

Asset Valuation of the West Moreton Network

Queensland Rail

*Supporting analysis for
submission to the QCA*

4 May 2015

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Executive summary

In June 2013, Queensland Rail submitted a draft access undertaking (the 2013 DAU) with a proposed reference tariff of \$22.22/'000 gross tonnes kilometres (gtk) for coal users on the West Moreton Network. The tariff was derived using a depreciated optimised replacement cost (DORC) value of **\$419.6m** for the relevant network assets, with a methodology for determining the share of this value attributable to coal services.

In its June 2014 Consultation Paper for the 2013 DAU, the Queensland Competition Authority (QCA) did not accept this tariff and instead put forward two alternative options:

- an adjustment of Queensland Rail's DORC assumptions to arrive at a valuation of \$427m, again with only a share of this attributed to coal services
- a depreciated actual cost approach.

The QCA received a number of submissions from interested stakeholders on these two valuation options, including one from Queensland Rail disputing the appropriateness of a depreciated actual cost approach. Ultimately, the depreciated actual cost option was dismissed in the QCA's Draft Decision released in October 2014.

The QCA's Draft Decision proposed a tariff of \$14.29/'000 gtk, based on stakeholder feedback and a revised DORC valuation of **\$246.6m**. QCA's revised DORC valuation approach included placing a zero value on:

- assets built so long ago that, in the QCA's opinion they could be reasonably considered to be fully life expired (e.g. tunnels and earthworks)
- assets that are still in service after their assessed useful lives have expired (e.g. wooden sleepers).¹

PwC was engaged by Queensland Rail in July 2014 to analyse and comment on the asset valuation methodology proposed by the QCA. Queensland Rail has sought further 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. This report provides supplementary analysis to PwC's July 2014 review and extends on certain asset valuation issues including:

- the appropriate asset valuation methodology for the West Moreton Network
- an assessment of the QCA's application of DORC
- the treatment of life expired assets within a DORC valuation methodology.

In our view, the QCA's proposed approach in its Draft Decision for the 2013 DAU does not appropriately balance the legitimate business interests of Queensland Rail, including the requirement to receive a return on the value of the useful service potential of the asset, and places undue weight on benchmarks from Queensland Rail's accounting treatment of the relevant assets. The QCA's approach to valuing the West Moreton Network is also inconsistent with its own established practice and precedents, as well as precedents from other jurisdictional regulators.

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

The following points summarise our key findings:

1. *Asset valuation based on DORC methodology is preferred*

When setting initial asset values, a DORC methodology should be adopted by the QCA for Queensland Rail's West Moreton Network. Australian regulators have overwhelmingly endorsed a DORC approach when valuing assets. The approach is widely regarded as providing the most appropriate estimate of the opportunity cost of the assets employed to deliver services, and therefore supports efficient pricing signals with regard to future investment decisions. We see no compelling reason to depart from this practice for the West Moreton Network.

2. *The initialisation of the asset value is forward looking*

The DORC value is consistent with maximum price achievable in a competitive market and the benchmark for efficient pricing and service delivery. The valuation should be constructed from forward-looking benchmarks and information, and historic patterns of asset accounting and development costs are irrelevant. From our assessment of the QCA's DORC valuation, we found several issues with the QCA's approach. A DORC valuation should focus on the remaining service potential of the assets. The 'estimated life' of assets for regulatory purposes should not be based on the accounting treatment of these assets. Regulators over the last two decades have recognised that accounting treatment may be an unreliable proxy for setting the asset value for regulatory purposes. A DORC valuation should reflect the modern equivalent asset value for delivering the same service requirements.

3. *Asset valuation should be based on delivering the current level of service using modern equivalent assets*

DORC methodology is about valuing useful service potential of the existing network, and is less concerned with the way the incumbent may account for assets for financial reporting purposes (i.e. what assets may have cost in the past, etc). Accounting treatment may be an unreliable proxy for setting the asset value for regulatory purposes.

4. *Claims of 'double counting' should be evidenced*

Key to the QCA's exclusion of certain assets from the DORC valuation is an implied claim that these fully-depreciated assets have already been paid for by users. If the regulator's concern is about *double counting*, then it needs to be evidenced with an analysis demonstrating that past depreciated expenses were actually recovered from past users.

