



Draft Decision

Dalrymple Bay Coal Terminal

Draft Access Undertaking

October 2004

Queensland Competition Authority

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Level 19, 12 Creek Street Brisbane Qld 4000
GPO Box 2257 Brisbane Qld 4001
general.enquiries@qca.org.au
www.qca.org.au

SUBMISSIONS

This report is a draft only and is subject to revision. Public involvement is an important element of the decision-making processes of the Queensland Competition Authority (the Authority). Therefore submissions are invited from interested parties concerning its assessment of the draft access undertaking submitted by Prime Infrastructure (DBCT) Management P/L (“DBCT Management”), on behalf of DBCT Holdings P/L (“Holdings”) on 20 June 2003. The Authority will take account of all submissions received.

Written submissions should be sent to the address below. While the Authority does not necessarily require submissions in any particular format, it would be appreciated if two printed copies are provided together with an electronic version on disk (Microsoft Word format) or by e-mail. Submissions, comments or inquiries regarding this paper should be directed to:

Queensland Competition Authority
GPO Box 2257
Brisbane QLD 4001
Telephone: (07) 3222 0506
Fax: (07) 3222 0599
Email: ports.submissions@qca.org.au

The **closing date** for submissions is 26 November 2004.

Confidentiality

In the interests of transparency and to promote informed discussion, the Authority would prefer submissions to be made publicly available wherever this is reasonable. However, if a person making a submission does not want that submission to be public, that person should claim confidentiality in respect of the document (or any part of the document). Claims for confidentiality should be clearly noted on the front page of the submission and the relevant sections of the submission should be marked as confidential, so that the remainder of the document can be made publicly available. It would also be appreciated if two copies of each version of these submissions (ie the complete version and another excising confidential information) could be provided. Again, it would be appreciated if each version could be provided on disk. Where it is unclear why a submission has been marked “confidential”, the status of the submission will be discussed with the person making the submission.

While the Authority will endeavour to identify and protect material claimed as confidential as well as exempt documents (within the meaning of the *Freedom of Information (FOI) Act 1989*), it cannot guarantee that submissions will not be made publicly available. As stated in s187 of the *Queensland Competition Authority Act 1997* (the QCA Act), the Authority must take all reasonable steps to ensure the information is not disclosed without the person’s consent, provided the Authority is satisfied that the person’s belief is justified and that the disclosure of the information would not be in the public interest. Notwithstanding this, there is a possibility that the Authority may be required to reveal confidential information as a result of an FOI request.

Public access to submissions

Subject to any confidentiality constraints, submissions will be available for public inspection at the Brisbane office of the Authority, or on its website at www.qca.org.au. If you experience any difficulty gaining access to documents please contact the office (07) 3222 0555.

Information about the role and current activities of the Authority, including copies of reports, papers and submissions can also be found on the Authority’s website.

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GLOSSARY

the Authority	Queensland Competition Authority
AMSA	Australian Maritime Safety Authority
ARR	Annual Revenue Requirement
BMA	BHP Billiton Mitsubishi Alliance
Connell Hatch	Connell Hatch Pty Ltd
CPI	Consumer Price Index
DAC	Depreciated Actual Cost
DAU	Draft Access Undertaking
DBCT Management	Prime Infrastructure (DBCT) Management P/L
DBCT Trust	Prime Infrastructure (DBCT Trust)
DBCT Trustee	Prime Infrastructure (DBCT) Investor Services Ltd
DHC	Depreciated Historical Cost
DIHC	Depreciated Inflated Historical Cost
DNRME	Department of Natural Resources, Mines and Energy
DORC	Depreciated Optimised Replacement Cost
GHD	GHD Pty Ltd
GPA	Gladstone Port Authority
Holdings	DBCT Holdings P/L
IAP	Indicative Access Proposal
IDC	Interest During Construction
MAR	Maximum Allowable Revenue
Maunsell	Maunsell Australia, Sedgman and DTZ Property Valuers
MEA	Modern Equivalent Asset

Mtpa	Million Tonnes Per Annum
NCN	Negotiation Cessation Notice
O&M	Operation and Maintenance
OMC	Operation and Maintenance Contract
ORC	Optimised Replacement Cost
PCI	Pulverised Coal Injection
PCQ	Ports Corporation of Queensland
PSA	Ports Services Agreement
PWC	Port Waratah Coal Services
QRC	Queensland Resources Council (formerly known as Queensland Mining Council)
QR	Queensland Rail
RAB	Regulated Asset Base
Rushton	Rushton (Qld) Pty Ltd
SAA	Standard Access Agreement
SRP	Statement of Regulatory Principles
TCC	Terminal Capacity Committee
the EPA Act	Environmental Protection Act (QLD) 1994
the Operator	DBCT P/L
the QCA Act	Queensland Competition Authority Act 1997
the Terminal	Dalrymple Bay Coal Terminal
the WH&S Act	Workplace Health and Safety Act 1995
TIC	Terminal Infrastructure Charge
TR	Throughput Rebate
TRTT	Throughput Rebate Threshold Tonnage
WACC	Weighted Average Cost of Capital

EXECUTIVE SUMMARY

Draft decision

The Authority proposes to not approve the DBCT draft access undertaking submitted by DBCT Management on behalf of DBCT Holdings on 20 June 2003.

The reasons for the Authority's decision are set out in the remainder of this document together with an explanation of the way in which the Authority believes the draft access undertaking should be amended in order for the Authority to approve it.

This draft decision consists of two parts, Part A and Part B. Part A outlines DBCT Management's position as set out in the draft access undertaking, a summary of stakeholder comments and the Authority's analysis and recommendations.

Part B provides a detailed mark-up of the draft access undertaking showing the Authority's suggested amendments as outlined in Part A.

Background

The Dalrymple Bay Coal Terminal (the terminal) commenced operations in 1983 as a common user terminal handling coal for the Goonyella system mines in central Queensland. The terminal is located adjacent to the pre-existing Hay Point Coal Terminal which is a privately operated terminal handling coal exclusively for the BHP Billiton Mitsubishi Alliance mines.

The terminal was originally developed by the Queensland government, in conjunction with the four original mines, with a view to encouraging development of the Bowen Basin coal fields.

The terminal and port operations were the responsibility of the (now) Ports Corporation of Queensland (PCQ) but day to day operations were the responsibility of DBCT Pty Ltd, a company which was, and still is, jointly owned by the terminal users.

The terminal handles a mixture of thermal, metallurgical and pulverised coal injection coals. Blending of these coals at the terminal allows the mines to market a much larger number of "brands" of coal.

In 2001, the Queensland Government leased the terminal to a consortium led by Babcock and Brown. The terminal subsequently became the foundation asset of Prime Infrastructure when it was floated on Australian Stock Exchange in 2002, with investors purchasing stapled securities in both Prime Infrastructure Management Limited and Prime Infrastructure Trust.

Key features of this lease arrangement include:

- the Queensland Government retained terminal ownership via DBCT Holdings Pty Ltd;
- one of the lease documents (the Ports Services Agreement) sets out a range of obligations and rights of Prime Infrastructure and DBCT Holdings Pty Ltd;
- leases for the land and the equipment were separated between Prime Infrastructure Trust and Prime Infrastructure Management and its wholly owned subsidiary DBCT Management Pty Ltd; and

- DBCT Pty Ltd continues to operate the terminal on a day to day basis under the terms of an operating and maintenance contract. The PCQ continues to provide port services to both the Dalrymple Bay and Hay Point Coal Terminals.

Why third party access and the role of an access undertaking

In response to concerns that the lease would be acquired by an entity that may have little interest in expanding the facility and at the same time may exploit its market power, the terminal's services were declared under Part 5 of the Queensland Competition Authority Act for third party access.

While access regimes generally seek to limit the abuse of market power of a vertically integrated entity, the purpose of declaring the terminal is a more traditional one of regulating a monopolist. In particular, the declaration seeks to ensure that capacity is not constrained in order to extract higher than reasonable returns.

Declaration under Part 5 of the QCA Act means that the access provider is prohibited from preventing or hindering access to the terminal and obliges it to negotiate, in good faith, an access agreement with access seekers. In the event that an access agreement cannot be successfully completed, either party may bring a dispute to the Authority for resolution.

While the QCA Act establishes the framework of access rights and obligations, it also provides for the Authority to approve an access undertaking which sets out in more detail those access rights and obligations. An access undertaking seeks to provide all parties with greater certainty on the nature of the access rights and obligations in two ways: first, it can provide immunity to an access provider from prosecution for activities which might otherwise be a breach of the QCA Act; and second, by limiting the Authority's discretions when arbitrating a dispute. The access provider gains this certainty for the term of the undertaking, as the Authority has limited abilities to amend an approved undertaking.

By either approving, or not approving, a draft access undertaking, the Authority is, in effect, seeking to regulate the economic conduct of the access provider.

The Authority's approval of an undertaking might also constrain the access rights a future user of the terminal may hope to acquire. In either case, the Authority's decision affects the legal rights and obligations of an access provider and access seekers, in circumstances where it will not always be possible to envisage or address adequately all eventualities.

Authority's approach to assessing the DBCT draft access undertaking

In assessing an access undertaking, the Authority is required, amongst other things, to take into account the interests of the owner of the services of the facility, access seekers and the public interest. The Authority seeks to establish a reasonable balance of these interests.

Often the interests of access providers and access seekers will coincide; for instance, it is in the interests of DBCT Management and the coal mines that the Bowen Basin remains an internationally competitive source of coal and that the terminal is efficient and reliable. Left to their own devices, it could be expected the coal mines and DBCT Management could resolve the areas of common interest. To this extent, the Authority favourably considers all proposals that are jointly presented to it, provided the Authority can be satisfied that the interests of future users or the public interest are not compromised.

In this context, DBCT Management has proposed that:

- operating and maintenance costs be unregulated and that they be “passed through” to users; and
- reference tariffs not include provision for a capital expenditure program but that they be revised whenever a capacity expansion is required.

While both of these proposals are an uncommon feature of access regimes in Australia, they are supported by a group of all of the mining companies that use the terminal (DBCT User Group). To this extent, the Authority has accepted the proposed approach, but subject to a number of conditions largely relating to the governance arrangements to ensure there is sufficient clarity and certainty in the scope of the operating and maintenance charges and in the capacity expansion triggers.

However, where it is obvious that the interests of the access provider and access seekers are much more divergent, the Authority seeks to determine an appropriate balance of the competing interests. This is a much more demanding task, as it will inevitably result in one or another of the parties bearing, in their opinion, an unfair burden.

On the basis of the material presented to the Authority in the course of its investigation, it is evident that there are a great number of issues on which stakeholders disagree. This level of conflict has added significant complexity to the Authority’s task.

The Authority has also been mindful that the Ports Services Agreement includes, as contractual obligations, a number of access rights and obligations between the terminal owner (DBCT Holdings) and the lessee (DBCT Management). These obligations are in addition to the rights and obligations that the draft access undertaking seeks to establish between the owner (DBCT Holdings) and the access provider (DBCT Management).

In assessing and proposing changes to the draft access undertaking, the Authority has been keen to ensure that all parties are able to comply with their obligations under the Ports Services Agreement, in the access undertaking and in other pre-existing contracts. To some extent, this task has been assisted by large sections of the Ports Services Agreement, which is a confidential document, being replicated (not always literally) in the draft access undertaking.

Complex ownership and contract relationships

As briefly summarised above and as set out in more detail in Chapter 1, the ownership and operation of the terminal is divided between a number of separate legal entities. This required the Authority to examine whether the draft access undertaking was consistent with the QCA Act; in particular, to establish that the draft access undertaking was submitted in accordance with the Act and that it is enforceable.

Under the QCA Act, the owner of the service is responsible for submitting the draft access undertaking to the Authority for approval.

In the case of Dalrymple Bay Coal Terminal, the position is more complex as DBCT Management prepared the draft access undertaking and submitted it to the Authority on behalf of DBCT Holdings. Also, in the course of the lease process, ownership of the land was separated from the ownership of the infrastructure contained on that land. The Ports Corporation of Queensland has retained ownership of the on-shore freehold land and the State of Queensland owns the off-shore land. The land and the infrastructure are ultimately subleased to DBCT Management.

It was not obvious from the material presented to the Authority, either as part of the draft access undertaking or the supporting submission, that DBCT Holdings is the sole owner of the facility.

Consequently, the Authority undertook a review of the relevant lease documents. The Authority is satisfied that DBCT Holdings is the sole owner of the facility and that the draft access undertaking was submitted in accordance with the Act. While this is a seemingly mundane administrative matter, it is an important matter for the future enforceability of the undertaking and, unfortunately, it did take some months for the Authority to acquire the necessary documents to reach this conclusion.

In examining the enforceability of the draft access undertaking, two issues emerged. First, under the QCA Act, an enforcement action for a breach of an approved access undertaking is against the owner (ie DBCT Holdings) yet the access obligations in the draft access undertaking are on the access provider (ie DBCT Management). While the Ports Services Agreement includes provisions that would allow DBCT Holdings to require DBCT Management to comply with the undertaking, the Authority is not confident that this arrangement will be effective in all circumstances. The Authority has proposed amendments to the draft access undertaking to address this matter, but the Authority believes that an amendment to the QCA Act is also necessary.

Second, in the event of a dispute between an access seeker and an access provider, the QCA Act provides for the Authority to make an arbitration determination requiring a facility to be extended if the access provider is also the owner of the facility. However, in the case of the DBCT, the access provider (ie DBCT Management) is not the owner of the facility (ie DBCT Holdings). The Authority understands that the ownership arrangements at DBCT were not envisaged when this section of the QCA Act was drafted. An amendment to the QCA Act is also required to rectify this oversight.

Non-price access issues

In assessing the draft access undertaking the Authority has sought to ensure that the access rights and obligations imposed on DBCT Management and access seekers/holders are balanced. The Authority has sought to do this in a number of ways.

First, the Authority has sought to ensure that each party to an access agreement will have reciprocal rights and obligations. For example, the Terminal Regulations establish parameters within which the terminal will operate, including rail and vessel scheduling, vessel specifications and queuing rules. The Terminal Regulations clearly impact on the access rights and obligations of access holders and DBCT Management, yet the draft access undertaking does not clearly impose an equivalent obligation on these two parties. On the one hand, an access holder will be required to comply with the Terminal Regulations under the terms of their access agreement (Schedule B). Conversely, DBCT Management's obligation to comply is expressed indirectly through the definition of the coal handling service (Schedule G). The Authority has identified amendments to the draft access undertaking to remedy this imbalance.

Second, the Authority has also sought to rectify identified deficiencies in the draft access undertaking — one example of which relates to the triggers for a capacity expansion. The draft access undertaking proposes that DBCT Management will seek a revision to the reference tariff to include capacity expansion costs in circumstances where new contracts for additional throughput has been the primary cause for an increase in shipping and rail delay costs. While a similar trigger is also included within the Ports Services Agreement, the Authority is not convinced that it is sufficiently deterministic to lead to capacity expansions in the way it may have been envisaged.

The Authority is concerned that the proposed trigger will suffer from the common problems associated with measuring and identifying the causes of delays in transport infrastructure. The DBCT facility operates in a dynamic environment, in which it could be expected that shipping and rail delays will continually change over time. It is likely to be unusual for an increase in

delay costs to be solely related to an increase in contracted tonnages. It is therefore quite possible that the delay cost trigger may not be activated.

The DBCT User Group expressed very significant concerns that the lack of an effective capacity expansion trigger, combined with a price cap regime that encourages DBCT Management to over contract tonnages, would result in an increased utilisation of the terminal but at the cost of a decline in the performance of other aspects of the coal supply chain. That is, DBCT Management would retain those benefits from increased terminal utilisation but the users would bear the costs of delays experienced elsewhere in the supply chain.

The Authority shares the DBCT User Group's concerns and accepts that an effective way to address this problem is to remove the incentive to over contract tonnages by developing reference tariffs within a revenue cap framework as against the proposed price cap framework. Under a revenue cap framework, there is an incentive to expand capacity rather than expand contracted tonnages. It is the terminal users that bear the risk of tonnage fluctuations and of forecast tonnes not being realised.

The Authority has also proposed additional, more explicit, capacity expansion triggers. First, where contracted capacity commitments for the next expansion reach a specified target. Second, where existing users with a significant capacity entitlement signal the need for a capacity expansion. The Authority has yet to finalise the level of the two triggers and is seeking stakeholder input. The Authority believes this approach is appropriate as it is the terminal users that bear the risk of unused capacity under a revenue cap approach and at the same time bear the risk of capacity not being sufficient to meet expected demand.

Pricing related issues

The area of probably the greatest difference in the views of DBCT Management and the DBCT User Group lies in the proposed reference tariff and the various elements used to calculate the reference tariff.

The current price for access to DBCT's coal handling service is \$2.08/tonne, which is a price that was agreed prior to the terminal's lease and at a time when it was operated by the Ports Corporation of Queensland. Upon the lease of the terminal, there was probably an expectation, in some peoples' minds at least, that the reference tariffs included in the draft access undertaking would be lower than the existing price of \$2.08/tonne.

At \$2.77/tonne, the reference tariff proposed by DBCT Management in its draft access undertaking was around 35% higher than the current price. DBCT Management justified its proposed reference tariff on the basis of:

- an asset value of \$1084m;
- a weighted average cost of capital of 10.5%;
- corporate overheads of around \$4m per annum; and
- a standard calculation of tax payable but with a minor discount to reflect the sharing of some tax benefits with the terminal users.

While the DBCT User Group did not propose an alternative estimate of a reference tariff, their submission clearly established their view that the reference tariff should be considerably lower than the existing price. For instance, the DBCT User Group indicated:

- the asset value could be as low as \$460m;

- the weighted average cost of capital should be 7.3%; and
- corporate overheads should be in the order of \$2m per annum.

