentives for Queensland Rail to efficiently invest in the network and to promote competition in relevant markets.*[49]

The Preliminary Report concludes that a 'DAC valuation will yield the *lowest tariff* consistent with allocative and productive efficiency', and claims that an 'asset value at the lower end of the spectrum 'may also induce greater levels of investment in exploration and development of mines, promoting dynamic efficiency and reducing any undue distortion of investment decisions'.[50] As such, the Preliminary Report recommends a particular valuation approach for existing, sunk assets, while at the same time committing to full cost recovery for future investment.

Efficiency considerations are relevant in determining the relative appropriateness of each valuation method - DORC or DAC. Efficiency is commonly defined as:

- ***productive efficiency*** *– the total charge paid by access seekers should match the total cost of production that would be achieved by a notional, cost-minimising network provider*
- ***allocative efficiency*** *– the price of access to an additional unit of a service should be equal to the cost of the additional resources used to produce that unit*
- ***dynamic efficiency*** *– over time, prices should be set in such a way as to incentivise network owners to invest in optimal levels of new infrastructure assets.*[51]

It is well-established that setting the access charges based on sound economic principles, will create the right incentives to encourage users and investors to act in a way that maximises the returns to society as a whole. Claims regarding the level (and type) of efficiency achieved

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47 NERA/PWC (2009), *Initial Value of Regulatory Assets – the Australian Experience: report for Orion and Powerco,* page 2.

48 Queensland Competition Authority (2004), *Dalrymple Bay Coal Terminal - Draft Access Undertaking,* page 125.

49 Menezes, F. (2015), *A preliminary view – Regulatory economics assessment of the proposed Western System asset valuation approaches,* prepared for QCA, page 2.

50 *Ibid*, page 14.

51 NECG (2001), *Productivity Commission: review of national access regime, comment on submission by Professor Johnstone and access holidays*, July, page 4.

require judgements as to the value of a service to its provider and users, which in turn is a function of the next-best options available to them.

Should a DAC valuation be applied, the Preliminary Report provides no acknowledgement of the risk that access holders may make upstream/downstream investment decisions based on temporarily low access charges. In subsequent regulatory periods, when charges increase at the time that the assets are replaced, there will be an increased risk of stranding those investments.

A further concern with the approach as outlined in the Preliminary Report is that it implies that the regulator can credibly promise to not, in future, arbitrarily write-down asset values, when it does exactly that for existing assets.

Asset write-downs have obvious implications for Queensland Rail's incentive to invest in the future, as today's prudent investment may become tomorrow's 'sunk cost'. This risk has been well-discussed in regulatory literature – for instance, a submission to the Productivity Commission's review of the national access regime questioned whether it was possible for a regulator to present its determination of a RAB independent from its subsequent and future treatment of new investment:

> *We do not believe this is credible; rather, we believe that any decision to deliberately strand sunk assets by setting the initial RAB at an unreasonably low level might be taken by investors as a signal that new investment might also receive the same treatment when, at a later date, it can also be regarded as sunk. …*
>
> *Put in terms of the efficiency criteria, a regulator that opportunistically seeks to bring about a redistribution of wealth between shareholders and customers would seriously jeopardise its ability to secure dynamic efficiency in the industries it regulates.*[52]

In terms of achieving dynamic efficiency, the submission went on to argue that:

> *access prices must at the very least provide investors with a reasonable expectation that they will receive a return of and on new investment, commensurate with the risks involved.*[53]

The risk of regulatory write downs and stranding risk undermine efficiency objectives to the detriment of service providers and users. As outlined by the industry body for the electricity infrastructure networks, the Energy Networks Association, an asset valuation 'exists to recognise that networks are required to fund long-lived capital intensive physical assets, that will supply both existing and future consumers over their service life'.[54]

From an investor perspective, asset write-downs would lead to:

> *a material increase in the return required to attract investment in infrastructure assets as investors would require an additional margin to compensate them for bearing the risk that investments made could be stranded or written down in the future.*[55]

To this effect, Australian practice has consistently, and as a matter of deliberate policy and regulatory choice, moved away from allowing an opportunity for periodic or ad hoc asset revaluations or asset stranding. The ACCC has previously acknowledged that so-called 'sunk' investments should still earn a return, 'particularly given the legitimate interests of infrastructure investors… to expect to get a commercial return on investments that may be

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52 *Ibid*, page 7.

53 *Ibid*, page 5.

54 Energy Networks Association (2014), *Written down value – Assessing Proposals for Electricity Network Write-downs*, page 7

55 *Ibid*, page 10

the subject of access regulation in the future'.[56] This is in line with the principle of dynamic efficiency.

The QCA has previously stated that the exclusion of assets on the grounds that they are 'sunk':

> *fails to provide management with the incentive to enhance shareholder value, and does not provide the incentives for the better management of assets or for future investment.*[57]

The QCA also has recognised that automatically valuing assets at zero would not be consistent with efficient outcomes that would prevail in a competitive market and is inconsistent with normal commercial practice. The QCA goes as far to conclude that:

> *the use of actual cost in determining revenues does not result in appropriate incentives for investment in assets or the management of the assets in the most efficient manner.*[58]

Achieving dynamic efficiency, in particular, requires that access charges provide investors with a reasonable expectation of earning a return on their investment. Asset write-downs, or affording priority to the efficiency considerations for end-users, creates risk for investors.

3.4 Introduces a new regulatory valuation concept

The Preliminary Report introduces a new concept into regulatory valuation, namely the intention of the investor at the time the asset was commissioned. This matter is not usually contemplated at the time of a regulatory determination, or at least not in the fashion contemplated in the Preliminary Report. The Preliminary Report makes the case that the value of 'life-expired' assets should be set to zero as:

> *it does not matter whether the firm has actually recovered the initial construction costs…what matters is that the firm could not have anticipated the extension of the asset's useful life and therefore could not expect further compensation.*[59]

The regulatory valuation of assets, and particularly the asset lives used in the valuation, may depart from financial reporting and accounting lives. A summary of the instances where regulators, including the QCA have reflected the 'usefulness' of the assets during a regulatory valuation is presented in a recent submission to the QCA.[60] A recent decision by the Australian Competition Tribunal has also recognised that accounting concepts are irrelevant to a regulatory valuation:

> *there is no support for the valuation to be adjusted to take account of past events particularly based upon accounting concepts of depreciation, and to do so is wrong in principle.*[61]

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56 Australian Competition and Consumer Commission (2010), *Hunter Valley Coal Network – Access Undertaking Draft Decision*, page 495.