5. *Arbitrary write downs create asset stranding risk and should be avoided*

The QCA should also be mindful of the risks of arbitrary write-downs on investment incentives. The risk of regulatory write downs and stranding risk undermine efficiency objectives relating to investment, ultimately to the detriment of service providers and users.

1 Introduction

1.1 Background

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 QCA in 2008 (as revised in 2010).

Queensland Rail owns and operates the West Moreton 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.² The West Moreton Network tariff is paid by users to Queensland Rail for trains carrying coal from mines on the Darling Downs to the Fisherman Islands export terminal at the Port of Brisbane.

A key consideration as part of setting a ceiling access tariff is the opening asset valuation. The asset valuation usually refers to the measure of the net value of a company's regulated assets used in price regulation. It is used in calculating two important elements of the revenue requirements – the depreciation allowance (return of capital) and the return on capital.

While a tariff has been part of an approved undertaking since 2006, the tariffs have never been calculated from an agreed and settled asset value, nor an agreed underlying set of assumptions in relation to the initial asset value. Significant unresolved issues include the basis on which the costs relating to shared network assets may be apportioned between coal and non-coal services, and the treatment of the metropolitan network, through which coal trains must traverse to reach the Port of Brisbane.

Asset valuation issues must be considered with regard to the functional adequacy of regulated assets, market value, and overall profitability of the regulated business. Equity considerations, including sustainable cash flows of the business, are also an important factor. These considerations form part of the Pricing Principles³ and approval criteria for access arrangements under the QCA Act.

1.2 2013 Draft Access Undertaking

Queensland Rail submitted a draft access undertaking (the 2013 DAU) to the QCA in June 2013 that included a proposed tariff for the West Moreton Network of \$22.22/'000 gtk) in 2013-14.⁴ The 2013 DAU proposed a DORC valuation of the West Moreton Network assets of \$419.6m.

The QCA Act does not provide any specific guidance on asset valuation or methodology, beyond stating that the expected revenue for the access provider should '*include a return on investment commensurate with the regulatory and commercial risks involved*'.⁵ The QCA is required to have regard to wider considerations such as the legitimate business interests of the provider of the services and interest of the users.

In the 2013 DAU Queensland Rail proposed the use of a building block methodology to set tariffs for the West Moreton Network. The use of the transparent and repeatable building block approach, including the establishment of an opening asset value, would provide a degree of revenue/cost certainty going forward, for Queensland Rail and access seekers. It also is a fairly conventional and uncontroversial approach.

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

³ *Queensland Competition Authority Act 1997*, section 168A(a).

⁴ The current 2014-15 price is \$19.14/'000 gtk.

⁵ *Queensland Competition Authority Act 1997*, section 168A(a).

In response to the 2013 DAU, the QCA released a Consultation Paper in June 2014 which provided two different approaches for calculating the access tariff:

- historical cost option resulting in a price of \$13.59/’000 gtk, including placing a zero value on pre-1995 assets
- revised DORC option, resulting in a price of \$17.21/’000 gtk, including adjusting the 2009 valuation to reflect an updated assessment of the network’s condition with a DORC valuation for the entire West Moreton Network of \$427m.

In July 2014, PwC undertook a review of the QCA’s basis of asset valuation and the way in which this value may be apportioned between coal/non-coal services for the West Moreton Network reference tariff. This review was provided to the QCA as part of Queensland Rail’s submission to QCA’s Consultation Paper. PwC provided comment on the methodologies applied by the QCA in its Consultation Paper in reaching the two proposed reference tariffs. PwC concluded that reducing the value of pre-1995 assets is flawed and introduces asset stranding risk.

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).⁶

The QCA’s Draft Decision for the 2013 DAU does not balance the legitimate business interests of Queensland Rail, including the requirement to receive a return on the value of the useful service potential of the asset. The QCA’s approach on the West Moreton Network is also inconsistent with QCA’s own established practice and precedents.

1.3 2015 Draft Access Undertaking

Due to significant changes in the business environment and changes to the QCA’s regulatory approach, Queensland Rail withdrew the 2013 DAU in December 2014.⁷ 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 are required. A revised draft access undertaking (the 2015 DAU) is to be submitted by Queensland Rail to the QCA by 5 May 2015 in accordance with the QCA’s initial undertaking notice.

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. 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.

1.4 Disclaimer

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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.

⁶ Queensland Competition Authority (2014), *Draft Decision on Queensland Rail’s 2013 Draft Access Undertaking*, page 139.