In assessing these divergent proposals for a reference tariff, or its constituent parts, the Authority has been keen to understand the reasons for the differences in the proposals and to arrive at an outcome that balances the interests of DBCT Management and the users. To assist in this assessment, the Authority engaged expert advice on asset value, weighted average cost of capital, corporate overheads and tax payable.

Asset value

A number of asset valuations were submitted to the Authority to assist in its consideration of the proposed reference tariff. The Authority proposes an opening asset value of \$824m.

While there are differences in the methodological approaches adopted in their assessments, the Authority has been able to identify the reasons for approximately \$230m of the \$260m difference between its proposed asset value and that proposed by DBCT Management.

Two factors explain \$169m of this difference. In preparing its DORC value, DBCT Management proposed an \$89m provision for a growth allowance and \$177m for interest during construction and up-front financing costs. The Authority has rejected the claim for a growth allowance to be built into the current asset value on the basis that it is inconsistent with DORC principles to provide for a non-existent asset in determining an asset value¹. In addition, the Authority has provided for \$97.5m in interest during construction and up-front financing costs. The main difference between the two assessments is that DBCT Management has double counted inflation in their estimate of interest during construction and both their WACC and asset values are higher.

Of the remaining difference of roughly \$61 million, just under half is due to DBCT Management either valuing assets at a higher standard than actually exists or inadvertently double counting some assets. The balance of this difference is due to the Authority's proposed optimisations, largely in the stockyard and in computer equipment.

A matter of some contention in the Authority's asset valuation has been the valuation of the terminal's ship loaders. DBCT Management effectively proposed a replacement cost valuation of all three ship loaders. The Authority's independent asset valuation consultant considers that the three ship loaders could have been procured at a substantial discount had an alternative acquisition process been undertaken.

The Authority is not convinced that this is the case or that the alternative ship loaders would be fit for purpose. The current ship loaders have been installed to meet the particular demands of the DBCT site (eg environmental and geographic requirements) and they have been designed with in-built flexibility to meet the range of possible future requirements (eg ability to handle large vessels and up-graded handling rates). Given these uncertainties, and the vital role the shiploaders play in the coal supply chain, the Authority has decided to give the benefit of the doubt to DBCT Management and not optimise the ship loaders.

On the basis of the above factors, the Authority arrived at a DORC value of \$795m. As a result, there remained an unexplained difference of \$56m between this valuation and that proposed by DBCT Management. Such a difference is understandable given the differences in valuation approach adopted by DBCT Management and the Authority's independent consultant and the

¹ The Authority proposes that capital expenditure be added into the asset value as it is expended, with the reference tariff correspondingly adjusted.

judgement, and therefore uncertainties, that DORC valuations inevitably entail. The Authority has therefore adopted a conservative approach to its asset valuation and added one-half of the unexplained difference to its DORC valuation. In adopting this approach, the Authority notes that this is the same approach adopted by DBCT Management to reconciling the \$55m difference between its two DORC valuations. It is on this basis that the Authority has adopted \$824m as the terminal's opening asset value as at July 2004.

While the Authority's asset value of \$824m appears significantly lower than that proposed by DBCT Management, it should be noted that, when account is made for asset valuation and interest during construction errors made by DBCT Management, an inappropriately high WACC for interest during construction purposes and the growth allowance that was inappropriate and, consequently, not allowed, the asset valuation submitted by DBCT Management reduces to around \$888m. Of the \$64m difference to the Authority's valuation, optimisations account for \$40m with the balance of the difference (\$24m) resulting from different valuation approaches and judgements.

It should also be noted that the asset valuation used to determine the current user charges, adjusted for capital expenditure since the charges were set, is approximately \$730m in July 2004 terms.

Weighted average cost of capital

As part of its assessment of the DBCT reference tariff, the Authority conducted a review of its method for assessing WACC. The purpose of that review was twofold: first, to address potential deficiencies in the Authority's WACC methodologies that had been identified in previous decisions; and second, to take into consideration new research developments. A technical paper prepared for the Authority argued that the Authority's methodology should be revised in a number of ways. In general, stakeholders' comments were not supportive of many of the proposed methodological changes.

While the Authority sees merit in all of the propositions that were canvassed in the technical paper, it has decided not to implement the majority of the proposals at the current time on the basis that the revisions would add greater complexity for an uncertain improvement in the WACC estimates and that both sides of the debate favoured this approach. The Authority did, nevertheless, adopt two technical changes, relating to the estimation of the debt beta and to the derivation of the asset and equity betas. The Authority's finalised views on its WACC methodology are included as Appendix 1 of this draft decision.

Based on its revised methodology, the Authority has assessed a nominal, post-tax WACC of 8.2% for DBCT. The primary differences between DBCT Management's (10.5%) and the Authority's WACC are attributable to different values for:

- the market risk premium;
- debt margin;
- equity beta; and
- the asymmetric risk premium.

DBCT Management benchmarked its equity beta on other port businesses involved in both importing and exporting. The beta analysis undertaken for the Authority concluded that these businesses are not suitable comparators for DBCT, as they are significantly exposed to movements in the domestic economy. In contrast, DBCT is strictly export oriented, implying that its revenue stream is generally unrelated to movements in the Australian market. Further,

DBCT's take-or-pay contracts significantly insulate it from economic fluctuations, as the 5-year duration of the contracts is likely to span any booms or recessions. Finally, its very low operating leverage implies that any fluctuations in output are likely to have a minimal impact on revenues. In addition, the central Queensland coal mines are highly competitive in world terms and underlying coal reserves are very substantial. For these reasons, the Authority considers that the systematic risk of the terminal is very low and that an asymmetric risk premium is not appropriate.

Corporate overheads and taxation payable

The Authority has accepted the proposal that operating and maintenance costs be passed through to users on the basis of an unregulated operating and maintenance charge.

However, Prime Infrastructure's corporate overhead costs are to be included within the reference tariff. DBCT Management's proposal in this regard is that all non-DBCT corporate overheads be excluded and that 90% of the remaining corporate overheads be allocated to DBCT.

Given the broad scope of interests that Prime Infrastructure has and that these interests will increase over time, the Authority considered that the level and scale of Prime's overhead costs were inappropriate to a stand alone coal port and that cost allocation would become increasingly difficult over time. Therefore, the Authority sought to benchmark DBCT Management's claims for corporate overheads against what would be expected from a stand-alone coal terminal operator. That benchmarking exercise indicated that around \$4.3m per annum inclusive of regulatory costs and a site remediation fee would be a reasonable allowance for corporate overheads. The Authority has accepted the benchmarked corporate overhead costs.

In determining the allowance to be made for tax, the Authority has normally sought to assess the actual taxes payable and to allow this amount as an expense. However, in the case of DBCT, this approach could have led to a sub-optimal result for both users and the terminal operator as there were different ways in which the necessary transaction could have been structured, with different taxation profiles. The current arrangement of passing through all tax savings to users could have adversely impacted on the incentive to adopt the most efficient structure. Therefore, prior to the terminal's lease, the Authority indicated that it would consider sharing the benefits of the terminal lessee's tax structure between the lessee and the users on a 50/50 basis.

DBCT Management proposed that these benefits be shared between users and itself on the basis of a smoothing approach over the initial term of the lease. Although a departure from the Authority's normal approach to assessing tax payable for regulatory purposes, the Authority agrees with DBCT Management that, because the benefits are particularly skewed, the Authority's normal approach would result in a significant imbalance between existing and future users in the sharing of the benefits.

Total revenue

Based on its estimates of asset value, WACC, depreciation, corporate overheads and tax, DBCT Management proposed a Terminal Infrastructure (TIC) charge of \$2.77 per tonne.

This figure of \$2.77 needs to be placed in context, as follows:

- *Asset value* - when account is made for asset valuation and interest during construction errors made by DBCT Management, the inappropriately high WACC used for interest during construction purposes and the growth allowance that was inappropriate and, as a consequence, not allowed, the asset value submitted by DBCT Management reduces from

\$1084m to around \$888m. In addition, there was little optimisation undertaken of the assets;

- *WACC* – the cost of capital proposed was based on inappropriate comparators and included an allowance of 10% for asymmetric risk that has not been allowed by any other regulator in respect of an established enterprise and which is not justified on an analysis of the underlying risks;
- *Operating Costs* – the costs were based on the current operating costs of Prime Infrastructure which are on a level and scale that is consistent with its status as an infrastructure fund and inappropriate to a stand alone coal port;
- *Tax* – the original proposal by DBCT Management did not share the benefits of the terminal lessee’s tax structure in the 50/50 manner envisaged in the Authority’s *Statement of Regulatory Principles: Dalrymple Bay Coal Terminal (Feb 2001)*. This was corrected in a subsequent proposal by DBCT Management which has been substantially adopted by the Authority.

There is then the current charge of \$2.08 which is carried over from the PCQ. It also needs to be placed in context. In this regard, it should be particularly noted that:

- since this charge was established, stages 5 and 6 of the terminal have been completed. These stages had a construction cost per tonne substantially lower than the average cost per tonne on which the charge was based; and
- the charge was based on an assumed asset life substantially lower than that proposed by either DBCT Management or the Authority.

On the basis of the Authority’s analysis of asset value, asset life, cost of capital, operating costs and tax, the Authority has determined an annual revenue allowance of around \$76m over the term of the undertaking. For comparative purposes only, if DBCT Management’s approach to calculating the TIC is employed in conjunction with the Authority’s estimated annual revenue requirement, then the TIC is \$1.53/tonne for each year of the regulatory period.

However, the Authority has proposed a revenue cap arrangement which transfers volume risk to the users. This results in a lower nominal TIC as there is no need to adopt coal tonnage estimates that are below forecast tonnages, as any shortfalls [and surpluses] will be automatically adjusted. Using the Authority’s proposed approach, the same annual revenue requirement of \$76 million results in a TIC which averages \$1.40/tonne over the regulatory period^{2 3}.

² The Authority’s TIC estimates are based on the assumption that 2% of total tonnage is non-reference tonnage.

³ The charge varies from \$1.35 to \$1.47 over the period as the TIC reflects the impact of changing demand forecasts over the period.

1. INTRODUCTION

Summary

The Dalrymple Bay Coal Terminal is declared for third party access under the Queensland Competition Authority Act 1997. The terminal is owned by DBCT Holdings and is leased to DBCT Management on a long term basis. Declaration for third party access requires that DBCT Management must not hinder or prevent access to the declared service and must negotiate in good faith with access seekers.

The role of an access undertaking is to assist access negotiations by reducing the scope for disputes and, in the event of a dispute, to provide guidance on how it may be resolved.

The Authority is required to either accept or reject an access undertaking in accordance with statutory assessment criteria. If the Authority decides to reject an access undertaking, it must give written notice stating the reasons for the refusal and the way in which the Authority considers it is appropriate to amend the undertaking.

1.1 Background

The Queensland Competition Authority (the Authority) received a draft access undertaking for the Dalrymple Bay Coal Terminal (DBCT) from Prime Infrastructure DBCT Management P/L (DBCT Management) on 20 June 2003. It was submitted under s.136 of the *Queensland Competition Authority Act 1997* (the QCA Act) on behalf of DBCT Holdings P/L (Holdings), the owner of DBCT.

On 11 July 2003, and in accordance with s.146 of the QCA Act, the Authority advised Holdings that it would conduct an investigation to assist it in deciding whether to approve, or refuse to approve, the draft access undertaking. The Authority invited written submissions from interested parties and, following a full consultation process, this draft decision outlines the Authority's preliminary views on the draft access undertaking. It also indicates the Authority's recommended amendments to the draft undertaking lodged.

DBCT (the terminal) is a coal export terminal located in central Queensland. The Queensland Government, through Holdings, owns the terminal.

In September 2001, a group led by international investment bank Babcock and Brown acquired a long-term lease of the terminal from Holdings for approximately \$630 million.⁴ Following an initial public offering, Prime Infrastructure was listed on Australian Stock Exchange in June 2002 with DBCT as its foundation asset.⁵ Upon listing, the leasehold interest in the terminal was transferred to Prime Infrastructure.⁶

As part of the restructuring process leading up to the lease of the terminal, the Queensland Government declared the coal handling services of the terminal for third party access under Part 5 of the QCA Act. That declaration gives rise to a range of rights and obligations in relation to the negotiation of the terms and conditions of access to the declared service. Those rights and obligations vest in the facility owner, the access provider, access seekers and access holders.

⁴ Prime Infrastructure, Media Release, 14 January 2002. The lease has a 50 year term, with an option to extend this by an additional 49 years.

⁵ The Prime Infrastructure Group has since acquired other assets, including a 50% stake in the Ecogen electricity generation assets in Victoria, a 50% stake in Redbank Power Station in New South Wales and a 50% stake in Global Wind Partners. It has also been selected as preferred bidder to acquire an approximately 50% share of Powerco Limited, a New Zealand electricity and gas distribution utility.

⁶ Prime Infrastructure — Prospectus and Product Disclosure Statement: 21.

Under the leasing arrangements for the terminal, entities within the Prime Infrastructure Group entered into a number of agreements with Holdings and Ports Corporation of Queensland (PCQ). The lease arrangement includes a primary lessee, DBCT Trustee⁷, and a secondary lessee, DBCT Management. These ownership and management arrangements are illustrated in Figure 4.

One of the key agreements under the lease is the Ports Services Agreement (PSA) which establishes the rights and responsibilities of the lessee with respect to the terminal's operation, management and expansion. Moreover, the PSA obliges the lessee to prepare and submit a draft access undertaking to Holdings by September 2002. Following approval of the draft access undertaking by Holdings, the lessee was required to submit the draft access undertaking to the Authority for approval.

1.2 Declaration for Third Party Access

The service of the *handling of coal at DBCT by the terminal operator* has been declared under Part 5 of the QCA Act for the purposes of third party access. Given the ownership and leasing arrangements, the access obligations are separated between the facility owner Holdings and the access provider DBCT Management.

More specifically, the effect of declaration under Part 5 of the QCA Act is that:

- statutory duties arise for an access provider, including an obligation to negotiate with and provide information to access seekers and prohibits the access provider from hindering or preventing access;
- an access seeker gains recourse to compulsory dispute resolution procedures;
- the owner of a facility may submit an access undertaking to the Authority for approval, if the owner considers it is appropriate to do so; and
- the Authority may request an undertaking be prepared by the owner if one has not been voluntarily submitted and the Authority considers it appropriate that an undertaking be in place. In certain circumstances, the Authority can draft and approve its own access undertaking.

The obligations placed on the facility owner and the access provider apply from the date of declaration, irrespective of whether the Authority has or has not approved an access undertaking.

The access regime established by Part 5 of the QCA Act is a negotiate/arbitrate model. That is, the prime responsibility is on the access provider and the access seeker to negotiate on price and non-price terms, with the Authority becoming involved only where provided for under the QCA Act — for example, where agreement cannot be reached and either party has lodged a dispute notice with the Authority.

Role of an Approved Undertaking

Part 5 of the QCA Act imposes broad obligations on a facility owner and an access provider. An undertaking for a service sets out in more detail the terms and conditions on which an owner undertakes to provide access to the service. Those terms and conditions necessarily must deal with price and non-price matters relevant to access. In effect, Part 5 of the QCA Act and the

⁷ Prime Infrastructure (DBCT) Investor Services Ltd as trustee (known as “DBCT Trustee”) of Prime Infrastructure (DBCT) Trust.

access undertaking establish a negotiation framework, with recourse to mediation or arbitration in the event of a dispute. Ultimately, the terms and conditions for access will be embodied in an access agreement between the access provider and the access holder ie. the user of the declared service.

Among other things, an undertaking is designed to assist the access negotiation process, to reduce the scope for disputes between access seekers and the access provider, and to provide certainty about how the Authority will deal with access disputes. The parties to an access agreement may agree to terms and conditions of access that are inconsistent with an approved undertaking. However, an approved undertaking provides greater certainty to both access seekers and the access provider as any access determination made by the Authority in the event of a dispute during the negotiation process must not be inconsistent with the approved access undertaking. In the event of a dispute once an access agreement has been signed, that dispute is resolved in accordance with the terms of that agreement. Further, an approved undertaking provides a 'safe harbour' for an access provider in that any conduct in accordance with an approved undertaking will not breach the preventing and hindering access provisions of the QCA Act.

The QCA Act provides that, where the Authority has approved an access undertaking which includes reference tariffs, certain obligations to provide information may be waived. For example, information about prices, costs and the value of the access provider's assets need not be provided to an access seeker.

Access Undertaking and Existing User Agreements

An approved access undertaking does not of itself affect the terms and conditions of any pre-existing access agreement. Rather, the access undertaking will only apply to access negotiations occurring after the approval date of the undertaking. User agreements entered into before an access undertaking is approved are governed by the terms and conditions contained in those agreements.