57 Queensland Competition Authority (2002), *Burdekin Haughton Water Supply Scheme: Assessment of Certain Pricing Matters Relating to the Burdekin Irrigation Area, Draft Position Paper No. 3,* page 4.

58 *Ibid,* page 5.

59 Menezes, F. (2015), *A preliminary view – Regulatory economics assessment of the proposed Western System asset valuation approaches,* prepared for QCA, page 22.

60 PwC (2015), *Reference Tariff for the West Moreton Network – Supporting analysis for submission to the QCA.*

61 *Application by East Australian Pipeline Limited* [2004] ACompT 8, para 26.

In the context of the 'NPV=0' model presented in the Preliminary Report, it is claimed that allowing Queensland Rail:

> *to earn a return on these assets would result in a positive NPV and would not be commensurate with the return that a DORC valuation should entail…[and] due to the nature of the investment, whether or not the firm can recover its initial investment outlay is irrelevant and should have no bearing on future investment decisions.*[62]

Regulatory valuation is typically concerned with valuing service potential of assets. These assets are typically constructed and augmented over a period of time, reflecting various prior objectives of shareholders. Some investments may have been 'uncommercial', at the time they were conceived and developed, but subsequently have been found to be economically valuable.

The intention at the point of investment, which may have been decades prior, in our view is of limited relevance to a future regulatory valuation. It suggests that any past investment, made without clear expectation of a return, should not be included in the regulatory valuation, regardless of whether the assets today are 'used and useful'. Further, making such judgments is practically impossible, as it would rely on reconstructing the intentions and expectations of (possibly multiple) investors at each point in an asset's lifecycle.

To our knowledge, in the history of DORC valuation by Australian regulators the investor's expectations at the time capital was committed, was not used as a basis for excluding assets from regulatory valuations.[63] To the contrary, in many instances, the regulator has explicitly stated that the intention at the time of investment is not a relevant consideration.

In a recent decision for the DBCT, the QCA confirmed that:

> *the specific form of the company, financing or dividend structure that the owners may wish to wrap around the facility is ultimately irrelevant to the decision regarding the charges users should pay.*[64]

The mindset of the investor at the time of the investment, which for some assets may be decades ago, cannot reliably be known, and should not be presented as an argument against a DORC valuation.

62 *Ibid*, pages 12, 14 and 25.

63 An exception would be for situations where users have previously contributed assets. Here, and depending on the circumstances, a regulator may determine that the intention of the parties regarding the future treatment of those assets is relevant to whether they should be included or excluded from the RAB.

64 Queensland Competition Authority (2005), *Dalrymple Bay Coal Terminal Draft Access Undertaking, Final Decision,* page 157.

3.5 International experience is of limited relevance

The Preliminary Report refers to two international examples when considering the application of DORC for the West Moreton Network; the valuation of the electricity network assets in the USA and valuation concerns at the time of privatisation of infrastructure utilities in the UK.[65] The Preliminary Report claims that both examples are relevant to the circumstances facing the QCA when determining an appropriate asset valuation approach for the West Moreton Network.

Regulators in Australia have tended not to place significant weight on the book value of assets when determining an initial asset value, nor have they been significantly influenced by the valuation approaches adopted by overseas regulators.

We do not intend to respond more generally to the relevance (or otherwise) of international regulatory precedents. Rather, we have limited our response to the two particular examples provided in the Preliminary Report.

In the case of the UK, the primary concern was the undervaluation of assets at the point of privatisation – investors paid less for the assets than their then replacement cost. However, in the UK, there was a known privatisation value and a clear basis for determining whether or not a gain would be made by investors from a post-privatisation revaluation. In the case of the West Moreton Network there is no robust value of the cost of prior investment made in the network, nor whether this investment has been recouped.

The use of a historic cost approach by regulators in the United States is well known, and reflects the particular institutional and case law characteristics of that jurisdiction. Australian regulators have been well aware if this practise, yet deliberately have expressed a strong domestic preference for a DORC valuation model.

The Preliminary Report ignores the strong domestic preference for a DORC valuation. It is PwC's view that the international examples presented by the Preliminary Report are of little relevance to the valuation of the West Moreton Network assets.

65 Menezes, F. (2015), *A preliminary view – Regulatory economics assessment of the proposed Western System asset valuation approaches,* prepared for QCA, page 18.

4 Conclusion

Our review has identified a number of concerns with the methodology and findings presented in the Preliminary Report. Generally, we consider this report overstates the benefits and extent of application of a DAC methodology, and understates the potential adverse consequences of applying either the DAC methodology, or the modified form of DORC valuation where so-called 'life expired' assets are excluded from the valuation.

We remain of the view that the appropriate valuation method to apply is a DORC approach; noting the advantages of this valuation approach as previously acknowledged the QCA and other regulators, as well as the particular characteristics of the West Moreton Network. These issues are addressed in more detail in our earlier supporting reports.

Queensland Rail has submitted to the QCA a proposal whereby the reference tariff would be set well below the ceiling tariff based on a DORC valuation.

This approach would involve determining a ceiling price based on sound economic principles using a building block approach including a DORC valuation of the network assets. The reference tariff would be set, below the determined ceiling price, reflecting the desirability of encouraging volumes and providing for a degree of price stability for current access seekers and holders.

Volume risk on the West Moreton Network and Metropolitan Network would be borne by Queensland Rail. Customers would benefit from a reference tariff lower than the ceiling price for the term of the 2015 DAU.

A negotiate/arbitrate model by definition contemplates that an access tariff might be determined to be less than the regulator-determined ceiling. Examples of such an approach and its applicability to the West Moreton Network and Metropolitan Network have been presented to the QCA in Queensland Rail's 2015 DAU submission and supporting documents.[66]

This approach is, in our view, consistent with conventional regulatory practice and would provide a transparent and repeatable approach and provide a degree of revenue and cost certainty going forward for Queensland Rail as well as access seekers and holders.