⁷ Queensland Rail: 2013 DAU withdrawal letter addressed to Mr Hindmarsh, Chief Executive Officer of QCA, dated 12 December 2014. [<http://www.qca.org.au/Rail/Queensland-Rail/More-on-QLD-Rail/Draft-Access-Undertaking/Archive/2013-Draft-Access-Undertaking>].

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2 *Choosing an appropriate asset valuation methodology*

DORC has been widely used in Australia by regulators in both electricity and gas networks and rail networks for the purpose of setting initial asset values

2.1 *DORC is consistent with the asset valuation that would apply to an efficient new entrant*

Economic principles suggest that regulators should seek guidance from the outcomes of a competitive market in setting efficient decision rules for regulating natural monopoly markets. This implies the use of a valuation that is based upon current replacement costs. DORC allows regulatory pricing to mimic the behaviour of a workably contestable market. The DORC valuation of assets represents the maximum valuation that would prevent system-wide bypass of the relevant assets. The bypass value of assets (forward looking) represents the value that would be consistent with the price charged by an efficient new entrant.

The DORC valuation methodology is consistent with the price charged by an efficient new entrant into an industry, and so is consistent with the price that would prevail in a competitive industry in the long run equilibrium.

DORC is the price that a firm would be prepared to pay for existing assets with their remaining service potential given the alternative of installing new assets (that is, price for utilising existing assets rather than replicating the assets). The DORC method considers the forward looking service delivery of the infrastructure when calculating the replacement cost of the notionally reconfigured assets.⁸

The objective of this methodology is to estimate the value the assets would have based on the value of their replacement cost today - after “optimising” the system to reflect today’s best practice technology and depreciating the assets to reflect their remaining economic life.

Thus, the DORC valuation is consistent with the asset valuation that would apply to an efficient new entrant and is, in effect, the value the assets would have if they were employed in a competitive market.⁹

DORC has been widely used in Australia by regulators in both electricity and gas transmission and distribution and rail for the purpose of setting asset values as they have recognised its positive features, including that it:

- involves adopting a generally consistent approach to valuation between regulated and unregulated (competitive) industries
- provides for a consistent valuation treatment of existing and new assets, and will reduce the likelihood that there would be a need for prices to rise as assets are replaced
- would not expose the businesses unduly to the threat of by-pass
- is consistent with the prices charged by an efficient new entrant into an industry or the price that a firm with a given service requirement would pay for existing assets in preference to replicating the assets

⁸ ACCC (1999), *Statement of Pricing Principles for Transmission Networks*, page 39.

⁹ Office of the Regulator General Victoria (1998), *Final Decision for Access Arrangements for MultiNet Energy, Westar and Stratus*, page 12.

- is indicative of the maximum price a new entrant firm would pay to buy the existing assets as opposed to replacing them with new assets.¹⁰

2.2 Regulatory precedents for using DORC when setting the initial asset value is strong

DORC is widely regarded to provide the most accurate estimate of the opportunity cost of the assets employed to deliver the services, and therefore provides efficient ceiling pricing signals with regards to future investment decisions.

Regulatory precedent overwhelmingly supports the application of DORC methodology in order to value assets owned by regulated businesses. The QCA has been a prominent advocate for the DORC valuation method in the past, utilising it to value asset bases for numerous regulated entities including Queensland Rail, Dalrymple Bay Coal Terminal (DBCT) Management, Gladstone Area Water Board, SunWater, Energex and Ergon. As highlighted by the QCA, the major advantage of using DORC is that it addresses the incompatibility between historical values of capital assets and current values for other expenses and revenues.¹¹

A summary of the extent to which a DORC methodology is preferred by regulators is provided in Table 1.