1.3 The Terminal

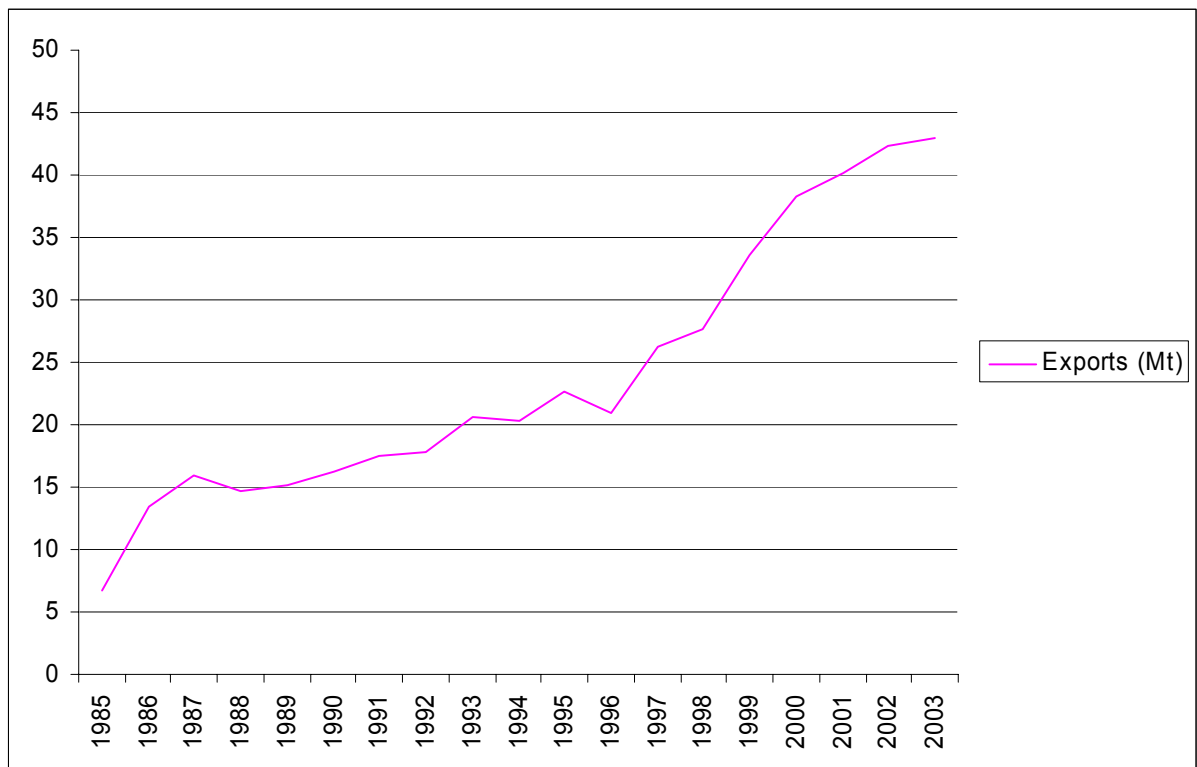
The terminal is located at the Port of Hay Point, adjacent to the Hay Point Coal Services Terminal⁸, 40 kilometres south of Mackay in Queensland. PCQ is the port authority for the Port of Hay Point. The terminal opened in 1983 as a common user coal export facility, servicing mines in the Goonyella system of the Bowen Basin coal fields (see Figure 1). The terminal has expanded as necessary to service the growth in demand for coal. The terminal operates constantly and now has a nameplate capacity of 56 Mtpa. Figure 2 displays export tonnage figures for the terminal since 1985.

⁸ Hay Point Services Terminal is owned by BHP Billiton Mitsubishi Alliance (BMA).

Figure 1: Queensland Coal Infrastructure Map



Source: Queensland Department of Natural Resources and Mines, Queensland Coal industry Review 2001 – 2002.

Figure 2: Dalrymple Bay Coal Terminal Coal Export Tonnages (1985 - 2003)

Source: Queensland Department of Natural Resources, Mines and Energy

Currently, coal is contracted to be shipped from 13 mines in the Bowen Basin.⁹ The terminal is one of the world's largest coal-exporting terminals. It is linked to the Bowen Basin by a rail network owned by Queensland Rail (QR). Currently, QR business groups rail all coal from the mines to the terminal. The third party rail access regime allows for the possibility of non-QR operators railing coal in the future.

The terminal itself consists of purpose-built rail in-loading facilities, on-shore stockpile yards and off-shore wharves. Jetty supported conveyor systems service the off-shore wharves, which extend 3.8km out to sea allowing for deep water loading.

As an integral part of the coal supply chain, the terminal provides unloading, stockpiling, coal blending, cargo assembly and out-loading services to mines using the terminal. It also has a co-ordination role, helping to ensure that the delivery of coal by rail meets the demands of customers in terms of scheduled ship arrivals.

Coal is railed to the terminal using bottom dump wagons and is unloaded at one of two rail receival transfer stations. Typically, the coal is then conveyed to the stockpile area. Each mine has an allocated stockpile area, where stackers are used to stockpile the coal. There is also a common user cargo assembly area which provides greater flexibility in handling coal prior to out-loading. In certain circumstances, it is possible for coal to be conveyed directly to an awaiting ship.

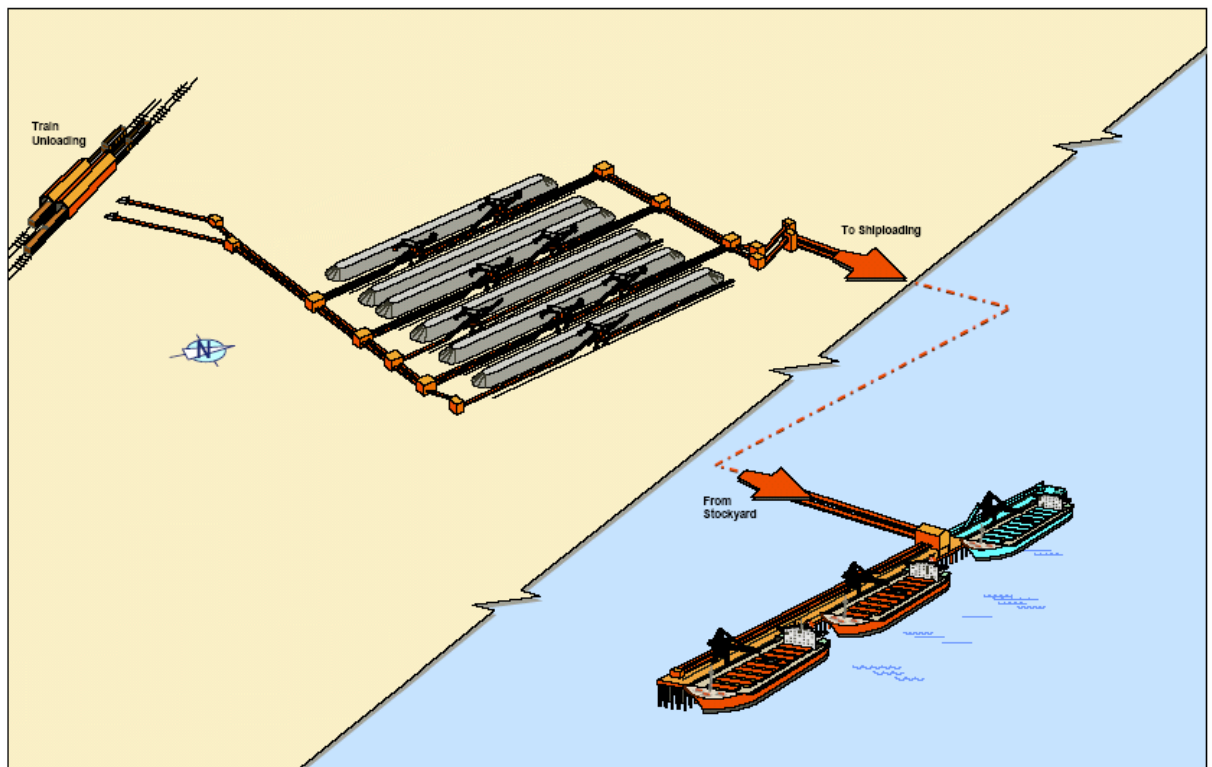
A blending service for the different types of coal is also undertaken at the terminal. While blending can be done at the mine site, blending at the terminal allows coal from different mines to be combined into a single product. The Operator undertakes blending for up to 33 different

⁹ Blair Athol, Hail Creek, German Creek, Moranbah North, Oaky Creek, Burton, North Goonyella, Foxleigh, Coppabella, Moorvale, Riverside, South Walker Creek and Millennium Moranbah.

types of coal products in three distinct product types, namely, hard coking coal, Pulverised Coal Injection (PCI) coal and thermal coal.

Reclaimers transfer coal from the stockpiles and cargo assembly areas onto the conveyor system. Thereafter, shiploaders transfer the coal onto ships. The shiploaders are rail mounted and travel along the wharf servicing three berths. Figure 3 provides a schematic of the port/terminal.

Figure 3: The Terminal



Source: Master Plan 2002, DBCT Management Draft Access Undertaking Volume 2

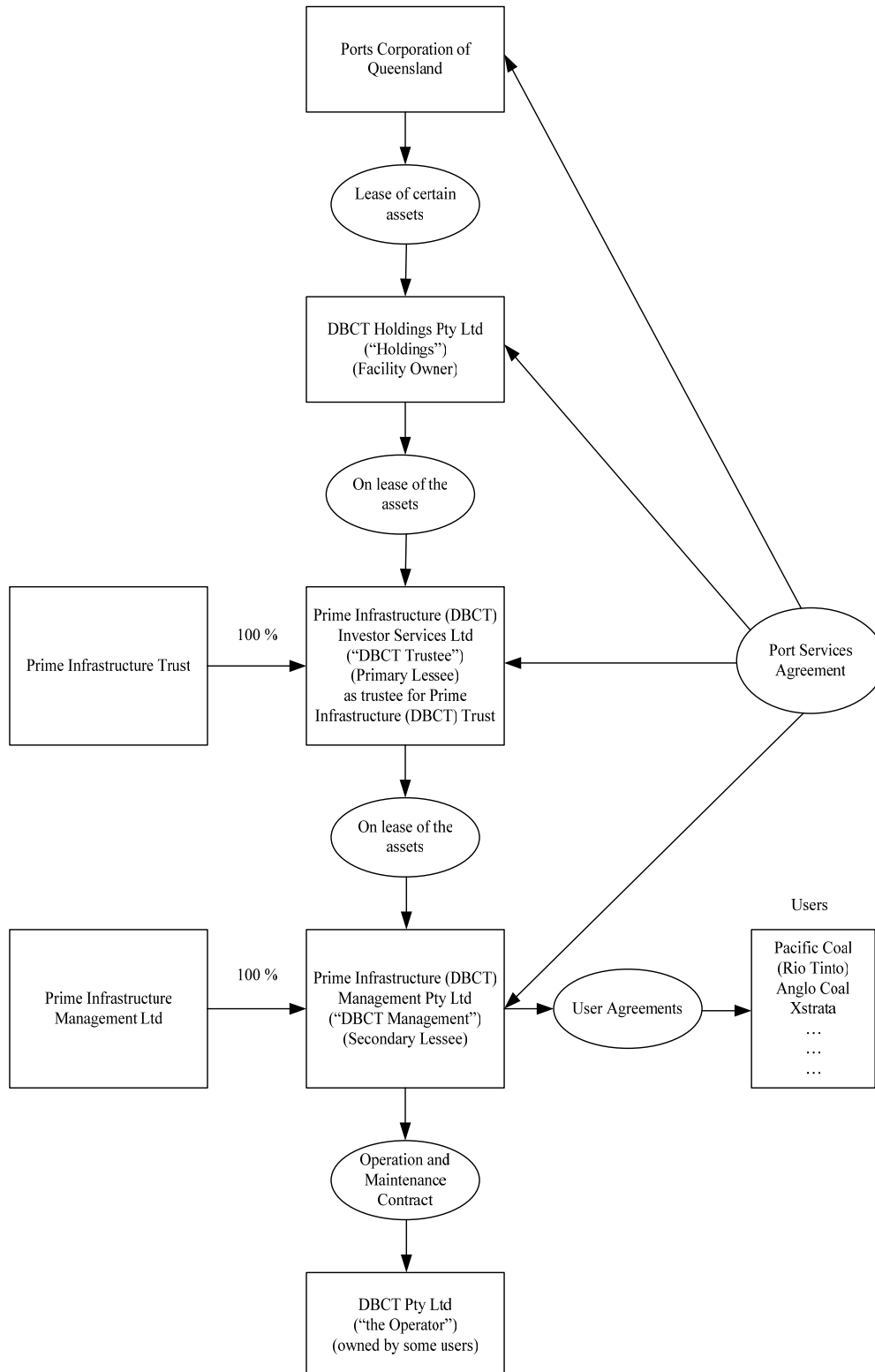
Maritime Safety Queensland (a government agency attached to Queensland Transport) provides pilotage services for the two terminals at the Port of Hay Point, with most transfers to and from ships via helicopter. PCQ provides the pilot transfer service. Halftide Marine P/L provides towage services, operating two tug boats.

Ownership and Management Structure

The terminal is owned by Holdings. It is leased to DBCT Trustee which sub-leases it to DBCT Management. DBCT Management sub-contracts the day-to-day operations of the terminal under an operations and maintenance contract (OMC) with an independent company DBCT P/L (the Operator). The Operator is owned by six of the nine existing mine users of the terminal and is responsible for the daily operation and maintenance of the terminal. The Operator Shareholders' Agreement provides for any user to become a shareholder of the Operator, with an upper limit of share ownership proportional to the user's annual entitlement for throughput tonnage, as per its user agreement with DBCT Management. The OMC commenced in 1999 and was recently extended until March 2009 with the capacity for a second extension, taking it to 2014. The Operator may request a third successive extension, but DBCT Management is under no obligation to grant this.

User agreements (ie. access agreements) are between DBCT Management and the users (ie the mines). Figure 4 illustrates the contracts and relationships that surround the terminal.

Figure 4: Contract Summary Diagram



1.4 Authority's Assessment Process

Under the provisions of s.136 of the QCA Act, the Authority must either approve, or refuse to approve, an undertaking submitted to it. If the Authority refuses to approve a draft access undertaking, it must give the party who submitted the undertaking a written notice stating the reasons for the refusal and the way in which the Authority considers it appropriate to amend the undertaking.

In making its decision whether to approve or refuse to approve the draft access undertaking, the QCA Act provides that the Authority must consider the following¹⁰:

- the legitimate business interests of the owner of the service;
- the public interest, including the public interest in having competition in markets (whether or not in Australia);
- 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 effected; and
- any other issues the Authority considers relevant.

In response to its request for comments paper, the Authority received 14 submissions from a range of interested parties including: a joint submission from the coal companies currently using the facility (the DBCT User Group); Queensland Government departments; and other infrastructure service providers. The Authority also received 16 submissions from interested parties on Dr Martin Lally's technical review of the Authority's cost of capital methodology (See Appendix A for further details). In addition, the Authority received 3 submissions in response to its request for comments on elements of the DBCT asset valuation. The Authority also sought technical assistance from a number of consultants to assist its decision making.

This Draft Decision consists of two parts, Part A and Part B. Part A outlines DBCT Management's position as set out in the draft access undertaking, a summary of stakeholder comments and the Authority's analysis and recommendations. Part B provides a detailed mark-up of the draft access undertaking showing the Authority's suggested amendments as outlined in Part A.

¹⁰ s.138(2) QCA Act.

Part A

2. ENFORCEMENT AND SCOPE OF THE UNDERTAKING

Summary

As a result of the lease arrangements at the terminal, the facility owner and the access provider are separate entities. That is, Holdings is the facility owner and DBCT Management is the access provider. As the access obligations of the facility owner and the access provider differ, the Authority sought to establish that the undertaking was submitted correctly and that it is enforceable. While the Authority is satisfied that the undertaking was submitted correctly, it has concerns about its enforceability. An amendment to the QCA Act is required to conclusively resolve this issue.

For clarity and certainty for both DBCT Management and access seekers, the Authority has proposed amendments to the undertaking to clearly establish the scope of the services covered.

The term of the undertaking is another key element of the regulatory regime. Taking into account the need to strike a balance between the certainty provided by a longer term and the flexibility of a shorter term, the Authority has recommended that a term of five years apply. However, given the importance of the Operator to the arrangements underpinning the undertaking, the Authority has proposed that a change in Operator will be a terminating event. The undertaking also establishes when reviews may occur.

2.1 Background

One of the roles of an undertaking is to provide access seekers and the access provider with clarity about the terms and conditions of access and the access negotiation process. Therefore, it is important to define key issues such as the scope of the undertaking, the coverage of services, the term of the undertaking and information about any reviews. Certainty about these matters provides the parties to access negotiations with greater confidence in the access regime.

This chapter addresses: the roles of the various parties and enforcement of the undertaking (2.2); the coverage of declared services (2.3); term and review (2.4); and information provision (2.5).

2.2 Roles of Various Parties and Enforcement of the Undertaking

The arrangements surrounding the lease of the terminal and the way it is operated have meant that a number of entities have a role with respect to access obligations. Moreover, Part 5 of the QCA Act outlines several roles, including the roles of owner, the responsible person for an approved undertaking, the access provider and responsible operator, which may be undertaken by different entities. An important consideration in the Authority's assessment of the undertaking has been to ensure clarity in how these arrangements are reflected in the undertaking, and to ensure that the undertaking accurately reflects the roles under the QCA Act of the various parties concerned. This is critical in making the undertaking enforceable.

Holdings is the owner of the terminal. The lease arrangements encompass a primary and a secondary lease, with DBCT Trustee and DBCT Management being the lessee and the sublessee of the terminal respectively. DBCT Management is solely responsible for providing access during the lease term (DAU, Vol. 1: clause 3). However, while capacity is provided by, and access agreements are with, DBCT Management, the coal handling service is provided on a day-to-day basis by the Operator under the terms of the OMC.

The roles of the various entities involved with the terminal under the QCA Act are currently as follows:

Owner	DBCT Holdings
Responsible Person	DBCT Holdings
Responsible Operator	DBCT Holdings
Access Provider	DBCT Management

Section 136(1) of the QCA Act provides that the owner of a declared service may voluntarily submit a draft access undertaking to the Authority. In accordance with this, DBCT Management submitted the draft access undertaking to the Authority on behalf of Holdings as owner of the declared service. The lodgement of the draft access undertaking with the Authority is in accordance with DBCT Management's obligations under its lease agreement with Holdings. The Authority has been provided with copies of the relevant lease documents and sought legal advice. The Authority considers that the draft access undertaking has been submitted in accordance with the requirements of the QCA Act.