66 PwC (2015), *Reference Tariff for the West Moreton Network – Supporting analysis for submission to the QCA*.

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Attachment D

The proposed West Moreton Network asset valuation approaches: comment on preliminary view of Professor Menezes

A REPORT PREPARED FOR QUEENSLAND RAIL

June 2015

The proposed West Moreton Network asset valuation approaches: comment on preliminary view of Professor Menezes

Summary

Frontier Economics (Frontier) has been asked by Queensland Rail (QR) to comment on the preliminary view of Professor Flavio Menezes (Prof Menezes) on the proposed West Moreton Network asset valuation approaches canvassed by the Queensland Competition Authority (QCA). Prof Menezes considers the possible valuations in the light of the economic principles said to be embedded in the QCA's legislative framework.

In his preliminary view paper, Prof Menezes makes two basic points.

The first point is that asset valuations based on depreciated actual cost (DAC) or depreciated optimised replacement cost (DORC) are both likely to satisfy the QCA's statutory requirements.

The second point is that his first finding is conditional on zero value being placed on assets with an expired expected life. This is because attaching a positive value to these assets is said to result in QR earning 'windfall gains'.

There are several aspects of the views of Prof Menezes with which we concur. In particular, we agree there is no one 'right' asset valuation method in circumstances where assets are not new. Trade offs are involved, and different dimensions of economic efficiency and competition can be given more or less weight in the choice of method. Prof Menezes' focus is on whether the asset valuation delivers incentives for new investment, and whether it would have adverse effects on competition in downstream markets.

The choice of DAC or DORC

In considering the choice of DAC or DORC, our view is that Prof Menezes' conclusion that there is little to choose between the two approaches is a result of the limited number of factors that he considers. His analysis overlooks a number of other factors that regulators should properly consider in setting a regulatory asset base (RAB) to create a fair and reasonable valuation.

These factors include:

- *The predictability of regulatory behaviour and the extent to which the asset valuation breaches any regulatory (or other) commitments:* For example, if the regulator has historically favoured the use of a particular methodology, and the regulated firm has invested in long-lived assets on the basis that this methodology would continue, then a change in valuation creates uncertainty and reputational risk for the regulator.
- *The extent to which past pricing practices have facilitated cost recovery:* Changing asset valuation methods affects expected returns on sunk assets and, depending on the path of past prices and volumes, can result in cost over- or under-

recovery. Regulators should consider whether such under- or over-recovery is likely before setting a RAB.

- *The availability of information that is useful for regulatory purposes:* In situations where accounting information has not previously been collected for regulatory purposes or is of unsuitable quality, relying on accounting data is problematic. This particularly applies to long-lived assets.[1]

These other factors do have a significant impact on economic efficiency and competition, in a broader sense. This is because the valuation decision will affect future conduct; creating an environment of uncertainty or mistrust has wide-reaching effects on decisions to invest and on how to invest.

In the present circumstances, we consider that the first and third of these factors favour the use of a DORC valuation to set an initial asset value.

- There are a large number of regulatory precedents for the use of DORC to set the initial RAB for rail networks, including by the QCA, even if these asset values were subsequently 'locked in' and rolled forward on an actual cost basis.
- Existing accounting data for the West Moreton system has not been prepared to provide asset valuations suitable for regulatory pricing purposes.

Nor is there any certainty that the second factor would favour a DAC valuation. As far as we are aware, there is no relationship between DAC values and existing prices, and nor has there been any analysis of whether existing returns would be commensurate with recovering DAC depreciation and complementary returns on capital.

Treatment of pre-1995 assets

Prof Menezes' second point is that assets invested in prior to 1995 should be valued at zero for regulatory pricing purposes. That could be consistent with a conventional implementation of DAC[2], but would not be consistent with how DORC is conventionally implemented. Rather, it appears to be an opportunistic approach that is designed to expose QR to the 'downside' of a DORC valuation without allowing QR to benefit from the 'upside' of that valuation.

To explain this point, we note that whether asset values under DORC or DAC are higher can only be assessed *ex post*. By assuming that all value attached to older assets are 'windfall gains', Prof Menezes gives no consideration to the risks that a firm bears in a DORC valuation due to asset optimisation and stranding.

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1 Noting the QR did not value assets at all before 1995, and operated on a cash accounting basis.

2 Arguably, this approach would be modified to ensure that assets are never be valued at less than scrap value, to avoid distorting future decisions about the use of assets.

Because when assessed *ex post* the DORC value is, in this instance, above DAC, he concludes there are windfall gains. If the overall DORC valuation was, in fact, below DAC due to asset optimisation of the newer assets, then it is not so obvious that attaching positive values to assets currently in use but past their accounting lives would be considered windfall gains. This suggests some opportunism.

Conventional approaches to DORC expose firms to both downside and upside risks – much as would occur in contestable or highly competitive markets. Eliminating sources of gain, but allowing the firm to remain exposed to downside risks, creates an asymmetry in returns. This asymmetry means that the "expected NPV = 0" that is the minimum required to deliver new investment cannot be met.

We are also concerned that the approach of attaching a zero value to older assets based on actions taken in 1995 implicitly relies on behavioural norms in a commercial environment, when QR was not operating in such an environment. We would be wary of relying on any valuation decision that is made by a non--arm's length entity.

Our understanding is that while there was a move to a more corporate arrangement between Queensland Rail[3] and the Queensland Government, it was not fully commercial immediately. In our opinion, to treat the scrap valuation seriously the QCA would need to be satisfied that a commercial entity acting at arm's length would have valued these assets at scrap.

In contrast to Prof Menezes, we find the balance of economic theory and facts in this case supports setting the initial RAB using a conventional DORC valuation and taking some account of the pre-1995 assets.

3 Noting that this was a different corporate entity to the current Queensland Rail, which has underdone a number of ownership and legal changes since this time.

1 Introduction and context

1.1 The undertaking process

On 4 February 2015, the QCA issued an initial undertaking notice under section 133 of the Queensland Competition Authority Act 1997 (the QCA Act) requiring Queensland Rail to submit a draft access undertaking (DAU) within 90 days after receiving the notice.

This notice commenced a mandatory process under the QCA Act for putting in place an approved access undertaking for Queensland Rail's declared service.