Table 1 Summary of methodologies for setting initial asset values

Asset class	Regulator	Network	Methodology
Electricity Transmission Networks	ACCC/AER	TransGrid (NSW), Powerlink (QLD), Electranet (SA), SP AusNet (VIC), TransEnd (Tas)	DORC
Electricity Distribution Networks	ESC (VIC)	Solaris Power, CitiPower, Powercor, Eastern Energy, United Energy	Asset value > DORC
Electricity Distribution Networks	ESCOSA (SA)	ETSA Utilities	DORC
Electricity Distribution Networks	IPRC (ACT)	ActewAGL	DORC
Electricity Distribution Networks	IPART (NSW)	Energy Australia, Integral, Country Energy	DORC
Electricity Distribution Networks	QCA (QLD)	Energex, Ergon	DORC
Electricity Distribution Networks	OTTER (TAS)	Aurora	DORC
Gas Transmission Pipelines	ACCC/AER	Moomba to Sydney Pipeline, Moomba to Adelaide, Amadeus Basin to Darwin pipeline, Roma to Brisbane Pipeline, Central West Pipeline	DORC
Gas Transmission Pipelines	OffGAR / ERA (WA)	Damper to Bunbury Natural Gas Pipeline, Goldfields Gas Pipeline	Asset value > DORC
Gas Transmission Pipelines	ORG/ESC (VIC)	MultiNet	DORC
Gas Transmission Pipelines	ESCOSA (SA)	Envestra	DORC
Gas Transmission Pipelines	QCA (QLD)	Envestra, Allgas	DORC
Ports Infrastructure	QCA (QLD)	Dalrymple Bay Coal Terminal	DORC
Rail Infrastructure	QCA (QLD)	Queensland Rail National	DORC
Rail Infrastructure	IPART	Australian Rail Track Corporation	DORC

¹⁰ Office of the Regulator General Victoria (1998), *Final Decision for Access Arrangements for MultiNet Energy, Westar and Stratus*, page 13.

¹¹ Queensland Competition Authority (2001), *Determination for Electricity Distribution Networks*, page 57.

3 Assessing the QCA's application of DORC

Economic theory suggests that the asset value should be based on delivering the current level of service using modern equivalent assets

3.1 DORC should be forward looking

Due to the threat of bypass, the initial asset value should be set with reference to the replacement cost of the most efficient configuration of assets needed to deliver the customers' service requirements. DORC provides an estimate of the current cost of replacing an asset with one which can provide the required services potential in the most efficient way.

The determination of an appropriate initial asset value for a particular set of assets is a pragmatic determination, with the most appropriate valuation determined by consideration of the particular circumstances of the regulated business and the outcome of the valuation. This has been evident in regulatory valuations of utility assets wherein regulators have given consideration to the reasonable expectations and legitimate business interests of the owners of the regulated assets prior to the determination of regulatory values.

The initial value of the assets should reflect the future service potential of the asset. How assets were funded, what they cost originally and whether assets are fully depreciated for accounting purposes is a secondary, and potentially irrelevant, consideration.

For the West Moreton Network, relevant factors to take into account in determining the asset value include the **utility of the infrastructure** and the **quality of service**. As the QCA acknowledges in its Draft Decision for the 2013 DAU, many of the historic assets of the West Moreton Network remain relevant for operating coal services today.¹²

The difference between economic life and technical life of an asset has been articulated in a number of regulatory forums. For example, the Australian Competition and Consumer Commission (ACCC) in its 1999 draft statement of regulatory principles for transmission networks stated the useful life of the asset will be dependent on the period over which the services it provides will be needed:

*The useful economic life of an asset may have very little to do with the feasible technical life of the equipment. It may be more dependent on the period over which the services it provides will be needed.*¹³

The rationale for using DORC to value assets is that it provides a greater indication of the opportunity cost to the owner of the asset and is therefore more consistent with the value of the asset in a competitive market. However, the valuation of historical assets at zero, effectively assigning a value less even than **scrap value**, fails to provide incentives for the efficient management of assets or for future investment. Valuing 'useful' assets at zero is inconsistent with commercial practices and ignores the true value of the assets and the corresponding services they provide.

Firms will be reluctant to remain in a market if returns derived are insufficient to cover the regulatory and commercial risks involved with the infrastructure. This can be true if firms can realise more value from selling their assets than from their continual use. Accordingly, financing of new assets will also become difficult if regulated prices are not set according to replacement costs, and particularly so if regulatory valuations are reduced such that tariffs derived from them fall considerably from current levels of recovery.

The regulator should only set a lower value for existing assets if there is a difference in quality of service able to be provided by a new asset, or where to value the assets otherwise

¹² Queensland Competition Authority (2014), *Draft Decision on Queensland Rail's 2013 Draft Access Undertaking*, page 119.

¹³ ACCC (1999), *Statement of Principles for the regulation of Transmission Revenues: Draft*, page 46.

would render the service unaffordable to users (and hence result in no services being provided). Notably, valuing assets using a DORC methodology ensures an asset value that is:

- adjusted for the proportion of the services potential of the existing asset that has expired
- optimised to provide the required service potential in the most efficient way possible.