DBCT Management's Position

DBCT Management commits in the draft access undertaking to comply with, and give effect to, the undertaking and any applicable laws relating to the provision of third party access to the coal handling service, as if it was the owner of the terminal and had itself given the undertaking. The draft access undertaking states that DBCT Management, subject to Holdings acting reasonably, will take all action reasonably available to ensure that Holdings is able to comply with the undertaking and any applicable laws relating to the provision of third party access to the coal handling service including, but not limited to, Part 5 of the QCA Act (DAU, Vol. 1: clause 3).

Stakeholder Comments

The DBCT User Group commented that the undertaking would only have practical significance if it becomes binding on, and directly enforceable against, DBCT Management. It further considered the enforcement mechanism in the draft access undertaking to be legally unsatisfactory, as DBCT Management is possibly not bound by the undertaking at all.

To address this, the DBCT User Group proposed a change to the QCA Act to allow the undertaking to be given directly by, and be enforceable by relevant stakeholders against, DBCT Management, DBCT Trustee and Holdings. Alternatively, DBCT Management could enter into a deed poll, undertaking to all relevant stakeholders, both present and future, to comply with the approved access undertaking (DBCT User Group, sub. no. 5: 184).

The DBCT User Group also noted that the real financial 'ownership' of the terminal, and assets of value relating to the terminal, reside in Prime Infrastructure (DBCT) Investor Services Ltd as trustee of Prime Infrastructure (DBCT) Trust (**DBCT Trustee**), and it submitted that it is desirable that DBCT Trustee be both a party to the undertaking and a guarantor of all DBCT Management's commitments, for example, in access agreements (DBCT User Group, sub. no. 5: 11).

Authority's Analysis

While Holdings is the responsible person for the approved undertaking, the draft access undertaking is largely drafted in terms of placing obligations on DBCT Management. This reflects the fact that DBCT Management is the access provider. However, the QCA Act

(s.158A) only allows for the Authority to apply for an order to enforce an approved undertaking if the responsible person has breached a term of the undertaking – that is, if Holdings has breached a term of the undertaking – and any order made under s.158A may only direct Holdings to comply with the undertaking.

Holdings must rely on the terms of its lease agreement with DBCT Management (the PSA) to ensure DBCT Management's compliance with the undertaking. In summary, the Authority is unable to take direct enforcement action against DBCT Management and must rely on Holdings taking action for a breach of the PSA as the link to seek to ensure DBCT Management ultimately complies with the terms of the undertaking.

This is a less than satisfactory outcome as the Authority has no ability to take enforcement action directly against DBCT Management. Further, the Authority understands that the provisions in the PSA relating to DBCT Management's obligations to comply with the undertaking may not be effective in all circumstances. Given this, the Authority has serious concerns as to the enforceability of the undertaking under the current legislation.

The Authority considers that the most effective way to overcome the limitation contained in s. 158A of the QCA Act is for the Act to be amended so that the Authority has the power to take enforcement action in the event that a party other than the owner of a facility breaches a term of an access undertaking. Accordingly, the Authority will ask the Government to amend the QCA Act to provide certainty. Such amendments may encompass placing obligations on the access provider as well as the responsible person to comply with an approved undertaking and provide a direct avenue for enforcement against an access provider for a breach of the undertaking.

Until such time as the Act is amended, it will be necessary for the Authority to rely on the link provided by the PSA, as outlined above, for recourse against DBCT Management for non-compliance with a term of the undertaking. For this to be effective, the Authority considers that an amendment to the undertaking is necessary to clearly establish that, under the current legislation, it is Holdings, as responsible person for the approved undertaking under the QCA Act, that is accountable for compliance with the undertaking. To achieve this, the undertaking should be amended to state that Holdings accepts and acknowledges that a breach by DBCT Management of a term of the undertaking will constitute a breach by Holdings, and Holdings will be liable to enforcement action under s.158A of the QCA Act for such a breach.

Such an amendment would make it clear that, although the access obligations in the undertaking are expressed in terms of obligations on DBCT Management, it is Holdings that, as responsible person for the approved undertaking, is responsible for compliance with these obligations. It would mean that the Authority is able to take legal action against Holdings, as responsible person, in the event of a breach of an undertaking obligation. Holdings' ability to ensure DBCT Management's compliance would depend, in turn, on the terms of the PSA.

While the Authority's proposed amendment to the undertaking will provide an interim solution, the Authority considers that an amendment to the QCA Act is required to conclusively resolve this issue.

The lease arrangements have raised another potential issue in terms of the QCA Act in the event of an access dispute. The Act places a limitation on the Authority's ability to require a capacity expansion in the event of an access dispute. Specifically, the Authority may only make an access determination requiring an access provider to extend or permit the extension of a facility if the access provider is the owner of the facility (s.119(5)(a)). With regard to DBCT, DBCT Management is the access provider and Holdings is the owner. Accordingly, as the access provider and the owner are not the same entity, the Authority could not make an access determination that would require a capacity expansion at the terminal.

The Authority understands that this restriction was intended to apply in the case of secondary markets - that is, where an access holder on-sells its capacity rights to a third party, whereby the access holder becomes an 'access provider' itself. In the case of DBCT, the inadvertent consequence of the wording of s.119(5)(a) is to preclude the Authority from requiring DBCT Management, as access provider, to expand the facility in an access determination. The Authority will ask the Government to amend the QCA Act to cover this issue also.

With regard to the DBCT User Group's concerns about the role of DBCT Trustee, the Authority believes it is reasonable that the obligations in the undertaking be expressed in terms of obligations on DBCT Management, given its role as access provider. Also, as noted above, the Authority may only directly enforce the undertaking against Holdings, so it is desirable that Holdings is clearly responsible for DBCT Management's compliance with the undertaking.

In order for the undertaking to be approved, it must be amended to state that:

- **Section 158A of the QCA Act provides that enforcement action in respect of a breach of this undertaking either by the QCA or another person may only be sought against the “responsible person” under the QCA Act. The term “responsible person” under the QCA Act means the person to whom the undertaking applies as the owner of the relevant service. Therefore, in this context, the “responsible person” is DBCT Holdings.**

DBCT Holdings accepts and acknowledges that a breach by DBCT Management of a term or condition of the undertaking will constitute a breach by Holdings, and Holdings will be liable to enforcement action under s.158A of the QCA Act for such a breach.

2.3 Coverage of Declared Services

The declaration defines the scope of the services subject to third party access under Part 5 of the QCA Act. As outlined in the previous chapter, the obligations on the access provider to negotiate for access and provide information apply from the date of the declaration, regardless of whether an undertaking is approved. However, once an approved undertaking is in place, the parties to access negotiations have greater certainty about the conditions of access and the negotiation process as, in the event of an access dispute, any determination by the Authority must not be inconsistent with an approved undertaking. Given this, stakeholders will have greater certainty about the access regime if the scope of the services included in the undertaking is consistent with that of the declaration.

The declaration of DBCT, as set out in Section 5 of the *QCA Regulation 1997*, defines the declared service as the service of the 'handling of coal at the Dalrymple Bay Coal Terminal by the terminal operator'. The terms of the declaration are set out in the box below.

It should be noted that it is the terminal operations, rather than the broader port operations, that are declared for third party access. Specifically, the declaration does not cover services provided by the port authority of Hay Point (the Ports Corporation of Queensland), or the adjacent Hay Point Coal Services Terminal and it does not cover towage.

Declaration of the Coal Handling Service at DBCT

The declared service is the handling of coal at Dalrymple Bay Coal Terminal (DBCT) by the terminal operator.

<i>DBCT:</i>	means the port infrastructure located at the port of Hay Point owned by Ports Corporation of Queensland or the State, or a successor or assign of Ports Corporation of Queensland or the state and known as Dalrymple Bay Coal Terminal and includes the following which form part of the terminal -
	(a) loading and unloading equipment;
	(b) stacking, reclaiming, conveying and other handling equipment;
	(c) wharfs and piers;
	(d) deepwater berths;
	(e) ship loaders.
<i>Handling of coal:</i>	includes unloading, storing, reclaiming and loading.
<i>Terminal operator:</i>	means -
	(a) the owner or lessee of Dalrymple Bay Coal Terminal; or
	(b) a person operating Dalrymple Bay Coal Terminal for the owner or lessee.

DBCT Management's Position

DBCT Management proposes that access to the coal handling service at the terminal be subject to the undertaking. DBCT Management defines the coal handling service as the unloading, storing, reclaiming and loading of coal as set out in Schedule G of the draft access undertaking (DAU, Vol. 1: clause 4).

Schedule G of the draft access undertaking describes the coal handling service which DBCT Management undertakes to provide, namely: train scheduling; train unloading; storing; reclaiming and ship loading; prevention of contamination; compliance with laws; and co-ordination. The activities undertaken in respect of each matter are set out below:

- *Train Scheduling* — to co-ordinate, or procure the Operator to co-ordinate, the scheduling of trains at the terminal to ensure that, to the extent practical, trains are scheduled and sufficient unloading capacity is made available at the terminal, to allow the access holder to ship the annual contract tonnage of coal in each contract year;
- *Train Unloading* — to ensure that trains are unloaded at a rate consistent with achieving shipment of an access holder's annual contract tonnage of coal. This commitment is subject to the Terminal Regulations, contractual obligations to access holders, the requirements of other access holders and no force-majeure event prevailing;

- *Storing* — to provide cargo assembly areas from time to time after consultation with the Operator and in accordance with the Terminal Regulations. DBCT Management also commits to transfer the access holder’s coal from the train unloading facility at the terminal to the nominated stockpile area or cargo assembly area, and stockpile its coal in that area unless a quality plan providing for direct loading has been agreed to under the Terminal Regulations. This commitment is subject to the Terminal Regulations, contractual obligations to access holders, the requirements of other access holders and no force-majeure event prevailing;
- *Reclaiming and Shiploading* — to make the terminal available for berthing by vessels nominated by the access holder, so that the access holder can at least ship its annual contract tonnage in each contract year, provided the vessel mix required by the access holder does not, in DBCT Management’s opinion, unreasonably impact on the efficiency of the terminal. To achieve this, DBCT Management also commits to load the access holder’s coal into an available vessel as nominated by the access holder. These commitments are subject to the Terminal Regulations, contractual obligations to access holders, the requirements of other access holders and no force-majeure event prevailing;
- *Prevention of Contamination* — to take all practicable measures to maintain the integrity of the access holder’s coal at the terminal, including:
 - avoiding contamination, including contamination with other coal or waste material; and
 - minimising handling and associated degradation of the access holder’s coal. However, DBCT Management is not obliged to undertake any measure which, in DBCT Management’s opinion, will unreasonably impact on the efficiency of the terminal.
- *Compliance with Laws* — to comply with all applicable laws and approvals in unloading, stockpiling, reclaiming and loading the access holder’s coal and in discharging any of its other obligations in providing the coal handling service; and
- *Co-ordination* — to ensure, as far as practicable, that DBCT Management discharges its obligations to provide the coal handling service in accordance with the requirements of the access holder’s reasonable quality plans and shipping programs as notified to DBCT Management and the Operator from time to time consistent with the Terminal Regulations. Further, having regard to equity among access holders, it will use its best endeavours to minimise the total cost to access holders resulting from shipment through the terminal.

While the draft access undertaking commits DBCT Management to provide access to the declared services as outlined above, it also states that DBCT Management believes that a number of services provided at the terminal do not fall within the scope of the declared service. However, DBCT Management believes that these services are not, at present, material and do not negatively impact on the efficiency of the terminal. The draft access undertaking does not outline which services fall into this category. If in the future such services prove to be otherwise, DBCT Management proposes to inform the Authority and prepare a draft amending undertaking (DAU, Vol. 1: 4).

DBCT Management added that it intends that all services currently provided at the terminal be included in the draft access undertaking. Nonetheless, DBCT Management believes it should have the right to enter into future discussions with the Authority where it believes services provided at the terminal do not carry the attributes of a declared service, and where separating the services provided at the terminal is warranted (DBCT Management, sub. no. 11: 2).

Stakeholder Comments

The DBCT User Group considered that the scope of the draft access undertaking was generally consistent with the declaration. However, the DBCT User Group was concerned that DBCT Management is potentially seeking to reserve for itself the right to deem certain, unspecified services as outside the scope of the declared services. In particular, it was concerned that certain stockpiling services may be excluded. The DBCT User Group considered that stockpiling (whether for cargo assembly or on a longer term basis) was part of the declared service, and requested that the Authority confirm this (DBCT User Group, sub. no. 5: 187).

The DBCT User Group believed that the declaration covered all current and prospective services of the terminal and, therefore, the Authority should ensure that DBCT Management is unable to identify ‘services’ as being outside the scope of the declaration. The DBCT User Group rejected as unacceptable the proposal that this may happen in the future and be dealt with by an amending undertaking. It proposed that the Authority conduct a scrupulous review of the definition of the coal handling service as described in Schedule G. Alternatively, it recommended ‘the handling of coal’ encompass all services provided at the terminal, thus removing any doubt about the scope of the declared service (DBCT User Group, sub. no. 5: 15-16).

Part 4 of the draft access undertaking states that the coal handling service provided at the terminal is the unloading, storing, reclaiming and loading of coal as set out in Schedule G. The DBCT User Group commented that Part 4 uses an abbreviated concept of ‘handling’, referring to unloading, storing, reclaiming and loading, but not other services such as transportation within the terminal, dust suppression, assembly of shipments etc. The DBCT User Group argued this definition should correlate with the services listed in Schedule G. It provided a mark-up of Schedule G as part of its submission. It also considered that the definition of ‘Handle’ was also truncated in a similar manner, and submitted that this definition should correlate with services listed in Schedule G (DBCT User Group, sub. no. 5: 186, 187).

DNRME believed it was unclear whether blending services fall within the scope of coal handling services as defined in the draft access undertaking. It noted that further detail needs to be provided about how these services are to be priced and delivered (DNRME, sub. no. 7: 3).

In terms of service standards, the DBCT User Group supported a standard access agreement which commits DBCT Management to maintain appropriate service standards, and a process to measure these. PCQ supported the inclusion in the draft access undertaking of the definition of what constitutes the coal handling service. However, this could also be included in the standard access agreement (PCQ, sub. no. 10: 1).

Authority’s Analysis

The Authority notes the DBCT User Group’s concerns about including the second paragraph of Part 4 of the draft access undertaking, where DBCT Management proposes a process for dealing with services believed to no longer form part of the declared service. The Authority considers that including this paragraph is of little, if any, benefit.

First, inclusion of this paragraph creates some uncertainty about the scope of the services covered by the undertaking, whereas the declaration is comprehensive. Secondly, DBCT Management is free to submit a draft amending access undertaking at any time if it wishes to, among other things, amend the scope of the undertaking. Consequently, this paragraph has the unintended consequence of creating uncertainty about the scope of the undertaking. The presence, or otherwise, of this paragraph will not affect DBCT Management’s right to seek an amendment to the undertaking at any time. As such, the Authority considers it appropriate that the second paragraph of Part 4 be deleted.

Schedule G covers the services included in the definition of ‘handling of coal’ in the declaration (although the declaration is drafted in a non-exhaustive way). Also, Schedule G provides greater detail than the declaration in so far as it defines each term in the declaration, and adds some services not mentioned in the declaration such as train scheduling, prevention of contamination and co-ordination. This approach appears to be reasonable as the Authority understands that the declaration covers matters reasonably incidental to the handling of coal, such as scheduling, queuing and the ordering of ships and trains for loading and unloading of coal. The Authority believes this greater level of detail in Schedule G will be of benefit to the parties to access negotiations as it provides greater certainty about the scope of the services covered by the undertaking.

However, the Authority recognises stakeholders’ concerns about the potential exclusion of certain services (eg. stockpiling, blending, dust suppression and other general terminal services) which are not specifically mentioned, in particular as Schedule G is drafted so as to be exhaustive.

Despite these concerns, there are a number of hints that these services are not excluded. Again, DBCT Management has stated that all current services are included within the scope of the undertaking. Also, while Schedule G does not specifically provide for stockpiling, it does provide for DBCT Management to transfer an access holder’s coal to either a nominated stockpile area or cargo assembly (DAU: Vol. 1: Schedule G, clause 3). Schedule B provides some additional clarity where it stipulates that access holders will have no right of possession to any part of the terminal, nor to a dedicated stockpile area (DAU: Vol. 1: Schedule B, Principle 2.3). This is suggestive, therefore, that a stockpiling service will be provided but that users do not have property rights over stockpiling areas.

Accordingly, to provide greater certainty and minimise the scope for disputes, the Authority considers Schedule G should be amended to be non-exhaustive, stating in the introduction that the coal handling service ‘will include’ the following list of services. To provide certainty, it should also be as comprehensive as reasonably possible in terms of specifying the services covered by the undertaking. The Authority has proposed amending Schedule G in line with this approach. Specific changes to Schedule G are discussed further below.

Further, to remove any doubt that the coal handling service includes, in addition to unloading, storing, reclaiming and loading, services that are reasonably incidental to the handling of coal, the first paragraph of Part 4 should be amended to establish that the coal handling service is as set out in Schedule G. For consistency, the definition of ‘coal handling service’ in clause 2.1 should be amended to state that it is the services set out in Schedule G. In addition, the definition of ‘Handle’ (clause 2.1) should also be amended to cross-refer to Schedule G and to clearly establish that ‘handling’ is broader than just unloading, storing, reclaiming and loading.

The Authority also notes that Schedule G is currently drafted more in terms of the services an access holder will receive, rather than in terms of services an access seeker may negotiate access to under the terms of the undertaking. Specifically, DBCT Management’s Schedule G specifies obligations, and limits on these obligations, with respect to the unloading, storing, reclaiming and loading of coal. The drafting style is quite specific and is what might typically be found in an access agreement rather than an access undertaking.