On 5 May 2015, Queensland Rail submitted a DAU to the QCA.

This DAU sets out how Queensland Rail proposes to provide access to its network, including processes for negotiating contracts, scheduling and controlling trains, setting prices and settling disputes. The DAU proposes to give effect to West Moreton Network reference tariffs from the date the QCA approves the access undertaking.

On 6 May 2015, the QCA issued a Notice of Investigation on the 2015 DAU, seeking submissions by 5 June 2015.

The QCA also released a paper by Professor Flavio Menezes entitled *A preliminary view: Regulatory economics assessment of the proposed Western System asset valuation approaches* and dated 8 April 2015. This paper refers to the QCA's previous considerations of undertakings by QR (and in particular the 2013 undertaking), and its assessment of asset valuation approaches.

The QCA indicated in its draft decision on the (withdrawn) 2013 undertaking that it was reconsidering the opening value of the West Moreton Network assets. Its draft decision was to adjust the DORC valuations previously developed for its 2009 draft decision and used in the June 2014 consultation paper. In particular, the QCA proposed to place a zero value on assets whose actual life had exceeded their expected useful life.

1.2 The QCA's assessment criteria

The QCA will consider the 2015 DAU in accordance with the requirements of the QCA Act. The QCA Act provides that the QCA may approve a draft access undertaking only if it considers it appropriate to do so having regard to each listed matter in s. 138(2).

> 1) The authority may approve a draft access undertaking only if it considers it appropriate to do so having regard to each of the following—
>
> a. the object of this part;

b. the legitimate business interests of the owner or operator of the service;

c. if the owner and operator of the service are different entities—the legitimate business interests of the operator of the service are protected;

d. the public interest, including the public interest in having competition in markets (whether or not in Australia);

e. the interests of persons who may seek access to the service, including whether adequate provision has been made for compensation if the rights of users of the service are adversely affected;

f. the effect of excluding existing assets for pricing purposes;

g. the pricing principles mentioned in section 168A;

h. any other issues the authority considers relevant.

The reference to 'the object of this part' is a reference to Section 69E:

> The object of this part is to promote the economically efficient operation of, use of and investment in, significant infrastructure by which services are provided, with the effect of promoting effective competition in upstream and downstream markets.

1.3 Overview of Prof Menezes report

Prof Menezes was engaged by the QCA to provide an independent opinion on the extent to which the asset valuation approaches canvassed for the QR West Moreton Network are consistent with the economic principles embedded in the QCA's legislative framework. This includes the Depreciated Actual Cost (DAC) and Depreciated Optimised Replacement Cost (DORC) methods that are discussed in the QCA's October 2014 decision on the June 2013 undertaking.[4]

In his preliminary view paper, Prof Menezes makes two basic points.

The first point is that depreciated actual cost (DAC) and depreciated optimised replacement cost (DORC) are both likely to satisfy the QCA's statutory requirements.[5]

The second point is that his first finding supporting a DORC approach is conditional on zero value being placed on assets whose actual life has exceeded their expected useful life. This is because attaching a positive value to these assets is said to result in the earning of 'windfall gains'.[6]

4 Professor Flavio Menezes, *A preliminary view: Regulatory economics assessment of the proposed Western System asset valuation approaches*, 8 April 2015, p. 2. ('Menezes Report')

5 Ibid.

6 Ibid.

1.4 Our instructions

We have been asked to comment on the preliminary view of Prof Menezes on the proposed West Moreton Network asset valuation approaches canvassed by the QCA.

We have drawn on both economic literature as well as the following specific information in drafting our comments:

- The Menezes Report
- The QCA's draft decision on QR's 2013 undertaking covering the West Moreton System
- The QCA's consultation paper on QR's 2013 undertaking
- The explanatory submissions and attachments to QR's 2015 undertaking.

2 Relevant considerations for an initial asset valuation

In this section, we briefly outline the views of Prof Menezes regarding setting an initial regulatory asset value and the role of DAC and DORC. We then provide comments on what we consider to be the important principles for setting an initial asset value consistent with the QCA's regulatory objectives.

These bear some similarity to the principles of Prof Menezes. However, we consider that there are further principles that are relevant to the asset valuation decision. All of these principles tend to favour the use of a DORC valuation rather than a DAC valuation in the current circumstances.

2.1 The views of Prof Menezes

Prof Menezes notes that the QCA's criteria for assessing the valuation of QR's West Moreton Network assets (which we stated in Section 1.3) may at times be in conflict, and that applying the relevant concepts will entail trade-offs.

Promoting economic efficiency in the context of past investments is one of the more difficult issues facing an economic regulator. As noted by Prof Menezes, there may be more than one asset value that results in efficient outcomes, and the issue can simply be one of distribution between access providers and access seekers:

> Any value higher than the opportunity cost for the access provider and below the cost of building an identical facility may avoid inefficient bypass but may have different implications for allocative and productive efficiency.[fn omitted] Such a value may also not allow the access provider to fully recover the historical costs of the initial investment. However, as discussed before, this should have no bearing on future investment and may be consistent with dynamic efficiency.
>
> In particular, if the regulator can commit to allow future actual efficient capital expenditures to be recovered and other regulatory parameters (such as the WACC and depreciation allowances) are set appropriately, the initial valuation can become a distributional issue with no impact on incentives to invest, as long as the access price is not so high that it affects competition in the output market.[7]

The key qualifier here is "if the regulator can commit to allow future actual efficient capital expenditures to be recovered". A problem will occur if the regulator cannot credibly establish this commitment; the regulated firm will fear expropriation of its investments. As noted by King (1997), while scrap valuation is optimal for existing investments it would set poor incentives for future investment:

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7 Ibid. p. 14.

> it may [] create considerable disquiet in the minds of new investors. Once they have invested and their assets are sunk, can they be sure that the [regulator] will not move to revalue their assets on a scrap value basis to improve economic efficiency?"[8]

This is an example of how the asset valuation sends important messages about future behaviour – an issue to which we return in Section 2.2.1.

Prof Menezes goes on to explain the notions of DAC and DORC and how they relate to the economic principles of allocative, productive and dynamic efficiency.