If the regulator's concern is one of *affordability*, then this ought to be expressed explicitly. It should not influence the way in which the primary valuation is constructed.

Queensland Rail's approach in the 2015 DAU of 'decoupling' the ceiling price and the reference tariff allows the ceiling price for the West Moreton coal services to be assessed using generally-accepted regulatory principles based on a building block approach. Setting the reference tariff below the ceiling price, then takes into consideration what reasonably can be recovered from West Moreton Network users.

3.2 Depreciation is applied to reflect the service potential of the asset

DORC methodology uses a modern equivalent asset value for delivering the required level of service. Depreciation is applied over time to reflect the decline in service potential of the asset and the asset value is then optimised to ensure that only assets relevant to future demand are included. The optimisation process attempts to **remove excess capacity and redundant services** from the value of the asset base. This method establishes values using the most efficient configuration of assets needed to deliver the regulated services. DORC recognises that the remaining service life of the existing assets may be limited and as such, depreciates the replacement cost to reflect the current state of the existing assets.

The purpose of adjusting for depreciation in the DORC valuation is to derive the value for an old asset that will create the same total cost structure as that of a new asset. A depreciation step in the DORC valuation seeks to estimate the present value difference between the future costs of a new asset, relative to the existing network. This step aims to capture differences in future operating and maintenance costs as well as future renewal/replacement programs, both of which are affected by the age of the existing assets.

The depreciation adjustment in the DORC valuation properly is about the difference in forward looking costs of an old asset relative to a new one. As such, straight line depreciation is simply a proxy and may be inaccurate in many cases.

In 2004, East Australian Pipeline Limited submitted an application to the Australian Competition Tribunal (the Tribunal), regarding the ACCC's draft access arrangement for the Moomba to Sydney Pipeline System. In this decision, the Tribunal considered the critical role of the depreciation step in the DORC valuation:

*DORC arrives at a hypothetical value and looks forward. The starting point to ascertain DORC is to arrive at the ORC (which costs the hypothetical optimised replacement of the pipeline) and then depreciates that amount to what might be called a second hand value, principally because the optimised pipeline would last longer than the existing.*¹⁴

¹⁴ Application by East Australian Pipeline Limited [2004] ACompT 8, para 18.

The Tribunal also expressed strong reservations about the use of accounting concepts of depreciation for the purpose of a DORC valuation, particularly straight line depreciation:

*DORC is a forward looking concept and the ‘depreciation’ concerned is economic depreciation. 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.*¹⁵

The Tribunal’s decision over a decade ago, recognised that economic theory underpinning the DORC recognises that a simplistic age-based depreciation profile is not appropriate, particularly one that references financial and accounting reporting values which may not bear any resemblance to the asset’s condition or remaining useful life.

3.2.1 Departures from financial reporting depreciation terms in regulatory valuations

A summary of the instances where regulators, including the QCA, have reflected the ‘usefulness’ of the assets during a valuation is provided below.

Electricity Networks – Queensland

As part of Ergon Energy’s 2005 electricity distribution price review, the standard asset lives for various asset classes was redefined in 2003. The asset lives accepted by the QCA in 2003 represented a general *increase* over the lives used in the 1999 Queensland electricity distribution valuation. A comparison of the standard life increases is summarised in Table 2.

Table 2 Comparison of asset lives for Ergon Energy between 1999 and 2003

Asset category (years)	1999 valuation	2003 valuation	Change
132kV steel tower transmission line	50	60	+ 20%
132kV concrete pole transmission line	50	55	+ 10%
66kV/33kVconcretepole lines	50	55	+ 10%
11/22kV overhead (concrete)	45	55	+ 22%
Low voltage overheads – concrete	45	55	+ 22%

Source: Queensland Competition Authority, *Ergon Energy, Electricity Distribution Price Review 2005*, page 226

The QCA in this decision, increased the standard asset lives to reflect the current experience and opinion within the electricity supply industry as to the remaining useful life of those assets. The asset lives were extended by a range of 10 to 22 per cent. As part of this valuation, the QCA also accepted a minimum remaining life for assets still in service beyond their standard life.¹⁶ This recognised the continuing value of assets which, irrespective of previous asset accounting, would still provide a useful service to the network. In the 2003 valuation a three to five year minimum life was adopted depending on the asset type.