For example, in defining these terms, DBCT Management has included several caveats, such as the provision of train unloading, storing, reclaiming and ship loading respectively being subject to: the Terminal Regulations; contractual obligations to access holders under existing user agreements or access agreements; the requirements of other access holders; and no force majeure event prevailing.

Similarly, the obligations to provide certain services appear to be qualified in some cases, providing DBCT Management with some discretion.

For example, the obligation to provide some services (eg. train scheduling, prevention of contamination, coordination) is limited to being ‘as far as practicable’. For other services, DBCT Management is not obliged to provide them if, in its opinion, it would unreasonably impact on the efficiency of the terminal (eg. reclaiming and shiploading, prevention of contamination).

Given this drafting style, these are not matters that will be the subject of negotiations between DBCT Management and access seekers.

In considering these matters, the Authority has to consider whether an undertaking should either: i) specify precisely the terms and conditions (including service standards) which are applicable; or ii), provide scope for negotiation in relation to the services required, service standards, the level of use of the service and a range of other facts.

The Authority notes that the ACCC recognises that either of the options may be acceptable.¹¹ By way of example, QR’s access undertaking reflects the second type of undertaking, while DBCT Management’s reflects the first. QR’s access undertaking provides a relatively generic description of the services to which an access seeker may seek access. However, detailed descriptions of the service to be provided to a particular access seeker, including any limitations, are reserved for negotiation between the parties and are likely to be included in the final access agreement between the parties.

The Authority accepts DBCT Management’s approach to drafting Schedule G is reasonable given the nature of access to the terminal, whereby an access holder’s coal is handled by DBCT Management and/or the Operator at the terminal as part of an all-encompassing service. Options to provide different levels of service around the standard may be quite limited. This is distinct from rail access where the access seeker may be responsible for operating its trains on QR’s infrastructure and where all aspects of the train service description are subject to negotiation.

While the drafting style of Schedule G may be understandable in the circumstances, one concern with this approach is that it may limit what services an access seeker can negotiate, as many of the issues that would normally be negotiated as part of the access agreement have already been specified. This risk is minimised to some extent as users’ interests in this regard are safeguarded by the ability to notify a dispute if the parties cannot reach agreement on the provision of a particular service. Disputes by access seekers are governed by the dispute resolution provisions of the undertaking (clause 5.8), which provide that a party may give a dispute notice if any dispute arises under this undertaking or in relation to the negotiation of access between an access seeker and DBCT Management.

The Authority understands that this provision is broad in scope and that a dispute over a particular aspect of the coal handling service would almost always be considered to be a dispute or question under the undertaking, or in relation to the negotiation of access. However, in the event that an access dispute over access to the declared coal handling service is not covered by the undertaking, the Authority notes that Part 5 of the QCA Act will still apply.

The Authority has reviewed Schedule G and, in doing so, has taken into account the suggestions of the DBCT User Group (DBCT User Group, sub. no. 5: 211). To ensure Schedule G is balanced, the Authority believes some further amendments are appropriate. While specified in detail in Part B of this Decision, the key amendments proposed are as follows:

¹¹ ACCC. 1999. *Access Undertakings – A Guide to Part IIIA of the Trade Practices Act*.

Train Scheduling

The Authority considers that the obligation to provide the different aspects of the coal handling service as specified in Schedule G should be placed directly on DBCT Management, even though, in practice, it will be the Operator that provides the service. This would be consistent with the rest of Schedule G. Also, this is appropriate for the undertaking as it is DBCT Management that is the access provider under the QCA Act, not the Operator. Arrangements by DBCT Management to procure the provision of these services from the Operator are set out in the OMC.

The Authority also considers that there should be a stronger obligation on DBCT Management to co-ordinate the scheduling of trains, without being limited ‘to the extent practical’. DBCT Management’s interests could be protected by qualifying this obligation as being subject to the availability of trains or other factors beyond DBCT Management’s control.

Train Unloading

DBCT Management’s obligation to unload trains should not cease if the train does not arrive as scheduled. The Authority understands that divergences from train schedules are not uncommon and may be beyond the control of the access holder. This would also appear to be consistent with the Terminal Regulations which provide that the Operator must accept trains for unloading.

The obligation to unload trains is qualified as being subject to: (i) the Terminal Regulations; (ii) contractual obligations to access holders under existing user agreements or access agreements; (iii) the requirements of other access holders; and (iv) no force-majeure event prevailing (these qualifications also apply in the case of ‘Storing’ and ‘Reclaiming and Shiploading’ (clause 4)).

The Authority considers it is reasonable that DBCT Management’s obligation to provide these services is subject to the Terminal Regulations and to no force majeure event prevailing. However, in line with the DBCT User Group’s suggestion, the Authority believes that (ii) should be amended to refer only to that access holder’s agreement, and not to DBCT Management’s obligations under other agreements.

The Authority believes such ‘carve outs’ are too vague and do not provide the access seeker/holder with adequate certainty and clarity as to what services they are entitled to receive. Moreover, this Schedule sets out the access seeker’s entitlement to the coal handling service if they conclude an access agreement – it is appropriate that it is only subject to the terms of this agreement. For similar reasons, the Authority believes that (iii) should be deleted. These amendments should also be made to the provisions in ‘Storing’ and ‘Reclaiming and Shiploading’.

Storing

This section should make it clear that DBCT Management’s storage obligations encompass stockpiling and cargo assembly. The declaration specifically refers to storage, which the Authority considers could reasonably be taken to include stockpiling and cargo assembly. Schedule G states that the provision of this service will be subject to the Terminal Regulations, as is the case with unloading, transferring of coal from the train unloading facility to the stockpile or cargo assembly area and reclaiming and shiploading.

Reclaiming and Shiploading

DBCT Management has a discretion in determining whether to accept a vessel for berthing, depending on whether it considers it will unreasonably impact on the efficiency of the terminal.

The Authority considers this discretion should be qualified so that DBCT Management must be reasonable in exercising this discretion.

The DBCT User Group proposed an additional amendment applying to DBCT Management's ability to not accept a vessel for berthing in the situation where it will have an unreasonable impact on the efficiency of the terminal. Namely, it submitted that such a rejection should not occur where access charges reflect the comparative inefficiency of loading an access holder's coal (DBCT User Group, sub. no. 5: 212). Although such a proposal has merit in that it is possible that certain access holder's coal may consume more capacity than others and this may be, at least partially, reflected in the price paid (in particular under the user's proposed pricing structure), the Authority believes these cost differences will be negotiated in the access charge between DBCT Management and the access seeker. That is, these cost differences will be reflected in the access agreement. It is not necessary or appropriate to include this reference to pricing in Schedule G. This also applies to 'Prevention of contamination', for which the DBCT User Group has suggested a similar amendment.

Prevention of Contamination

The Authority believes DBCT Management's discretion to determine whether measures to minimise degradation of an access holder's coal will unreasonably impact on the efficiency of the terminal should be qualified so that DBCT Management must be reasonable in making this determination.

Co-ordination

DBCT Management's obligation to provide the coal handling service in accordance with an access holder's quality plans and shipping programs should not be qualified as being 'as far as practicable'. The Authority considers a stronger obligation is warranted here, noting that DBCT Management's interests are protected by including the caveat that this obligation is subject to factors beyond the control of DBCT Management.

Other Services

The Authority considers that, for greater certainty for access seekers and access holders, Schedule G should be amended to include "Other Services" to be provided by DBCT Management in relation to the coal handling service if requested by an access holder. This would include transportation of coal within the terminal, blending, assembly of shipments, dozing, surfactant treatment, moisture adding, compacting, sampling and survey. In addition, this would include services that are incidental to coal handling (eg. vessel monitoring, ship agents, coordination with masters, crew disembarkation, coordination with customs and wharfage). To protect the interests of other users, this should be qualified so that DBCT Management is obliged to provide these services if, in DBCT Management's reasonable opinion, the provision of such services will not unreasonably impact on the efficiency of the terminal. While users will have to negotiate charges for these services with DBCT Management, the Authority notes that a dispute over the amount of such charges could be referred for resolution in accordance with the undertaking.

In order for the undertaking to be approved, it must be amended so that:

- **the first paragraph of Part 4 states that the coal handling service is as set out in Schedule G;**
- **the second paragraph of Part 4, flagging a possible future draft amending undertaking to excise certain services from the scope of the undertaking, is deleted;**
- **Schedule G is amended in accordance with Part B of this Decision, so that in summary it will:**
 - **be non-exhaustive;**
 - **specify that ‘storage’ includes both stockpiling and cargo assembly;**
 - **specify that other services in relation to coal handling may be requested by an access holder, including services incidental to the handling of coal;**
 - **provide stronger obligations on DBCT Management regarding the provision of train scheduling and train unloading;**
 - **remove references to DBCT Management’s contractual obligations to other access holders in ‘train unloading’, ‘storing’ and ‘reclaiming and shiploading’;**
 - **constrain DBCT Management’s discretions where appropriate; and**
 - **place access obligations directly on DBCT Management, as access provider;**
- **the definition of ‘coal handling service’ in clause 2.1 states that the coal handling service is the services set out in Schedule G; and**
- **the definition of ‘Handle’ in clause 2.1 states that it includes the unloading, storing, reclaiming and loading of coal and any other services provided in accordance with Schedule G, using any of the infrastructure at the terminal.**

2.4 Term and Review of the Undertaking

DBCT Management’s Position

DBCT Management proposes that the undertaking apply for a period of seven years, commencing the later of the date the undertaking is approved by the Authority or 1 July 2004 (DAU, Vol. 1: clause 1.3, clause 2).

The draft access undertaking provides that DBCT Management and the Authority will meet approximately one, three and five years after the commencement date to review the undertaking’s operation. These reviews will identify any provisions of the undertaking that are not operating to the satisfaction of either DBCT Management or the Authority. If, as a result of those reviews, DBCT Management and the Authority agree that amendments are required to the undertaking, DBCT Management will submit a draft amending undertaking to the Authority for approval (DAU, Vol. 1: clause 1.4).

In its submission, DBCT Management stated that it considered such a review process to be essential in ensuring that the access undertaking is operating effectively. However, it feels strongly that a high degree of certainty surrounding the undertaking is essential. Accordingly, it argued that changes to the access undertaking should only be made where there has been a significant change in circumstances or where aspects of the undertaking are not providing intended outcomes and this is materially affecting the objectives of the undertaking. It further

argued that any attempt to identify, in advance, particular aspects for review would be impractical and may unintentionally limit the scope of future reviews (DBCT Management, sub. no. 11: 2).

In addition to the general undertaking review provisions provided for in clause 1.4, the draft access undertaking states that DBCT Management will submit a draft amending undertaking in certain specified cases, including when:

- DBCT Management considers the definition of the coal handling service needs to be amended (DAU, Vol. 1: clause 4);
- a change in DBCT Management’s upstream or downstream business interests necessitates the development of ring-fencing obligations (DAU, Vol. 1: clause 8);
- the reference tariff is amended due to a change in the underlying parameters used to calculate the reference tariff (DAU, Vol. 1: clause 9.4(a)). DBCT Management indicated this will occur with any changes in aggregate reference tonnage, terminal capacity or the regulated asset base (DAU, Accompanying Submission: 47);
- DBCT Management believes the reference tariff framework no longer satisfies the pricing principles and objectives in the undertaking, or could be structured differently to more effectively achieve them (DAU, Vol. 1: clause 9.4(c)); and
- DBCT Management and access holders negotiate changes that achieve whole of supply chain efficiencies (DAU, Vol. 1: clause 12).

The draft access undertaking also provides that any amendments to the undertaking will be prepared and submitted to the Authority by DBCT Management, on behalf of and with the consent of Holdings, in accordance with the PSA and the QCA Act (DAU, Vol. 1: clauses 1.4, 1.7).

Stakeholder Comments

Both the DBCT User Group and Queensland Treasury considered that the proposed term may be too long (Queensland Treasury, sub. no. 8: 1). The DBCT User Group proposed a three year term, on the basis that the first undertaking is unlikely to be optimal, and suggested that the second undertaking could potentially have a longer term. Further, a three year term would align with the expiry and renegotiation of some existing user agreements (DBCT User Group, sub. no. 5: 16).

The DBCT User Group proposed a review limited to ‘fine-tuning’ after one year, with all key stakeholders involved. The DBCT User Group did not support the proposal in the draft access undertaking that DBCT Management and the Authority must agree to any changes:

All key stakeholders should have the opportunity to trigger and/or participate in a review, on the basis that the QCA’s determination would be binding on DBCT Management (DBCT User Group, sub. no. 5: 17).

The DBCT User Group supported an undertaking which sets out a process by which the Authority may request amendments to the undertaking in circumstances where the Authority has a reasonable belief that access is not available on reasonable terms, or is impaired. Provided the scope of the 12 month review is limited, the DBCT User Group supported the Authority determining issues arising out of a review, even if not supported by DBCT Management (DBCT User Group, sub. no. 5: 17-18).

In terms of the matters for review, the DBCT User Group considered that any aspect of the undertaking which is not working to the satisfaction of a stakeholder should be capable of review, although the review should not challenge the fundamental commercial terms of the undertaking. However, under certain defined circumstances in the undertaking, a complete review of an entire part of the undertaking by the Authority is appropriate. For example, a tariff review should be permitted where additional capacity is installed (DBCT User Group, sub. no. 5: 17). Queensland Treasury requested a clear outline of the terms and conditions to be reviewed (Queensland Treasury, sub. no. 8: 1).

Authority's Analysis

A key consideration in setting the term of the undertaking is achieving the right balance between the certainty provided by a longer term and the flexibility afforded by a shorter term.

The Authority agrees with stakeholders' concerns that the proposed seven year term of the undertaking is too long, particularly given that it is DBCT Management's first undertaking for the terminal, and there is a potential risk of locking in a regulatory regime for a long period that, with further experience, may prove to be less than optimal. Moreover, the Authority has limited power to require changes to an approved undertaking. Conversely, the Authority considers that a shorter term of three years, as supported by the DBCT User Group, provides insufficient certainty to allow for forward planning and investment for all stakeholders. On balance, the Authority considers that a five year term would best accommodate the need for both certainty and flexibility and reflect a reasonable balance in the legitimate business interests of the access provider and access seekers.

The Authority notes that some of the matters considered in assessing DBCT Management's draft access undertaking have been predicated on the basis that the Operator, DBCT P/L, is owned by a majority of the users. It is because of the incentives for operational efficiency provided by this arrangement that the Authority has accepted certain fundamental elements of the undertaking, most notably the operating cost pass-through. The fact that the OMC is a long term agreement and that DBCT P/L's shareholder agreement provides for only users of the terminal to obtain shares in the Operator is likely to preserve the incentive for DBCT P/L to operate the terminal efficiently. However, if the Operator did change, or if this provision in the shareholders' agreement changes, a potential conflict of interest may arise as the Operator may have an incentive to discriminate against particular users, eg. non-shareholders, or may have a weaker incentive to operate the terminal efficiently.

The Authority recognises that this may be an unlikely eventuality as the OMC potentially extends out to 2014 and, therefore, provides reasonable surety to users that the current arrangements that provide incentives for efficient operating costs will continue. Moreover, the users are also unlikely to have an incentive to assign the OMC to another party who may have a different set of incentives with respect to operating the terminal.

In spite of the above, the current operational arrangement is such a key underpinning of the undertaking that, if it were to change during the term, the Authority may wish to revisit a number of matters, for example, the operation and maintenance cost pass-through arrangements (see Chapter 10), ring-fencing arrangements (see Chapter 3) and the operation of the Terminal Regulations (see Chapter 5). Accordingly, the Authority considers it appropriate for the term of the undertaking to cease if DBCT P/L ceases to be the operator of the terminal. To facilitate this, the definition of "Terminating Date" would need to be amended to be 'the fifth anniversary of the commencement date or when the Operator changes, whichever is earlier'. The definition of Operator in clause 2.1 should also be amended to clearly define 'Operator' to be only DBCT P/L. The commencement date will be the date of approval of the undertaking by the Authority.

With respect to the proposed general reviews of the undertaking at one, three and five years, the Authority has limited scope under the QCA Act to require DBCT Management to amend an approved undertaking.¹² It would not be possible for the Authority to require DBCT Management to submit a draft amending undertaking following the proposed one, three and five year reviews if the Authority identified problems in the approved undertaking's operation. That is, it would be up to Holdings (through DBCT Management) to voluntarily submit one. If DBCT Management were to submit a draft amending undertaking, the Authority only has the power to accept or reject it, and not to require the undertaking to be amended in accordance with its decision. Despite this, the Authority considers that there is still merit in DBCT Management and the Authority meeting at certain periods during the term to review the undertaking's operation. The Authority, therefore, considers it prudent to review the undertaking's operation one and three years after the commencement date.

In order for the undertaking to be approved, it must be amended so that:

- **'Terminating Date' is defined to mean the fifth anniversary of the commencement date or when the Operator changes, whichever is earlier;**
- **the definition of Operator in clause 2.1 be amended to define the Operator to be DBCT P/L ; and**
- **reviews are to be conducted one and three years after the undertaking's commencement date.**

2.5 Information Provision

DBCT Management's Position

DBCT Management proposes that the Authority have the right to request from DBCT Management any information or documents that it reasonably requires for the purpose of performing its obligations and functions in accordance with the undertaking or subsequent access agreements. DBCT Management commits to comply with any such request, unless there is a reasonable excuse for non-compliance. This will include where DBCT Management has a legal or contractual obligation to comply with confidentiality requirements or otherwise wishes to maintain confidentiality in respect of the information provided, but the Authority has not undertaken to treat the information as confidential (DAU, Vol. 1: clause 6).