2.1.1 Comments on DAC

DAC is said to represent the original value of an asset net of all accumulated depreciation.[9] The benefits of this approach are said to be:

- Provided that there is accurate data, this approach, by construction, ensures that the regulated firm recovers its actual costs, reinforcing the credibility of the regulator's commitment to allowing full cost recovery.
- DAC avoids inefficient bypass if it is lower than replacement cost.
- If technology and input prices have not evolved significantly, the original costs will be similar to the replacement cost.
- It can be compatible with competition for the market.

These benefits appear highly conditional. The first condition is that the data must be accurate – otherwise there is a risk that the firm will not recover its actual costs. The second condition is that inefficient bypass is only avoided if DAC is below replacement cost. The third condition is that technology and input prices must not have evolved significantly. For each of these benefits to be relevant and material, a factual inquiry into the circumstances of the regulated firm would be required.

2.1.2 Comments on DORC

DORC is said to measure the replacement costs associated with new assets that are optimised and adjusted for depreciation, so that they provide services that are equivalent to those provided by the existing asset.

Prof Menezes proceeds to outline a number of issues with the DORC methodology, including that:

- DORC is an artificial construct.

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8 King, S. P. (1997). *Asset valuation and access.* Centre for Economic Policy Research, Australian National University, Research School of Social Studies, Canberra

9 Menezes Report, p. 15.

- Moving from ORC to DORC is particularly problematic in the current situation, as the West Moreton Network was not built to transport coal, and is characterised by conditions and technical standards that are very different from those of an optimised network.
- DORC valuations can imply prices that are close to those that would apply to new infrastructure assets built today and today's prices, allowing access providers to earn returns on investment levels that they will not make.[10]

In our opinion, some of these claims are inaccurate or overstated.

In particular, while we agree with the proposition that it can be complex to calculate DORC values, there are certain benefits to the use of DORC which are overlooked by Prof Menezes, including that:

- The network optimisation procedure ensures that risk of over-capacity or gold plating is borne by asset owners, rather than consumers.
- It is calculated using current costs and values, which is important where assets are long-lived and historic data is unsuitable.
- DORC valuations can be derived using modelling and benchmarking of data, require less information from access providers than accounting approaches, and may be less subject to problems associated with information asymmetry.

Therefore, while DORC is clearly an 'artificial construct', this construct has a purpose and, indeed, its use may be essential in some circumstances due to the limits of other options.

The reference to DORC valuations implying prices that are close to those that would apply to new infrastructure seem overstated. This very much depends on how the depreciation step is calculated. Conventionally, DORC has been calculated by comparing the age of the current asset compared to its useful life[11], rather than the methods cited in Menezes report.[12]

The criticism that access providers can earn returns on investments that they will not make can be valid, but this same criticism can be levied at a wide range of regulatory design features; indeed, this is the crux of incentive regulation.[13] By breaking the link between prices and costs, firms face strong incentives to make cost reductions and face losses if they cannot meet the efficient cost benchmarks set by the regulator. The choice of DORC as the appropriate asset valuation

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10 Menezes Report, pp. 16-17.

11 For a recent example in rail, see ACCC, *Position Paper: Australian Rail Track Corporation's proposed variation of the Hunter Valley Access Undertaking to include the Gap to Turrawan Segments*, 12 December 2013.

12 Menezes Report, See footnote 16, page 17.

13 This is recognised in Section 3 of the Menezes Report, p. 10.

methodology was patterned after the emerging move to optimised replacement cost methods by regulators in the late 1990s and early 2000s. For example, in Australia the telecommunications and energy regulator, the ACCC, argued in a number of contexts that ORC methodologies[14] provided good incentives to be efficient:

> … [ORC] provides incentives for access providers to minimise the costs of providing access. The [ORC] methodology uses the most efficient technology that is commercially available. In estimating [ORC] the Commission will not use experimental prototypes as a benchmark for best-in-use technology. Rather it will use the best-in-use technology compatible with the existing network design. This in-built benchmarking ensures that if a firm does not adopt best-in-use technology it cannot expect to recoup any inefficiencies in production through access prices. Conversely, if a firm engages in unique cost-cutting measures, adopts more efficient production technologies or practices than that commercially available or undertakes innovative investment it will be appropriately rewarded.[15]

'Windfall' gains and losses were therefore seen as an integral part of an incentive-based regulatory regime.

Prof Menezes comments also seem to follow a theme that presumes that DORC is riskless for the access provider *ex ante* and that any *ex post* profits are—by definition—windfall gains.

In general, what will determine the change in investor returns as a result of the DORC methodology are:

- Network optimisation, which will tend to reduce returns.
- Changes in the replacement value of assets, which can either increase or reduce returns depending on how these values are changing.
- The depreciation methodology, and in particular whether it accounts for asset valuation gains or losses as income.

Regulators that have favoured the use of the DORC methodology have emphasized the importance of asset values reflecting changing conditions, as would occur in competitive or contestable markets. That is, in a competitive or contestable market, an increase in the cost of replacing assets would be reflected in an increase in prices reflecting the increasing cost of entry.[16] This would also facilitate the rise in prices that become necessary as the incumbent's own cost of replacing assets increases (thereby reducing price shocks). Similarly, in a

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14 The specific form of costing adopted by the ACCC for regulated telecommunications services was the Total Service Long Run Incremental Cost (TSLRIC), which is analogous to an optimised replacement cost.

15 Australian Competition and Consumer Commission, *(Telecommunications) Access Pricing Principles: A Guide*, 1997, available at www.accc.gov.au

16 See for example, ACCC, *Statement of Principles for the Regulation of Transmission Revenues*, May 1999, p. 64.

Relevant considerations for an initial asset valuation

competitive market, redundant or obsolete assets would have little economic value, and so the cost of these assets would have little influence on market prices. Hence, they are removed from the asset base.

These changes in asset values will give rise to changes in investors' returns – higher or lower – unless these changes are factored into depreciation allowances.[17]

The claim is that a gain has been made in the value of the assets that was essentially riskless (and could be predicted *ex ante*). However, in practice, DORC valuations expose the regulated entities to the risk that their assets will be optimised and the RAB lower than actual investments. Large-scale network optimisation could mean windfall *losses* for asset owners.[18]

The claim that any gains in valuation have been unfair and windfalls to asset owners need to demonstrate that at the time the investments were made, there was no expectation that there would be valuation gains or losses in future or that these gains or losses would be brought to account. In other words, the concept of gains and profits must be considered from an *ex ante* rather than an *ex post* perspective. This is an empirical question, so it is hard to attach much weight to criticisms that do not take account of this perspective.