When the initial regulatory asset base was set for Ergon Energy’s network, the implied accounting depreciation rate was greater than the approved regulatory depreciation rate (6.3% and 5.2% respectively) in 2005. The QCA in its 2005 determination, did not base the asset life for regulatory depreciation on the accounting asset life (using 19.2 years compared to 15.8 years respectively).

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

16 Queensland Competition Authority (2005), *Ergon Energy, Electricity Distribution Price Review*, page 226.

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.¹⁷ 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.¹⁸ The Industry Commission also acknowledged that depreciation for taxation and accounting purposes will be different to depreciation for regulatory purposes due to variances in asset life and asset usage.

The opening asset values for each Victorian electricity distribution business were outlined in the *Electricity Supply Industry Tariff Order*, dated Friday 30 June 1995.

Table 3 Asset valuation of electricity networks in Victoria¹⁹

Asset (\$m)	ORC Value	Adjustment	Regulatory Value
CitiPower	\$482	\$129	\$611
Eastern Energy	\$1046	(\$218)	\$828
Powercor	\$1227	(\$161)	\$1066
Solaris Power	\$361	\$61	\$422
United Energy	\$743	\$136	\$879

As part of this valuation some components of electricity networks were provided with a nominal value, despite being fully depreciated to take into account the service provided by the assets. As such the regulatory life assigned to these assets was greater than the accounting treatment, in order to incentivise the efficient investment in, and operation of these assets.²⁰

Based on the replacement cost and the adjustment for urban/rural price cross subsidies, the asset values for three networks were set above the DORC value, while the two others were set below the DORC.

Water infrastructure – Queensland

The QCA, when recommending that the Gladstone Area Water Board's (GAWB) assets be valued using DORC, considered the demand of the assets including the service potential during the optimisation process.²¹ 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'.²²

In its Final Report, in determining the asset base the QCA set the remaining asset lives of GAWB's assets in line with the design lives of replacement assets. In effect the remaining asset life for regulatory purposes was higher than the asset life used for accounting purposes.²³

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

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

19 Institute of Public Affairs (1999), *Energy Issues Paper No. 11*, Submission to the ORG on the 2011 Price Review.

20 Institute of Public Affairs (1999), *Energy Issues Paper No. 11*, Submission to the ORG on the 2011 Price Review.

21 Queensland Competition Authority (2005), *Final Report Gladstone Area Water Board: Investigation of Pricing Principles*.

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

23 Queensland Competition Authority (2002/2005), *Gladstone Area Water Board: Investigation of Pricing Practices – Final Report*.

In the case of the asset valuations for the Burdekin River Irrigation Area, the QCA provided an asset value to 'life expired assets'. Life expired assets were given a value greater than zero as to:

- provide management with the incentive to enhance shareholder value
- provide an incentive for the better management of assets or for future investment
- be consistent with efficient outcomes that would prevail in a competitive market
- be consistent with normal commercial practices.²⁴

Dalrymple Bay Coal Terminal

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 including:

*adopting fundamentally the same terminal configuration as presently used, with optimisation to ensure that only assets relevant to provide the desired level of service provision are incorporated.*²⁵

The QCA also concluded that depreciation in a DORC context should not simply write-down the value of an asset to reflect its age, but it should reflect the serviceability of the assets.²⁶

In its Final Decision for the DBCT Draft Access Undertaking, the QCA adopted a 50-year constraint on assets based on the conclusion that a straight-line depreciation was not appropriate. The QCA concluded that this evenly balanced the potential risks of asset stranding between DBCT and terminal users.

Queensland Rail National

In 2001 the QCA set the asset valuation for Queensland Rail National's coal-carrying rail infrastructure including land assets as part of its Draft Access Undertaking. As part of this decision, the QCA considered that it was not appropriate to value assets at zero, as this would 'undermine the incentives to invest in the network'.²⁷ The QCA also concluded that the historical cost would substantially understate the opportunity costs imposed on society of the existence of the network, particularly as some of the assets of the network were acquired over a century ago.²⁸

24 Queensland Competition Authority (2003), *Burdekin Haughton Water Supply Scheme: Assessment of Certain Pricing Matters relating to the Burdekin River Irrigation Area*, Draft Position Paper No.3 – Asset Valuations, page 4.

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

26 Queensland Competition Authority (2004), *Dalrymple Bay Coal Terminal Draft Access Undertaking, Draft Decision*, page 157.