Stakeholder Comments

The DBCT User Group considered that the Authority should not accept any restriction on its capacity to require information be provided to it and, consequently, should not be restricted in the manner suggested in the draft access undertaking. DBCT Management's rights in this regard should be restricted to those in the QCA Act. Further, the DBCT User Group requested that 'reasonably' be added after 'otherwise' in point (b) (DBCT User Group, sub. no. 5: 189).

Authority's Analysis

It is necessary to ensure that, following the approval of the undertaking, the Authority is able to request further information from DBCT Management as necessary to enable it to perform its legislative functions in relation to an access undertaking and access agreement. For example, to

¹² Under s.139 of the QCA Act, the Authority may require a draft amending undertaking be submitted only if it considers it its necessary to amend the approved access undertaking to make it consistent with a provision of the QCA Act or access code for the service to which the access undertaking relates.

obtain financial information on capital expenditures to maintain an accurate set of regulatory accounts. In this regard, the Authority considers that the draft access undertaking is appropriate to the extent that it provides for the Authority to, by written notice, request from DBCT Management any information or documents the Authority reasonably requires for the purposes of performing its obligations and functions in accordance with either the undertaking or an access agreement developed pursuant to the undertaking.

The draft access undertaking states that it will be unreasonable to comply with such an information request where DBCT Management has a legal or contractual obligation to comply with confidentiality requirements, or where the information is confidential but the Authority has not undertaken to keep the information confidential. The Authority does not consider the undertaking should include this qualification as the QCA Act sets out the Authority's obligations with regard to handling confidential information. That is, it must take all reasonable steps to keep it confidential, except in certain cases (for example, the public interest). The Authority believes the QCA Act provisions provide sufficient protection for DBCT Management's interests and that the undertaking should not constrain the Authority in handling confidential information in a way that is potentially inconsistent with the QCA Act.

The Authority believes that the terms of clause 6 of the draft access undertaking are potentially inconsistent with the relevant provisions of the QCA Act. To address this, the Authority proposes clause 6 be amended to clarify that it does not limit the rights of the Authority under the terms of the QCA Act with respect to obtaining and handling information.

In order for the undertaking to be approved, clause 6 must be amended to delete that part which sets out the circumstances when it would be reasonable for DBCT Management not to comply with a notice from the Authority to provide information.

3. NEGOTIATION FRAMEWORK

Summary

Key elements of the negotiation framework include providing adequate information in a timely manner, specifying the steps in the access negotiation process, including processes for resolving disputes. The Authority has proposed amendments in these areas to provide greater certainty for both DBCT Management and access seekers about their rights and obligations and to ensure an acceptable balance in the interests of each party to the negotiations.

Other issues addressed include the ring-fencing and confidentiality provisions proposed by DBCT Management. Ring-fencing is typically an important issue when the access provider has interests in upstream or downstream markets. However, this is currently not the case with respect to DBCT Management. In terms of obligations relating to the handling of confidential information, the Authority has proposed a number of amendments to DBCT Management's proposed confidentiality deed in order to ensure that it is a commercially balanced document.

3.1 Background

The QCA Act makes it clear that commercial negotiation is to play a central role in an access seeker securing access rights. It places an obligation on the access provider to negotiate with persons seeking access to a declared service and to make all reasonable efforts to satisfy the reasonable requirements of the access seeker, including the provision of information. The QCA Act also places an obligation on the access provider and user not to engage in conduct which prevents or hinders access.

An undertaking's access negotiation framework should provide reasonable certainty for all stakeholders and ensure that access seekers are treated equally. This requires establishing an effective negotiation framework which, among other things, addresses: the provision of adequate information to access seekers in a timely manner; clearly defined negotiation procedures, including timeframes for action by the access provider; clearly outlines defined boundaries to negotiation; effective, fair and timely dispute resolution procedures; and the responsibilities of the access provider and access seeker during the negotiation process.

A negotiation framework which omits or insufficiently develops any of the above matters, or which imposes unreasonable conditions on access seekers may, of itself, hinder or prevent access to the terminal's coal handling services. However, DBCT Management is entitled to protect itself against becoming engaged in negotiations with access seekers who are non-genuine or who represent a poor commercial risk. The negotiation framework should, therefore, balance the legitimate business interests of DBCT Management and those of access seekers.

Part 5 of DBCT Management's draft access undertaking outlines the processes for obtaining access. Parts 7 and 8 of the draft access undertaking address confidentiality requirements and ring-fencing respectively. This chapter addresses: the access negotiation process (3.2); the dispute resolution process (3.3); confidentiality requirements (3.4); and ring-fencing issues (3.5).

3.2 Access Negotiation Process

Section 101 of the QCA Act requires the access provider, in negotiations with an access seeker, to make all reasonable efforts to satisfy an access seeker's reasonable requirements. In doing so, and subject to any relevant access code or approved access undertaking, an access provider must provide an access seeker with, among other things: information about the price at which the access provider provides the service, and the way in which it is calculated; information about the costs of providing the service, including the capital, operation and maintenance costs;

information about the value of the access provider's assets, including the way in which it is calculated¹³; an estimate of the spare capacity of the service, and the way in which it is calculated; a diagram or map of the facility used to provide the service; information about the facility's operations; information about the facility's safety systems; and information about any determination made by the Authority in an arbitration about access to the service.

Information Provision and Access Application

DBCT Management's Position

DBCT Management proposes that an access application be provided in writing and contain the information set out in Schedule A of the draft access undertaking. Prior to submitting this, an access seeker may request from DBCT Management reasonably available preliminary information, including copies of the current standard access agreement and Terminal Regulations and, where practicable, the information set out in ss.101(2)(d)-(h) of the QCA Act. The access seeker may also request initial meetings to discuss the application and the requirements of Schedule A (DAU, Vol. 1: clause 5.2).

Upon receiving an access application, DBCT Management commits to using reasonable endeavours to provide written acknowledgement as soon as practicable, and in any event within 10 business days of its receipt. DBCT Management may request from the access seeker additional information or the clarification of information provided. DBCT Management must also provide written acknowledgement of receipt of such information as soon as practicable, and in any event within 10 business days (DAU, Vol. 1: clause 5.3).

Stakeholder Comments

Both PCQ and the DBCT User Group considered that the information requested from access seekers in Schedule A was reasonable. However, the DBCT User Group's support for the information provision requirements was subject to a number of caveats.

First, an access seeker's obligation to provide any such information should be subject to an overriding requirement that it is practicable for the access seeker to provide that information. Second, it should be recognised that some of the information sought may be able to be given as a prediction. Also, the DBCT User Group considered that the meaning of 'reasonably available preliminary information' in clause 5.2(a) was unclear (PCQ, sub. no. 10: 1; DBCT User Group, sub. no. 5: 19, 187).

The DBCT User Group also considered that the settlement of final access conditions would be an iterative process. In particular, there would be a number of negotiations occurring with parties other than DBCT Management, for example, QR. As such, the DBCT User Group considered that clause (j) of Schedule A, which requires an access seeker to provide information on annual contracted raiing capacity, should be qualified to address this concern (DBCT User Group, sub. no. 5: 193).

The DBCT User Group also considered that the information proposed to be provided by DBCT Management under clauses 5.5.2 and 5.4 was reasonable. However, it noted that there was no provision for the requirements of ss.101(2)(a)-(c) of the QCA Act. In relation to these matters, it considered that at least broad background information be provided on request (DBCT User Group, sub. no. 5: 19).

¹³ Where a reference tariff exists, the QCA Act provides for a waiver of the obligations in relation to providing information about the price of the service, the costs of providing the service and the value of the access provider's assets.

Authority's Analysis

In relation to the information to be provided by an access seeker as part of its access application, the Authority agrees with the DBCT User Group that this requirement should be qualified to make clear that such information will be provided where reasonably practicable, and may be a forecast only.

In relation to Schedule A, the Authority concurs with the DBCT User Group that clause (j) of Schedule A should be qualified to address the DBCT User Group's concerns that contracted railing capacity may not be known at this stage. Further, the Authority believes that the requirement in Schedule A that information be submitted as part of an access application 'to the satisfaction of DBCT Management' should be qualified so that DBCT Management must act reasonably in determining whether the information is acceptable. The negotiation framework already provides for DBCT Management to request additional information or clarification of the information provided as part of an access application.

To reflect the relevant provisions in the QCA Act, the Authority considers that there should be a more positive obligation on DBCT Management to provide certain information relating to an access application. In this regard, the Authority notes that the draft access undertaking expresses this obligation in terms of an access seeker being able to request information, rather than in terms of what DBCT Management must provide. Moreover, the obligation to provide information set out in ss.101(2)(d)-(h) of the QCA Act is not qualified to be provided only 'where practicable'. The Authority believes that clause 5.2 should be amended to reflect a more positive obligation on DBCT Management to provide information when requested. Further, the Authority believes DBCT Management must provide the information in ss.101(2)(d)-(h) if requested, and should not be limited by the rider that it only be provided 'where practicable'.

The draft access undertaking does not stipulate a time limit on DBCT Management to provide preliminary information relating to an access application. The Authority believes it is appropriate to place a reasonable time limit on this in order to protect access seekers from undue delays. Therefore, clause 5.2 should be amended to require DBCT Management to provide preliminary information within 10 business days of receiving the access seeker's request. This amendment provides greater certainty to both DBCT Management and an access seeker.

The draft access undertaking is silent on providing information in ss.101(2)(a)-(c) (price, costs, asset value) as s.101(4) of the QCA Act allows, at the Authority's discretion, for this information to be provided in the form of a reference tariff. The Authority notes the DBCT User Group's request that at least general background information be provided in relation to these matters. However, the Authority believes that DBCT Management should be allowed to provide this information as a reference tariff, given that information relating to price, costs and the asset value will be reflected in the reference tariff as approved by the Authority. Where this information has not already been provided as a reference tariff (eg. forecast capital expansion costs), the Authority considers that DBCT Management should be required to provide information as prescribed in ss.101(2)(a)-(h) of the QCA Act.

In addition, the Authority considers that clause 5.3 of the draft access undertaking, which allows DBCT Management to request additional information or clarification should be amended to provide that any such request made is subject to DBCT Management being able to reasonably demonstrate the need for such information in order to prepare an IAP.

In order for the undertaking to be approved, it must be amended to:

- **clarify that information to be provided by an access seeker should be reasonably practicable to provide and may be a forecast;**
- **provide a clear statement of DBCT Management’s obligations to provide certain information consistent with s.101 of the QCA Act;**
- **provide that, if requested by an access seeker, where there is a reference tariff, DBCT Management will provide information set out in ss.101(2)(d)-(h) of the QCA Act. Where there is no reference tariff, DBCT Management will provide information set out in with ss.101(2)(a)-(h) of the QCA Act;**
- **provide that DBCT Management must provide preliminary information within 10 business days of request;**
- **provide that additional information requested by DBCT Management must be reasonably able to be demonstrated to be necessary to prepare an IAP; and**
- **ensure that, in Schedule A, the provision requiring information to be provided ‘to the satisfaction of DBCT Management is made subject to DBCT Management ‘acting reasonably’. Also, the requirement in Schedule A, clause (j), that an access seeker must provide information on contracted annual raiiling capacity should be qualified so that it must only be provided ‘where known’.**

Provision of an Indicative Access Proposal by DBCT Management

DBCT Management's Position

DBCT Management undertakes to use its reasonable endeavours to provide an indicative access proposal (IAP) as soon as practicable, and in any event, within 20 business days of receipt of an access application. If it is unreasonable for DBCT Management to do this, it undertakes to notify the applicant of the extra time required to deliver the IAP. The access seeker has recourse to dispute resolution if it considers the estimate of extra time to be excessive. DBCT Management must use reasonable efforts to meet the timeframe set by either DBCT Management or the Authority.

The IAP will set out non-binding indicative arrangements in relation to: available capacity; other existing access applications; and, if there is available capacity, an initial estimate of the access charge for the requested services, details of any additional information required by DBCT Management to develop the terms and conditions of access, and the expiry date of the IAP (this will be 30 business days following the access seeker’s receipt of the IAP).

The access seeker has recourse to dispute resolution if it considers that, after 20 business days following DBCT Management’s acknowledgement of the access application, DBCT Management is not making reasonable progress in preparing the IAP.

Where there is insufficient capacity, DBCT Management commits to notify the access seeker of this and give reasons. DBCT Management also commits to provide the access seeker with information on available capacity and an indicative timetable for future expansions (DAU, Vol. 1: clause 5.4).

The draft access undertaking proposes that an access seeker wishing to proceed to the access negotiation phase must notify DBCT Management of its intention to do so within 20 business days of receiving an IAP. If the access seeker does not notify its intent prior to this expiry date,

an access seeker may apply again for access, unless the parties agree otherwise (DAU, Vol. 1: clause 5.5).

An access seeker concerned that an IAP has not been prepared in accordance with the undertaking must notify DBCT Management within 20 business days of its receipt. DBCT Management must use all reasonable efforts to respond to this notice including, where appropriate, making revisions to the IAP within 20 business days of its notification. If DBCT Management is unable to respond within this time, it undertakes to notify the applicant of the expected date of its response. The access seeker has recourse to dispute resolution if it is not satisfied with DBCT Management's response, or its estimated date to respond to this notice (DAU, Vol. 1: clause 5.5).

Stakeholder Comments

The DBCT User Group considered that the access application process and the response times that apply to be unduly lengthy and may result in a drawn out process that is inefficient and frustrating for an access seeker. It considered the suggested timeframes, compounded by even short delays in responses, could constitute an impediment to access. The formal dispute process was considered too inflexible in resolving issues about compliance with time limits (DBCT User Group, sub. no. 5: 19). It argued the need for a more expeditious process to resolve a dispute, particularly one as to whether DBCT Management is delaying the process (DBCT User Group, sub. no. 5: 188).

The period of time is too long, particularly when the indicative response from DBCT Management is not binding on it, and it is entitled to change its initial response significantly, as the process continues (DBCT User Group, sub. no. 5: 188).

The DBCT User Group also considered that the proposed content of the IAP should be expanded to include a draft access agreement, current and prospective handling charges and the current master plan, similar to the information that would be provided to the terminal capacity committee (DBCT User Group, sub. no. 5: 19).

Authority's Analysis

The Authority notes that, while minor, there is an inconsistency in the timeframes for DBCT Management to provide an IAP following receipt of an access application as stipulated in clause 5.4. In order to rectify this, the second sentence of this clause should be amended so that it states that DBCT Management must advise the access seeker of the extra time required if it is unable to provide an IAP within 20 business days *of receipt* of the access application.

In relation to the second sentence of clause 5.4, where DBCT Management is required to advise an access seeker of the extra time that it requires to provide an IAP, the Authority considers that DBCT Management should be required to advise if it is unable to provide the IAP within the specified timeframes as soon as practicable, but in any event within the 20 business days.

The Authority notes the DBCT User Group's concerns about the length of time involved in executing an access agreement, particularly if a dispute arises in relation to the IAP. While specifying the detail of stages of the negotiation process, including timeframes, can seem overly prescriptive, it does provide both access seekers and the access provider with greater certainty as to their rights and obligations in the negotiating process.

The Authority considers that it is difficult to specify a more 'streamlined' negotiation process without detracting from the certainty and protections provided, for both parties, by specifying a detailed process.

On balance, the Authority considers that this approach to drafting provides both parties with certainty, setting out their respective minimum obligations. To address stakeholders' concerns about the timeliness of the negotiation framework, the Authority considers that clause 5.2 should be amended to provide for DBCT Management to make all reasonable efforts to progress access applications in a timely manner. The Authority also notes that the draft access undertaking provides that either party may refer a dispute at any time during the negotiation period (clause 5.5).

The life of the IAP is 30 business days following the date of receipt by the access seeker. However, the access seeker must notify DBCT Management of its intention to progress an access application within 20 days of its receipt (clause 5.5). To align these timeframes and to maintain the full life of the IAP, the Authority considers that clause 5.5 should be amended such that an access seeker must notify of its intention to progress with an application within 30 business days of its receipt of the IAP.

The Authority notes the DBCT User Group's concerns about the information to be provided by DBCT Management in the IAP. In particular, the DBCT User Group requested that the IAP should be expanded to include a draft access agreement, current and prospective handling charges and the current master plan.

The Authority notes that a draft access agreement will be provided in the form of an approved standard access agreement which, once approved, will form part of the undertaking. Moreover, the current standard access agreement will be provided to an access seeker as part of preliminary information (clause 5.2). However, until a standard access agreement is approved (DBCT Management is not required to submit a draft standard access agreement until three months after the approval date of the undertaking), DBCT Management should be required to provide a draft access agreement in the IAP. The Authority considers that there is also a case for including the current master plan and for providing information on current and prospective handling charges to access seekers. Such information would benefit access seekers in their assessment of the IAP and could reasonably be expected by access seekers to be provided by DBCT Management. The Authority, therefore, believes that the IAP should also be expanded to include the current master plan and information on current and prospective handling charges.

Clause 5.4 sets out DBCT Management's obligations where there is insufficient capacity to accommodate the access application. The Authority believes the draft access undertaking is currently unclear as to DBCT Management's exact obligations in these circumstances. To address this, the Authority considers that, where there is insufficient capacity, there should be a stronger obligation on DBCT Management to provide certain information and to negotiate on the basis of a capacity expansion if requested by an access seeker. However, the Authority considers that, to proceed with an access application on the basis of a capacity expansion may require DBCT Management to assess a range of factors. Therefore, it may be prudent to allow for the possibility that extra time may be required to progress the application in this case. DBCT Management should still be obliged to progress the application in a timely manner and there would be recourse for an access seeker to dispute resolution where it is unsatisfied with the time frames proposed by DBCT Management and the progress being made.