2.2 Additional considerations are relevant to setting the regulatory asset value

Prof Menezes omits or only briefly considers several other factors that, in our view, are critical to setting initial regulatory asset values.

The three issues are as follows:

- The predictability of regulatory behaviour and the extent to which the asset valuation breaches any regulatory (or other) commitments
- The extent to which past pricing practices have facilitated cost recovery
- The availability of information that is useful for regulatory purposes

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17 The choice of whether to do this depends in part on the incentives sought by the regulator. An approach that accommodates changes in asset values can insulate the regulated firm against financial losses from asset optimisation. For example, increases in asset value may be forecast and then brought to bear in a lower capital charge to offset the future income from the increasing value of the RAB.

18 Indeed, this was the primary reason given for the ACCC moving away from the use of DORC in electricity network regulation. In particular, the ACCC found that periodic DORC revaluations would expose transmission businesses to uncertainty arising from the risk of increases and decreases in the RAB arising from engineering assessments of the optimal network, which are by their nature subjective. See ACCC, *Statement of Principles for the Regulation of Electricity Transmission Revenues – Background Paper, Draft Decision*. August 2004, p. 52.

All of the issues we discuss are relevant to economic efficiency and consequently the QCA's overarching objective.

2.2.1 Regulatory predictability

Menezes alludes to the importance of regulatory predictability in his comments cited above. He states *if* the regulator can commit to allow future actual efficient capital expenditures to be recovered, the asset valuation will be of minimal to no importance.

How does a regulator establish such commitment? In the absence of constraints on regulatory decision-making, the most obvious way is to behave predictably and to respect any past implied or explicit promises.[19] Promises can be either explicit or implicit. Explicit promises can take the form of express provisions in law, or a privatisation or concession agreement. Implicit promises might include a regulator's consistent adoption of a particular asset valuation methodology as being consistent with legislative objectives, even though such a methodology is not enshrined in a specific law.

An example of the importance placed on regulators acting consistently with past regulatory promises in Australia occurred in relation to the regulation of a gas pipeline in the state of Western Australia. Epic Energy – the owner of the pipeline – found that the economic regulator set a RAB using a DORC approach, but which resulted in a RAB for the pipeline which was well below the value it paid to the original asset owner (the Western Australian Government). Epic had bought the asset on the basis that it had agreed *prices* to prevail into the future. Epic appealed the regulator's valuation decision to the Supreme Court of Western Australia. The Court concluded that the regulator should reconsider its decision, and take issues other than standard asset valuation techniques, such as historic cost and replacement cost valuations, into account. This followed the relevant legislation, the Gas Code (Section 8.10), which specified that various factors should be taken into account in determining the regulatory asset base, including how tariffs had been set in the past; reasonable expectations under previous regulatory arrangements; and any other factors that a regulator considers relevant. The Court ruled that:

> …a reference tariff which is based only on a cheaper present replacement value, and which has no regard to the actual unrecovered capital investment in the pipeline,

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19 In a more general setting, Levy and Spiller (1994) argue that investment performance can be satisfactory with a wide range of regulatory procedures, as long as three complementary mechanisms restraining arbitrary administrative action are all in place: (a) substantive restraints on the discretion of the regulator, (b) formal or informal constraints on changing the regulatory system, and (c) institutions that enforce the above formal-substantive or procedural constraints.

Levy & Spiller, The Institutional Foundations of Regulatory Commitment: A Comparative Analysis of Telecommunications Regulation, *Journal of Law, Economics, & Organization*, Vol. 10, No. 2 (Oct., 1994), pp. 201-246.

> may well undermine the viability of the earlier investment decision. If future investment in significant infrastructure, such as a natural gas pipeline, is to be maintained and encouraged, as the public interest requires, regard seems to be required to the need for both existing and potential investors to have confidence that the very substantial long term investment decisions which are required, and which were sound when judged by the commercial circumstances existing at the time of the investment, are not rendered loss-making, or do not result in liquidation, by virtue of future governmental intervention.[20]

There is often argument about the facts around implicit or explicit promises that are made to investors. However, the message here is clear and one that is supportable in economics: a regulator should avoid breaking commitments which were made, as this will potentially reduce investment and/or raise the cost of financing new investments and therefore harm consumer interests in the long term.[21]

Appendix C to the October 2014 decision on the June 2013 QR undertaking indicates that the QCA has previously and consistently endorsed DORC as the favoured valuation approach. With respect to the 2006 DAU West Moreton Network tariff proposal:

> The QCA rejected QR's proposed replacement cost approach and indicated that:
>
> ...
>
> (b) An assessment of future western system 'reference tariffs based on replacement costs rather than, for example, actual book value, should be conducted within a well-accepted framework such as the DORC methodology'[22]

With respect to the 2009 DAU:

> The QCA sought to assess the western system tariff based on the building block approach that had been established for setting coal tariffs in central Queensland. It also had regard for precedents set in assessing the West Blackwater (Minerva) tariff that the QCA had approved in August 2009. The West Blackwater line had some similarities to the western system in that it was built in the late 19th century for mixed freight and passenger services and upgraded in 2005 to allow for heavy-haul coal services. For West Blackwater, the tariff was assessed by:
>
> (a) applying a DORC methodology that optimised out assets (e.g. passing loops and signalling) that were not needed for the coal service...[23]

It was not until June 2014 that the QCA presented an alternative valuation option; presented as 'indicative' and 'driven by stakeholders' comments'.[24]

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20 *Re: Dr Ken Michael Am; ex parte Epic Energy (WA) Nominees Pty Ltd & Anor* [2002], 2002

21 This is covered in detail in Ergas, Hornby, Little, & Small, *Regulatory Risk: A paper prepared for the ACCC Regulation and Investment Conference*, Manly, 26-27, March 2001 on regulatory risk and its effects.