27 Queensland Competition Authority (2001), *Final Decision on QR's 2001 Draft Access Undertaking*, page 366.

28 Queensland Competition Authority (2001), *Final Decision on QR's 2001 Draft Access Undertaking*, page 366.

4 Recovery of sunk costs

The 'line in the sand' approach should only be used if the business would be expected to have been setting its prices so as to provide it with a reasonable opportunity of recovering the cost of its sunk asset

4.1 Opportunity to recover costs

The initial asset value should be broadly consistent with each supplier having earned at least a normal return in the past. The relevance of historical cost recovery to asset valuations was commented on by the NZ Commerce Commission, which stated that 'ensuring broader consistency with normal returns over the life of the asset is important when establishing the initial value of the asset value'.²⁹

DORC should only be adjusted to ensure that assets that cease to contribute in any way to the delivery of the services are removed from the asset base. If this is not the case (that is, assets continue to contribute to the delivery of the services), an adjustment (or scrap value) is not required.

In the case of access arrangement for the Central West Pipeline, when setting the asset base value, the ACCC considered the basis on which tariffs have been (or appear to have been) set in the past and the historical returns to the service provider from the covered pipeline.³⁰

The QCA's Draft Decision for the West Moreton Network reference tariff placed a zero value on assets whose actual life exceeded their 'expected useful life'. The QCA has explicitly concluded that assets in place for longer than their 'expected useful life', have been fully depreciated over time, and to include them in the asset valuation would amount to 'double counting'.³¹

The QCA's Draft Decision presupposes that past charges have been set at full cost recovery. Otherwise, even though assets may have been fully depreciated, this depreciation expense may not actually have been recovered from past users. Thus, the regulator needs to consider contextual factors such as investor expectations and the extent of previous cost recovery etc.

The QCA's claim that, because assets are fully depreciated in an accounting context, that they have already been paid for, relies on a core assumption that charges over the asset life have been set at full cost recovery. Given the nature of the assets of the West Moreton Network, this is very unlikely. Most importantly, to the extent that full cost recovery has not been achieved, depreciation may not have been fully recovered.

The QCA in its Draft Decision for the 2013 DAU, released in October 2014, refers to its previous decision of setting zero value on 'life expired' assets for the gas distribution networks in 2001.³² However, we note that the QCA in making this decision, considered that the use of a minimum life of these assets would provide the gas distributors with a windfall gain, due to the way that tariffs had been set in the past.³³ As mentioned above, given the nature of the assets of the West Moreton Network, this is very unlikely.

²⁹ NZ Commerce Commission, *Input Methodologies Paper*, page 138.

³⁰ ACCC (2000), *Final Decision, Access Arrangement by AGL Pipelines (NSW) Pty Ltd for the Central West Pipeline*, page 52.

³¹ Queensland Competition Authority (2014), *Draft Decision on Queensland Rail's 2013 Draft Access Undertaking*, page 119.

³² Queensland Competition Authority (2014), *Draft Decision on Queensland Rail's 2013 Draft Access Undertaking*, page 138.

³³ Queensland Competition Authority (2001), *Proposed Access Arrangements for Gas Distribution Networks: Allgas Energy Limited and Envestra Limited*, page 148.

4.2 Risk of arbitrary write downs

Once properly determined, the regulatory asset base represents the value of unrecovered past capital investments made by the existing and past infrastructure owners. Assets that form part of the regulatory base are subject to the risk of regulatory ‘asset stranding’ where regulators determine to reduce this asset value. The degree of this risk will affect the cost of financing the regulated firms new and existing investments, since the regulatory treatment of past capital investment is the best objective information available to investors on how current investments are likely to be treated over their lives.³⁴

The disadvantages of this risk include:

- distortion of the patterns of investment
- the introduction of additional costs, disputes and complexity in the regulatory process
- the non-recovery of investments that were prudently made on the basis of the best available information.

The risk of regulatory write downs and stranding risk undermine efficiency objectives to the detriment of service providers and users. Given these considerations the QCA must evidence the claims of double counting and be mindful of the risk of arbitrary write-downs on investment incentives.

Queensland Rail’s approach of decoupling the ceiling price from the reference tariff provides a mechanism to ensure that this risk is minimised, whilst considering the temporary affordability constraints of access holders.

³⁴ Network (2014), *Assessing Proposals for Regulatory Write-downs*, Utility Regulatory Forum, Issue 53.