In order for the undertaking to be approved, it should be amended to:

- **correct the inconsistency in the times for DBCT Management to provide an IAP in the first paragraph of clause 5.4;**
- **provide that DBCT Management must notify an access seeker ‘as soon as practicable but in any event within 20 business days’ of the extra time required to provide an IAP;**
- **place a clearer obligation on DBCT Management to make all reasonable efforts to progress access applications in a timely manner (in clause 5.2);**
- **expand the IAP to include the current master plan and information on current and prospective handling charges. Moreover, where there is no approved standard access agreement, a draft access agreement should also be included in the IAP;**
- **change the timeframe in which an access seeker must notify of its intent to progress an access application to 30 days, consistent with the life of an IAP (in clause 5.5); and**
- **place a stronger obligation on DBCT Management to continue negotiations on the basis of a capacity expansion, if requested by the access seeker, where DBCT Management has notified of insufficient capacity in accordance with clause 5.4. In this case, if DBCT Management is unable to comply with the timeframes in clause 5, it must advise of the estimated timeframes. The access seeker will have recourse to dispute resolution if it does not believe that the proposed timetable is reasonable or that DBCT Management is making reasonable progress.**

Negotiations to Develop an Access Agreement

DBCT Management's Position

DBCT Management proposes that negotiations will commence as soon as reasonably possible to progress towards an access agreement. Negotiations will cease where: an access agreement is executed; the access seeker withdraws its access application; DBCT Management indicates that it does not intend to enter into an access agreement with the access seeker (issues a negotiation cessation notice (NCN)); negotiations extend beyond three months, unless otherwise agreed; or available capacity is reduced due to another access seeker finalising an access agreement. In this last case, DBCT Management will provide the access seeker with a revised IAP, and the negotiation process will recommence from the date of its receipt (DAU, Vol. 1: clause 5.6).

If the parties are unable to resolve a dispute during the negotiation period after reasonable negotiations, either party may refer the matter to dispute resolution.

The draft undertaking establishes a number of grounds for DBCT Management to issue a NCN, including where:

- (i) an access seeker does not comply with all of its material obligations in the undertaking;
- (ii) DBCT Management is reasonably of the opinion that there is no reasonable likelihood that the access seeker will comply with the material terms and conditions of an access agreement;

- (iii) DBCT Management is reasonably of the opinion that the access seeker has no genuine intention of gaining or using access at the level sought;
- (iv) DBCT Management is reasonably of the opinion that the access seeker or its guarantor are not reputable and of good financial standing or would not have the capability to fulfil all of their obligations under an access agreement; and
- (v) the access seeker does not comply with a decision of an expert or the Authority pursuant to the dispute resolution procedures.

DBCT Management may reasonably form the view that the circumstances in (i) - (iv) above apply if an access seeker is insolvent or if the access seeker, or related party, has in the previous two years been in material default of any access agreement or any other agreement, and where its performance under that agreement is relevant to its likely performance under an access agreement. The access seeker has recourse to dispute resolution if it reasonably considers that DBCT Management has improperly given it a NCN. DBCT Management may recover its reasonable costs incurred in conducting access negotiations where it issues a NCN (DAU, Vol. 1: clause 5.7).

Stakeholder Comments

PCQ considered that the draft access undertaking should be flexible enough to cater for the needs of all prospective users, from both large and existing users to small first time users (PCQ, sub. no. 10: 1).

The DBCT User Group considered that it was undesirable that the negotiation process may cease where there is no longer sufficient capacity due to another access seeker finalising an access agreement (clause 5.6(e)).

DBCT Management should be required to take preliminary steps to ensure an expansion can be rapidly implemented if a successful outcome from all negotiations is a reasonable possibility, and expansion would then be required (DBCT User Group, sub. no. 5: 188).

The DBCT User Group generally supported the provisions of clause 5.7 (NCN), except clauses 5.7(e) and (f) which relate to non-compliance with a decision of an expert or the Authority, as it believed that this should only relate to material non-compliance (DBCT User Group, sub. no. 5: 19).

The DBCT User Group also submitted that the definition of ‘Insolvent’ in clause 2.1 should be amended as the appointment of a controller should not in itself be an insolvency event whilst the controller continues to comply with an access agreement (DBCT User Group, sub. no. 5: 186)

The DBCT User Group did not support DBCT Management’s proposed right to automatically recover its costs from an access seeker if negotiations cease in accordance with a NCN. This right should be subject to dispute resolution and should only apply if the access seeker has acted unreasonably, or where it was reasonably foreseeable that the access application would be unsuccessful (DBCT User Group, sub. no. 5: 20).

Authority’s Analysis

The draft access undertaking provides for a negotiation period of three months, with DBCT Management having the right to automatically issue a NCN after this period. The Authority considers that this may be too short a timeframe. Accordingly, clause 5.6(d) should be amended to extend this period to six months. The Authority notes that either party may refer a dispute at any time during the negotiation period.

With regard to stakeholder concerns about clause 5.6(e), which allows DBCT Management to cease negotiations if there is insufficient capacity resulting from DBCT Management executing an access agreement with another access seeker, the Authority notes that the draft access undertaking places a number of obligations on DBCT Management in this situation.

In particular, clause 10.2(a) requires DBCT Management to undertake any necessary capacity expansions required to accommodate, among other things, the actual demand growth for the use of the terminal by both access holders and access seekers. Moreover, the PSA, the key lease agreement between Holdings and DBCT Management, contains specific provisions regarding capacity expansions to be undertaken by DBCT Management as part of the terminal lease (see Chapter 4). Further, the Authority notes that DBCT Management commits, among other things, to revise the IAP and recommence negotiations based on the changed circumstances (clause 5.6). Moreover, the Authority has required an amendment to clause 5.4 to provide a stronger obligation on DBCT Management to continue negotiations where there is insufficient capacity but an access seeker wishes to continue to negotiate on the basis of a capacity expansion.

The Authority, therefore, believes that the various undertaking obligations on DBCT Management where there is insufficient capacity adequately safeguards the legitimate interests of access seekers.

The Authority considers that there is duplication between clauses 5.7(b) and (d). It also considers there is an inconsistency between the thresholds applicable to DBCT Management's ability to issue a NCN in these clauses. Specifically, clause 5.7(b) provides that DBCT Management can issue such a notice where it is reasonably of the opinion that the access seeker is unlikely to comply with the material terms and conditions of an access agreement. This is repeated in clause 5.7(d), but without the materiality threshold.

The Authority believes that this should be addressed by deleting the reference to an access seeker's capability to comply with its access agreement in clause 5.7(d).

The Authority agrees with the DBCT User Group that DBCT Management's right to issue a NCN where an access seeker does not comply with the decision of either an expert or the Authority should be limited to where an access seeker is in material non-compliance. This is also more consistent with the thresholds that apply for issuing a NCN provided for in clauses 5.7(a) and (b). Moreover, to be consistent with the dispute resolution provisions, DBCT Management's right to issue a NCN for non-compliance with an expert's decision should not apply where the expert is found to be in manifest error.

The draft access undertaking provides that it is reasonable for DBCT Management to form the view that the circumstances in clause 5.7 (a), (b), (c) or (d) (pertaining to circumstances in which it may issue a NCN) apply if the access seeker is insolvent or the access seeker (or related entity) has been in default of an access agreement or other relevant agreement. As these qualifications relate to the financial standing of the access seeker, the Authority believes that these should only be relevant to the issuing of a NCN under clause 5.7 (b) and (d).

The DBCT User Group suggested that the appointment of a controller should not be an insolvency event while the controller continues to meet the access holder's obligations under an access agreement. However, the Authority notes that the definition of 'Insolvency' in clause 2.1 relates to an access seeker, and not an access holder. This reflects the fact that the question of the financial standing of the access seeker will most likely arise during the access negotiation process. Moreover, the Authority understands that the definition in the draft access undertaking is a standard commercial definition and is appropriate. There are several possible scenarios to consider: firstly, where a current access holder's agreement is about to expire and the access holder is seeking to renew its agreement; where a current access holder is seeking new contracted tonnages; or a new access seeker is negotiating for access rights. In each of these

instances, the Authority considers it is reasonable that the appointment of a receiver be considered an insolvency event and that it would be reasonable for DBCT Management to cease or not commence access negotiations, if it so wished. At the same time, there may be justification for the exclusion of the appointment of a receiver as an insolvency event in the case of a current access holder where the receiver continues to honour the access holder's obligations under an existing agreement. DBCT Management has not raised this issue at this point in time, although it may arise during the consideration of the standard access agreement.

The Authority also considers that DBCT Management should not be able to recover its costs in all cases where a NCN is issued. Specifically, clause 5.7 should be amended so that DBCT Management may recover such costs only where negotiations have ceased because an access seeker has no genuine interest in gaining or using access at the level sought (that is, on the grounds specified in clause 5.7(c)). The Authority also believes that this should be subject to dispute resolution to protect the legitimate business interests of access seekers.

In order for the undertaking to be approved, it should be amended to:

- **extend the negotiation period to six months (clause 5.6);**
- **remove the duplication of the negotiation cessation right between clauses 5.7(b) and (d);**
- **provide consistent materiality thresholds applicable to issuing a NCN in clause 5.7;**
- **provide that DBCT Management must not issue a NCN for non-compliance with the expert's decision if the expert is found to be in manifest error;**
- **provide that the insolvency or default of an access seeker under an access agreement or related agreement is only relevant to the circumstances outlined in clauses 5.7(b) and (d);**
- **allow DBCT Management to recover its costs where a NCN is issued only where negotiations have ceased because an access seeker has no genuine interest in gaining or utilising access at the level sought; and**
- **provide for a dispute about recovery of costs when a NCN is issued to be notified and resolved in accordance with the dispute resolution provisions of clause 5.8.**

3.3 Dispute Resolution Process

DBCT Management's Position

The draft access undertaking provides for disputes which arise under the undertaking or in the negotiation for access to be dealt with in accordance with the dispute resolution process in the undertaking. Once an agreement is signed, any disputes arising under an agreement will be dealt with in accordance with any dispute resolution procedures in that access agreement (DAU, Vol. 1: clause 5.8(a)).

DBCT Management proposes a three tiered approach to disputes arising under the undertaking. Initially, disputes are to be referred to the chief executives of the respective parties, or their nominees, within 10 business days of receiving a dispute notice.

Failing dispute resolution by the chief executives within 20 business days or, if either party appoints a nominee that is unacceptable, the parties may agree to refer the dispute to an expert. Failing such agreement, either party may, within a further 30 business days, refer the dispute to the Authority (DAU, Vol. 1: clause 5.8(b)).

The draft access undertaking sets out the process for appointing the expert and the conditions that will apply to expert resolution. DBCT Management proposes that, in the absence of manifest error, the expert's decision be final and binding upon the parties. If a party believes there has been a manifest error, it may refer the matter to the Authority for a determination. If the Authority finds that a manifest error has occurred, the parties may agree to refer the dispute to another expert or, failing agreement, either party may refer the dispute to the Authority (DAU, Vol. 1: clause 5.8(c)).

The QCA Act provides for the Authority to arbitrate disputes between access seekers and access providers, with any such arbitrations to be heard in accordance with Division 5 of Part 5 of the QCA Act. In addition, the QCA Act also provides for the Authority to arbitrate disputes between access holders and access providers, with any such arbitrations to be heard in accordance with the provisions of the access agreement. In this context, the draft access undertaking provides that, where a dispute is referred to the Authority under clause 5.8(d) (Determination by QCA), or as otherwise specified in accordance with the undertaking, then Division 5 of Part 5 of the QCA Act will apply, subject to the consistency of any determination by the Authority with the provisions of the undertaking.

For a dispute referred to the Authority for determination as specified in accordance with this undertaking but which does not constitute a dispute for the purposes of Division 5 of Part 5, then the Authority will make a determination through any process it considers appropriate, provided it advises the parties of its process beforehand and parties are given the opportunity to advise of any concerns. Also, any determination by the Authority must be consistent with the provisions in the undertaking. Costs are to be borne by the parties as determined by the Authority (DAU, Vol. 1: clause 5.8(d)).

Stakeholder Comments

In its Request for Comments paper, the Authority sought comments on whether the undertaking should provide for the Authority to have a role in resolving certain specified disputes (eg. pricing). In its response, DBCT Management questioned the appropriateness of the Authority's powers extending beyond those prescribed by the QCA Act (DBCT Management, sub. no. 11: 3).

The DBCT User Group generally considered the dispute resolution process to be sufficiently detailed, except that the expert should be directed to determine a solution in a similar manner to the way the Authority would. The enforcement of dispute outcomes was considered to be clearly established, with flexibility to allow for resolution by experts or by the Authority where appropriate (DBCT User Group, sub. no. 5: 20).

The DBCT User Group generally supported the dispute resolution process. However, there was concern about the possible use of the dispute resolution process to frustrate access negotiations. The DBCT User Group also suggested a minor amendment to clause 5.8(c)(ii) that would preclude any past employee of the access seeker, DBCT Management or a related party of either from acting as an expert. It reiterated that the dispute resolution process, and associated timing, in clause 5.8 would be inappropriate for disputes under clause 5.4 regarding preparation of the IAP (DBCT User Group, sub. no. 5: 188, 189).

DNRME considered that both the Authority and an expert should have a role in resolving certain specified disputes (DNRME, sub. no. 7: 3).

Authority's Analysis

The Authority believes that the undertaking should not limit DBCT Management or an access seeker in referring a dispute to the Authority. As such, the Authority believes that the time limit

of 30 business days in which either DBCT Management or an access seeker may refer a dispute to the Authority following a failure to agree on expert resolution should be deleted. The Authority considers that an access seeker would have an incentive to progress access negotiations, including resolving any disputes that may arise, in a timely way.

The Authority considers that the DBCT User Group's suggestion that an expert should determine a solution in a manner similar to the way the Authority would is unwarranted. The DBCT User Group's concerns on this should be met by the fact that the undertaking requires an expert to make a determination that is consistent with the provisions of the undertaking (clause 5.8(c)(iv)). Moreover, either party may refer the dispute to the Authority should the parties fail to agree on an expert for dispute resolution.

Clause 5.8(c)(iv) provides that, if requested by an expert, parties to a dispute must provide all confidential information, subject to entry into arrangements to preserve confidentiality which are acceptable to all relevant parties. The Authority considers that this should be amended to provide that the parties must act reasonably in determining if confidentiality arrangements are acceptable.

The Authority considers that the DBCT User Group's suggestion that any past employee of either party should be prohibited from acting as an expert is too restrictive. The Authority believes that the current provisions in the draft access undertaking provide sufficient protection for both DBCT Management and an access seeker, without excluding an individual that may have relevant experience in a particular field. This is because an expert is required to, among other things, fully disclose any conflicts of interest prior to their appointment as an expert. Further, a dispute can be referred to the Authority should the parties fail to agree on an expert for dispute resolution.

With respect to clause 5.8(d), whereby a dispute is referred to the Authority, the Authority considers it appropriate that this clause be amended to reflect s.119 of the QCA Act. In particular, it should be amended to the effect that the Authority must not make an access determination that is inconsistent with the Undertaking. The Authority notes that, in the event of a dispute, the Authority's determination will be guided by the terms of any approved standard access agreement, Schedule B of the undertaking and the circumstances of the particular matter.

In order for the undertaking to be approved, it must be amended so that:

- **it does not place a time limit on when either DBCT Management or an access seeker may refer a dispute to the Authority;**
- **the parties to a dispute must, if requested by an expert to provide confidential information, be reasonable in determining if confidentiality arrangements are acceptable; and**
- **provide in clause 5.8(d) that the Authority must not make an access determination that is inconsistent with the undertaking.**

3.4 Confidentiality Requirements

DBCT Management's Position

The draft access undertaking proposes that DBCT Management and an access seeker will, at all times, keep confidential and not disclose any confidential information exchanged during negotiations or under any part of the undertaking. The exceptions to this are where disclosure is required by law and/or where disclosure is to the recipients' advisors who are under a duty of

confidentiality. Both parties must also ensure that all confidential information is used only for the purposes for which it was provided.

DBCT Management proposes that both it and an access seeker enter into a confidentiality deed in the form of Schedule D, if required by either party (DAU, Vol. 1: clause 7).

Stakeholder Comments

The DBCT User Group considered that the provisions for protecting confidential information were adequate. However, it considered the deed in Schedule D to be a ‘tight’ document containing a number of provisions that may be uncommercial. It considered some disclosure of information amongst stakeholders, such as updated forecasts, costs etc, may be necessary (DBCT User Group, sub. no. 5: 195). It also considered that the definition of ‘Confidential Information’ in clause 2.1 is somewhat broad. The DBCT User Group provided a mark-up of the deed in its submission (DBCT User Group, sub. no. 5: 21, 201).

Authority’s Analysis

The Authority has reviewed DBCT Management’s proposed confidentiality deed, taking into account the DBCT User Group’s comments. The Authority considers that the proposed confidentiality deed is broadly consistent with a standard commercial confidentiality deed. However, the Authority has proposed a number of relatively minor amendments to provide clarity and to provide a better balance of the appropriate obligations between the parties.

For example, the Authority proposes amending clauses 2(c), (e) and (f) of the confidentiality deed to state that the recipient of confidential information must do what is ‘reasonably’ required in order to provide better balance in the obligations placed on the parties. Also, there is an additional exception proposed for the permitted use and disclosure in clause 3 — namely, that confidential information may be used in negotiations with the discloser or in any dispute proceedings, submissions or other proceedings under the undertaking or QCA Act.

In addition, the Authority has proposed a minor modification to the definition of confidential information (clause 2.1) to reflect the situation where a confidentiality deed may be executed. The corresponding definition of confidential information in the confidentiality deed is also proposed to be amended to be similar to that in the undertaking.

In order for the undertaking to be approved, the confidentiality deed (Schedule D) and the definition of ‘confidential information’ (clause 2.1) must be amended in accordance with the mark-up in Part B.