22 QCA, *Draft Decision: Queensland Rail's 2013 Draft Access Undertaking October 2014*, Appendix C.

23 Ibid.

It is also notable that the QCA accepted the QR Network (now Aurizon) undertaking in 2010 on the basis of a DORC valuation:

> The Authority accepts that QR Network's regulatory asset base should reflect the DORC valuation of the assets transferred.[25]

Even if one accepts the general move in Australia towards locking in and rolling forward the asset base using actual costs, on the basis of the information above it seems difficult to argue that QR would not reasonably expect a DORC valuation as the initial asset value.

2.2.2 The extent to which past prices have facilitated cost recovery

In principle, it is straightforward to show that both DAC and DORC can facilitate the recovery of costs efficiently-incurred at the time of the investment. This can occur even in the presence of inflation and technological change.[26]

However, imputing a value on an asset part way through its life creates a risk that the value imputed is not sufficient to allow recovery of even efficiently incurred costs.

It appears that Prof Menezes recognises this point when he says that "provided there is accurate data" the regulated firm recovers its actual costs under the DAC method. This accurate data is required to ensure that the pattern of *past returns* is consistent with the remaining value and life in the assets.

It is reasonably easy to think of reasons why imposing a value without understanding the pattern of returns can result in cost under-recovery. For example, suppose that QR was expecting an increase in traffic and revenues over time, and had set prices below those implied by the straight-line depreciation that was recorded in the statutory accounts. Then re-setting the value based on recovery of DAC from the accounts would not allow cost recovery.

We sought some clarification from QR about (a) how the value of (post 1995) assets had been recorded and (b) whether there was any link between access prices and accounting depreciation (which underlies a standard DAC valuation).

QR replied that the recording of asset values has changed over time. Deprival value was used between 1995 and 2004, after which there was a switch to

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24 Ibid.

25 QCA, *Final Decision, QR Network's 2010 DAU*, September 2010, p. 67.

26 When DORC is used, offsetting adjustments are made to asset values and depreciation to ensure that revaluations of assets are NPV neutral for the access provider. This changes the path of prices but not the NPV of the original investment.

recording or imputing 'cost values' as indicated in the relevant 2006/7 annual report:

> Effective from 1 July 2006, all assets are recorded using cost values. The change to the cost method of recording asset values has been made retrospectively from 1 July 2004. It has been impractical to revert to the original historical cost values of assets because of asset revaluations, transfers, amalgamations and reunitisations resulting in QR being unable to determine period specific effects and the cumulative effect of the change to values prior to 1 July 2004.[27]

Further changes in 2010 have meant that there were asset transfers at the separation of Aurizon and QR. Assets are now recorded at written down value (cost less accumulated depreciation).

In the absence of relevant data on returns and their consistency with accounting depreciation, it is unclear to us how the QCA could be confident adopting a DAC valuation would allow for cost recovery of initial investments – particularly for the post 1995 assets.

QR further advised us that there is no link between current access prices and accounting depreciation.[28]

In contrast to the DAC approach, the DORC approach is not so reliant on accounting values of assets, and relies primarily on the total and future remaining lives of assets.

Consequently, without a further investigation into the validity of the DAC approach, it is difficult to understand why the DORC approach would not be preferred in the current circumstances.

2.2.3 The utility of information available to set asset values

Different forms of valuation require different kinds of information from access providers. In general:

- Historic cost approaches require the most information from access providers, including information on depreciated asset values and remaining asset lives, and where relevant details on how costs have been allocated.
- DORC or ORC approaches may require some information from access providers to assess, but much information (e.g. asset lives, unit costs) may be obtained from other sources such as benchmarking.
- NPV or 'line in the sand' methods require little to no information from the access provider.

27 QR 2006/7 Annual Report, p. 83.

28 Email communication, May 2015.

Using historic cost methods is therefore most appropriate when the quality of existing financial information is high and in a format suitable for regulatory purposes. This was a consideration, for example, in the favouring of DORC over DAC in the electricity and gas sectors in Australia, and the compromise method used as the basis for valuation in telecommunications in Australia.

On electricity:

> At the time the ACCC assumed responsibility for setting the revenues of TNSPs in the NEM, one approach would have been to adopt the pre-existing book values of these companies and use them as the basis for setting future revenues. However, there were a number of problems with this approach including:
>
> - inconsistent accounting approaches across states and
> - poor historical records.[29]

On telecommunications, the position was somewhat different because Telstra had been required to submit regulatory accounting information to the ACCC for many years. However, there was some doubt about the accuracy of asset registers and accounts for the assets, with a number of assets not included or not included with the requisite details.[30] The ACCC therefore used the DAC as a starting point in the valuation rather than an end point:

> The ACCC also considered the views and information submitted during the consultation process, the limitations of the historical records (particularly for long-lived assets), and price stability to the extent that it supports past investments and promotes industry confidence in making future investment decisions. (ACCC, 2011, p. 43)

In that light, it is surprising that the availability and quality of existing accounting information for the West Moreton Network is not mentioned as a relevant factor in Prof Menezes report. In our view, this is highly relevant to the valuation decision.

2.3 Conclusion

We conclude that the factors raised by Prof Menezes to asset valuation are all relevant, and that within his framework it is difficult to choose between DAC and DORC in real world situations. However, we suggest there are additional factors that should be considered in addition to those raised in Prof Menezes report—all of which tend to favour the use of DORC rather than DAC to set the initial asset value.

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29 ACCC, Statement of Principles for the Regulation of Electricity Transmission Revenues – Background Paper, Draft Decision. August 2004, pp. 37-38.

30 See for example ACCC, 2004, *Current Cost Accounting Report Relating to Accounting Separation of Telstra for the Half Year to December 2003*, May.

3 The exclusion of pre-1995 assets

Prof Menezes second main point is that assets invested in prior to 1995 should be written off (i.e. given a zero value).

1995 is proposed as the pivotal year as the QCA's draft decision that "the pre-1995 assets are part of a much older network and in some respects could be regarded as sunk (the business itself had valued them at scrap value in 1995)."[31]

Prof Menezes relies on this scrap valuation to conclude that the pre-1995 assets were undertaken with no expectation that they would be recovered through an access charge. Hence, under both DAC and DORC valuation methods, he concludes these assets should be excluded.

We have two concerns with this view that pre-1995 assets should be excluded from the initial asset value:

- While it could be consistent with a DAC methodology (if the assets were fully depreciated), it would not be consistent with how DORC is conventionally applied. It therefore appears opportunistic.
- It applies a standard of commercial behaviour to the 1995 revaluation of assets even though the valuing entity was not a commercial entity and was not situated at arm's length from the Queensland Government – the major (notional) access seeker.

3.1 The exclusion of pre-1995 assets seems opportunistic

It is common ground that, whichever asset valuation method is chosen, in order for firms to invest in long-lived, specialised assets, they must have an expectation that they will be able to earn a normal return on, and a return of, their investment over the asset's lifetime.

Different asset valuation methods allow for this in different ways. In general, an approach based on optimised replacement costs seeks to allow the firm to recover the forward-looking efficient costs of providing the assets necessary to provide service. This ordinarily means:

- Suppliers are not allowed to retain assets that are no longer required ('stranded assets') in the RAB, but where the potential for stranding can be foreseen, firms can adjust for this risk by adjusting expected asset lives.

31 Menezes Report, p. 23.

- Assets that are fully depreciated (written down), but would be replaced, remain in the RAB at some value reflecting the ongoing value in these assets.
- Assets are commonly subject to 'used and useful' tests to facilitate the recovery of costs from the generation of consumers that are causing the costs to be incurred (and cost recovery for assets installed, but not used, is deferred to later periods).

We can contrast the approach taken under replacement cost valuation with historic or actual cost valuation. For historic cost, the focus in more closely on allowing the firm to recover its *ex ante* efficient costs:

- suppliers are allowed to retain stranded assets in the RAB value until they are fully depreciated
- no further return is earned on assets that are fully depreciated
- assets are commonly subject to *ex ante* approval on prudency of expenditure, not *ex post* assessments of potential optimisations

Consequently, we find that an approach that provided for no further returns on fully depreciated assets in the West Moreton Network would be conventional under a DAC approach, but would not be consistent with how DORC is conventionally implemented. Rather, it appears to be an opportunistic approach that is designed to expose QR to the 'downside' of a DORC valuation without allowing QR to benefit from the 'upside' of that valuation.

To explain this point, we note that whether asset values under DORC or DAC are higher can only be assessed *ex post* at the time of the valuation. By assuming that all asset values attached to older assets that are still in use are 'windfall gains', Prof Menezes gives no consideration to the risks that a firm bears in a DORC valuation due to asset optimisation and stranding. Because *ex post* the DORC value in this instance appears likely to be above DAC, he concludes there are windfall gains. However, it is not obvious that attaching values to assets currently in use would be considered windfall gains if the *overall* DORC valuation was in fact below DAC due to asset optimisation – which suggests some opportunism.

To give a simple example, suppose that the DORC and DAC values of the post 1995 assets was $100, and the DORC value of the pre-1995 assets was $25. Then the $25 might look like a windfall gain. But instead suppose the DORC value of the post 1995 assets was $50, and the total asset value was $75 – below the DAC value. The notion of the pre-1995 assets constituting a 'windfall gain' seems incongruous in these circumstances as there is also a $50 'windfall loss'.

Conventional approaches to DORC expose firms to both downside and upside risks – much as would occur in contestable or highly competitive markets. Eliminating sources of gain but allowing the firm to remain exposed to downside risks creates an asymmetry in returns that cannot result in the "expected NPV = 0" investment condition being met.

The exclusion of pre-1995 assets

3.2 The 1995 revaluation was not a commercial decision

We are also concerned that the approach of attaching a zero value to older assets based on actions in 1995 implicitly relies on behaviour in a commercial environment, when this was not obviously the case.

From an economic perspective, a decision to re-value assets would only have meaning if this decision was made by a firm operating in a commercial environment – in particular, it would need to be at arm's length from government.

However, the true situation appeared to be that the asset transfers and valuations were essentially meaningless.

We asked QR for some background on the 1995 decision to value or re-value assets. QR has indicated that decisions were made by Queensland Rail or Queensland Railways which were distinct corporate entities from QR. QR noted its understanding that:

- Queensland Railways (the precursor to Queensland Rail) only started to value assets around 1992/93, but that accounting costs were reset at the corporatisation of Queensland Rail, which occurred on 1 July 1995.[32]
- With corporatisation, Queensland Rail was required to value its assets at 'deprival value' using a deprival value methodology under the policy issued by the Treasurer of Queensland.[33]
- For infrastructure assets, the deprival value usually equates to written down replacement costs. Queensland Rail used the written down replacement cost method to establish the initial values of its property, plant and equipment assets, including the West Moreton Network.
- There was no commercial or CSO contract arrangement in place at the time between Queensland Rail and the Government of the day.
- Transport Service Contract arrangements were not put in place until coal and mineral royalty payments were separated from freight rates and paid directly to government subsequent to 1995.[34]

Deprival value is conventionally defined as the *lesser* of DORC and 'recoverable amount' where recoverable amount is the *greater* of NPV or scrap value. In the circumstances described above, it is apparent that any scrap valuation in 1995

32 QR Annual Report, 1995-96.

33 QR Annual Report, 1994-95.

34 Communication with QR, May 2015.

was likely to have been driven by the lack of funding arrangements for the West Moreton Network, which would reduce recoverable amounts to very low levels.[35] In turn, this lack of funding agreement may have had little commercial consequence because Queensland Rail remained government owned. We would be wary of relying on any valuation decision that is made by a non-arm's length entity.

In our opinion, to treat the scrap valuation seriously it would be necessary to be satisfied that a commercial entity would have valued these assets at scrap. The evidence we have seen suggests that the funding and ownership arrangements were not commercial at the time of the asset valuation. In our opinion, a commercial operator would only have purchased the assets from Government with funding contracts for CSOs in place. This may well have changed the conclusion that the value of these assets was zero.

3.3 Conclusion

Under a standard DORC methodology, assets which remain in service would be attributed some positive value. We conclude that writing the pre-1995 values down to zero appears opportunistic, and places too much weight on decisions made in 1995 which may have been ostensibly commercial but which in practice were not likely to be so.

35 Steering Committee on National Performance Monitoring of Government Trading Enterprises, *Guidelines On Accounting Policy For Valuation Of Assets Of Government Trading Enterprises Using Current Valuation Methods*, October 1994

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