3.5 Ring-fencing Issues

DBCT Management’s Position

DBCT Management states in the draft access undertaking that it presently has no interest in upstream or downstream markets. Consequently, ring-fencing provisions are not provided for in the undertaking. However, DBCT Management commits that, if its interests change, it will prepare and submit to the Authority a draft amending undertaking setting out its obligations in relation to ring-fencing (DAU, Vol. 1: clause 8).

Stakeholder Comments

The Queensland Resources Council (QRC), PCQ and the DBCT User Group believed that, at present, ring-fencing arrangements are unnecessary, as the terminal has operated successfully to date under its ownership structure, in the interests of all stakeholders. Moreover, QRC indicated that the draft access undertaking adequately provided for a review of this issue, should circumstances change (QRC, sub. no. 2: 7).

DNRME expressed some concern about the clarity of the arrangements:

It is not clear to what extent the arrangements for ownership of the Operator actually limit the potential for discrimination between users. There may need to be some further information about how arrangements operate. It is not clear to what extent the potential for non-owners to become co-owners is sufficient to reduce the potential for discrimination, especially in the case of smaller users, where their potential co-ownership share would be small (DNRME, sub. no. 7: 3).

Given this, DNRME thought that there may need to be some fall-back provisions both in the context of the current arrangements and where the Operator is replaced (DNRME, sub. no. 7: 3).

Authority's Analysis

The Authority accepts that DBCT Management currently has no conflict of interest in upstream or downstream markets. DBCT Management's commitment to submit a draft amending access undertaking appears to address any potential ring-fencing issues arising in future.

However, the Operator may potentially have a conflict of interest given that not all users are shareholders in the Operator. This concern is mitigated to an extent given that stakeholders' are satisfied with the Operator's performance to date and have not raised any concerns about this. The Authority notes that all users of the terminal have the ability to purchase shares in the Operator, thus limiting any scope for the Operator to use its position to discriminate against non-shareholding users.

The Authority accepts that, should the Operator change, a conflict of interest issue may materially arise. A change in the Operator is a more general concern of the Authority with implications extending beyond ring-fencing. To address this, the Authority has required that the term of the undertaking be linked to a change in the Operator (see Chapter 2).

4. CAPACITY

Summary

The draft access undertaking does not set out a capital expenditure program to meet the forecast growth in demand for coal exports. Rather, it proposes that capital expansions will occur as and when required to meet the needs of users and, in any event, when certain ship and train delay triggers are activated.

The DBCT User Group is supportive of the “as and when required” approach to capacity expansions but proposes an alternative expansion process on the basis that the delay cost triggers are too uncertain.

In assessing the capital expansion processes, the Authority accepts the merits of the “as and when required” approach, but proposes a more certain expansion process. The Authority believes that a clear and definitive process governing terminal expansions, and managing terminal capacity more generally is necessary as it was one of the key driving forces behind the terminal’s declaration.

Assessing terminal capacity is a complex issue so, rather than prescribing all factors that should be considered in any such assessment, the Authority proposes a transparent process for determining capacity.

Also, the Authority considers it inappropriate for users to have sole discretion over when a capacity expansion occurs. The Authority believes that, in the absence of a well defined capital expenditure program and sufficiently certain trigger events, the proposed processes need to be augmented. As a result, the Authority has proposed a transparent consultative process to facilitate capacity expansions along with two additional trigger events.

Specifically, the Authority proposes that DBCT Management be required to submit a draft amending access undertaking when:

- *access seekers have contractually committed to a set percentage (to be determined following further consultation) of the next capacity expansion; or*
- *when existing access holders with more than a set percentage (to be determined following further consultation) of the existing contracted tonnage request a capacity expansion.*

The Authority is minded to put these triggers at around 40% to 60%, but requests DBCT Management and stakeholder views on the appropriate percentage.

In the event that the Authority accepts the capacity expansion costs, the risks that capacity will remain under-utilised will be largely borne by the users and not DBCT Management given the revenue cap approach proposed (outlined in Chapter 7) and the limited circumstances in which an optimisation would occur.

4.1 Background

The provision of a clear process governing the determination, expansion and trading of terminal capacity is an important issue to be addressed within the DBCT access undertaking. Such processes must ensure a balancing of legitimate business interests of users in providing some certainty regarding terminal capacity to handle forecast coal throughput while protecting DBCT Management’s legitimate business interests in not undertaking uneconomic expansions.

In considering the regulatory framework to apply to terminal expansions, a key objective of the Authority is to establish a framework that encourages the efficient expansion of the terminal. In doing so, however, the Authority is cognisant of the number of competing interests regarding terminal capacity expansions.

On the one hand, DBCT Management would seek to avoid a situation whereby it makes an investment, considered the least cost expansion, which results in considerable excess capacity, yet it is unable to earn a return on the expansion investment because of demand falling short of forecast.

On the other hand, the terminal users would be concerned if the terminal expansion path adopted provided insufficient capacity to handle coal thus increasing costs to users in terms of higher demurrage and terminal charges or lost sale opportunities. Similarly, the owner of the terminal, Holdings, may seek to ensure that the capacity provisions in the PSA are adhered to in order to ensure that sufficient capacity at the terminal exists to ensure the coal supply for the Queensland coal market.

Rather than setting out a capital expenditure and associated expansion path, the draft access undertaking proposes to deal with capacity issues in a number of ways.

First, it establishes DBCT Management's proposed procedures for determining terminal capacity. Second, it sets out the conditions and triggers under which DBCT Management is required to undertake capacity expansions at the terminal and the circumstances under which it is deemed unreasonable or uneconomic to expand. Finally, it provides for the development of capacity trading.

This Chapter addresses the determination of capacity (4.2), capacity expansions (4.3), unreasonable and uneconomic expansions (4.4) and capacity trading and transfers (4.5).

4.2 Determining Terminal Capacity

Terminal capacity is related to the amount of coal that can be processed through the terminal. Currently, according to Master Plan 2004, the terminal has a nominal capacity of 56 Mtpa. Generally, nominal or rated capacity is calculated based on assumptions regarding the terminal's physical machinery capabilities, specific operating scenarios and historical experience.

Actual terminal capacity, however, is not a straightforward calculation based simply on the terminal's on-site capacity factors such as machinery and operating capabilities. Off-site capacity factors such as mine load-out rates, train scheduling, above rail operations and ship capacities and arrival patterns also influence actual terminal capacity.

DBCT Management's Position

The draft access undertaking sets out a procedure for determining the terminal capacity measured in tonnes of coal per contract year (DAU, Vol. 1: clause 10.1(a)). The procedure provides for DBCT Management, after taking advice from its own independently appointed expert, to determine capacity in consultation with access holders, the Operator and access seekers having regard to: DBCT Management's obligations and access holders' entitlements under access agreements; good operating and maintenance practice; Terminal Regulations; demurrage costs; and any other matter that DBCT Management considers appropriate.

The process also provides a mechanism for access holders to dispute DBCT Management's determination of capacity. DBCT Management's capacity determination may be disputed only

when a group of access holders has a combined annual contract tonnage that exceeds a threshold of 40% of the aggregate reference tonnage for that contract year (DAU, Vol. 1: clause 10.1(b)).

Once triggered, the dispute is referred to expert determination and the dispute provisions of clause 5.8(c) of the draft access undertaking will apply. The decision of the expert is final and binding upon parties. However, if the amount determined by the expert as optimal throughput capacity is equal to or within 5% of DBCT Management's determination, the access holders initiating the dispute must pay the expert's costs and all DBCT Management's reasonable costs of participating in the expert determination process.

The capacity of the terminal as determined by DBCT Management will constitute terminal capacity until it is next reassessed. DBCT Management proposes that terminal capacity be reassessed upon completion of each capacity expansion or if a capacity expansion has not occurred, then at DBCT Management's discretion and, in any event, within 5 years of the last assessment (DAU, Vol. 1: clause 10.1(c)-(d)).

Stakeholder Comments

The DBCT User Group believes the determination of capacity is complex. The DBCT User Group argue that while it is convenient for terminal capacity to be described as a particular figure, they believe that terminal capacity is better described as a range, which is dependent upon a number of variables such as train and ship arrival patterns, ship sizes, coal type etc. The DBCT User Group argues some of these factors are within the control of stakeholders. As a result, the DBCT User Group believes that any determination of actual terminal capacity requires input from stakeholders, ie users and Operator, who have the ability to influence variables affecting terminal capacity (DBCT User Group, sub. no. 5: 171-172).

Further, the DBCT User Group submits a number of criticisms of DBCT Management's process for determining terminal capacity. For example, the DBCT User Group states:

Although clause 10.1(a) requires DBCT Management to consult the various stakeholders, ultimately DBCT Management has almost total discretion as to what terminal capacity will be. There are no objective criteria in relation to what regard should be had to such factors as demurrage costs, nor things such as vessel configurations, shut downs for expansion works or maintenance etc. (DBCT User Group, sub. no. 5: 22, 191).

The DBCT User Group believes that DBCT Management should disclose any independent expert's report that it receives in relation to terminal capacity (DBCT User Group, sub. no. 5: 191).

In terms of capacity reassessment, while the DBCT User Group supports a re-determination of terminal capacity following each capacity expansion, it believes terminal capacity should be assessed on a more regular basis (DBCT User Group, sub. no. 5: 22).

A number of other stakeholders commented on the draft access undertaking's process for capacity determination. In particular, comments centred on the 40% threshold required to dispute terminal capacity determination. Queensland Treasury questioned whether the 40% threshold is too high (Queensland Treasury, sub. no. 8: 1). Conversely, the DBCT User Group accepted that the 40% threshold has been introduced to prevent frivolous disputes relating to terminal capacity, however, it argued such a threshold would not be required under the DBCT User Group's proposal (see Section 4.3) (DBCT User Group, sub. no. 5: 23).

Authority's Analysis

The Authority believes there is a need for a process governing the determination of terminal capacity. The Authority acknowledges there are numerous on and off-site factors that can affect

terminal capacity. However, the Authority does not believe it is necessary to prescribe all factors that DBCT Management must consider in determining terminal capacity. Rather, the Authority seeks to ensure that a transparent process exists for determining capacity.

To this extent, the Authority requires that DBCT Management provide access seekers, access holders and the Operator with a copy of any independent expert report it receives in relation to determining terminal capacity. Moreover, in the interests of transparency, the Authority requires DBCT Management to publish its decision making process to access holders, access seekers and the Operator regarding its determination of capacity.

The Authority is satisfied that there is sufficient opportunity for stakeholder input as part of DBCT Management's proposal to consult access holders, access seekers and the Operator regarding the determination of terminal capacity.

The Authority's requirement for a transparent process should ensure all stakeholders are informed as to how terminal capacity is determined.

In the event that stakeholders disagree with DBCT Management's capacity determination, the Authority believes that the requirement of DBCT Management to disclose its decision making process together with the dispute clauses of the draft access undertaking provide a sufficient avenue for stakeholder dispute.

The Authority is satisfied that the 40% threshold provides an adequate deterrent for frivolous capacity disputes. The Authority also believes it is reasonable that the access holders initiating the dispute pay the expert's costs and DBCT Management's reasonable costs should the throughput capacity determined by the dispute process be equal to or within 5% of DBCT Management's determination.

In order for the undertaking to be approved, it must be amended to:

- **place an obligation on DBCT Management to provide access holders, access seekers and the Operator any independent expert report or advice it receives in relation to determining terminal capacity; and**
- **place an obligation on DBCT Management to publish its decision making process to access holders, access seekers and the Operator regarding its determination of capacity.**

4.3 Capacity Expansions

Expansion of Terminal Capacity

DBCT Management's Position

The draft access undertaking proposes that DBCT Management will undertake capacity expansions at the terminal as is necessary to: accommodate and meet the actual and reasonably anticipated future growth of demand; ensure the terminal complies with world's best practice in respect of quality standards and environmental standards; be consistent with good operating and maintenance practice; and comply with all applicable approvals and laws (DAU, Vol 1: clause 10.2)

The draft access undertaking also sets out a process for accommodating an access seeker's request for capacity for the handling of coal (DAU, Vol. 1: clause 10.3(a)). This process provides that, upon receiving a bona fide offer from a creditworthy access seeker to enter into an access agreement to handle coal for a period in excess of five years, DBCT Management will

use its best endeavours to ensure that the terminal is able to handle that coal without a material and sustained increase in demurrage costs or the average net costs (after taking into account any discounts or rebates available to access holders) across all access holders of transporting coal from the rail loading points at mine sites to the terminal for handling, over any period of three consecutive months.

This process does not require DBCT Management to undertake a terminal expansion if an access seeker's request for capacity can be achieved without undertaking a capacity expansion. DBCT Management sees clause 10.3(a) as a trigger for expansion. DBCT Management states:

One trigger for capacity expansion is a bona-fide offer from an access seeker to enter into a binding access agreement in circumstances where that demand cannot be satisfied within the constraints of the existing terminal capacity (DAU, Accompanying Submission: 49).

While the draft access undertaking does not limit the circumstances in which DBCT Management is said to have received a bona fide offer to enter into an access agreement, it does state some specific circumstances when DBCT Management is said to have received a bona fide offer (DAU, Vol. 1: clause 10.3(b)).

These circumstances occur where DBCT Management receives an offer from an access seeker to enter into an access agreement on the terms of a standard access agreement or where any of the terms of that offer depart from the terms of a standard access agreement it is not likely to materially prejudice DBCT Management.

The access seeker must also satisfy DBCT Management that it has the financial and other resources necessary to discharge its obligations under the access agreement. If the offer is accepted by DBCT Management, it will be legally binding on the access seeker.

DBCT Management proposes that the standard access agreement will contain an obligation to consult access holders on the reasons, extent, timing and estimated cost of any proposed expansions before a capacity expansion decision is made. DBCT Management proposes to use all reasonable endeavours to carry out expansions with minimal interference to the handling of the access holders' coal (Principle 14, Schedule B).

DBCT Management also proposes to establish an access holder committee to provide a consultation process for stakeholders to discuss matters relating to the terminal. DBCT Management proposes that the details on the committee's operations are to be developed in the standard access agreement (Principle 15, Schedule B).

DBCT Management does not support the DBCT User Group's proposed consultation process for terminal expansions (ie the terminal capacity committee) which involve users having sole voting and recommendatory power as to when capacity expansions should occur. DBCT Management states that:

Significant conflicts could arise where control or virtual control over capacity expansions rests with the existing users. DBCT Management believes that where the provision of new capacity or capacity expansion triggers were effectively controlled by or too heavily influenced by current users this could be used to create a potential barrier to entry for new users (DBCT Management, sub. no. 11 : 4).

Stakeholder Comments

PCQ emphasises the need for a degree of excess capacity to ensure terminal operability during unplanned shutdowns and failures, noting that the introduction of new capacity is time consuming, taking up to 18-30 months, depending on pre-planning and approvals. As a result, PCQ argue that it is important for an access provider to have undertaken preliminary planning and seek approvals to ensure it can respond to capacity requests in a timely manner. PCQ also

support a consultation process involving users regarding the necessity for further expansions noting, however, that some users may not support expansions that facilitate a competitor's new mine (PCQ, sub. no. 10: 3).

Both the PCQ and the QRC consider that the terminal is an integral link in the coal chain and that it is essential that the terminal be expanded to meet the needs of the coal chain. QRC further emphasises that capacity needs to be available to meet both current and long term capacity demands, noting the need for a competitive but sustainable whole-of-life costs, including return on capital, if investment in infrastructure is to occur in the future (QRC, sub. no. 2: 3).

The DBCT User Group submitted a number of specific comments in relation to DBCT Management's process governing capacity expansions. In particular, the DBCT User Group believes that: specific triggers for capacity expansions, though desirable, are not capable of explicit definition; and it is not possible to accurately measure and attribute the impact of terminal operations on user's transport costs (rail and demurrage) as there are a variety of other causes that may also impact terminal operations such as mine production difficulties, rail delays and/or terminal constraints (DBCT User Group, sub. no. 5: 25).

As a result of these concerns, the DBCT User Group believes some judgement, in the form of stakeholder input, is necessary to facilitate the timeliness of expansions. The DBCT User Group proposes that terminal expansions be facilitated through a consultation process facilitated by the Terminal Capacity Committee (TCC), as opposed to DBCT Management's proposed trigger process. The DBCT User Group believes that a:

...TCC be established with the objective of providing a forum for Terminal stakeholders to consult on terminal capacity matters and to develop recommendations regarding terminal capacity (DBCT User Group, sub. no. 5: 173)

The purpose of the TCC is to consider matters relevant to future terminal capacity and to make recommendations to DBCT Management. The DBCT User Group proposes that the TCC would operate in accordance with the following terms:

- the TCC consist of DBCT Management (2 representatives), the Terminal Operator (2), Holdings (1), Users (one per user), with the Secretariat provided by DBCT Management at DBCT Management's expense;
- only users vote (in proportion to capacity entitlement) on recommendations on matters relating to improving capacity; DBCT Management, Holdings and the Operator do not have any voting rights;
- meetings would occur at least twice a year and would be triggered if DBCT Management receives an offer for new tonnage of greater than 1 Mtpa for at least five years;
- DBCT Management to convene, service and prepare papers to address agenda items of the meeting; and
- incentives and disincentives apply to recommendations: for example, if capacity is expanded in line with committee recommendations, the revenue cap would be automatically expanded (the incentive); if the capacity expansion is delayed, penalties would apply.

Authority's Analysis

The Authority notes that the key lease agreement, the PSA, governing the terminal contains specific provisions regarding capacity expansions to be undertaken by DBCT Management as part of the terminal lease.

While the requirements in the PSA and the draft access undertaking are largely the same, there are some differences. Despite this, they are consistent to the extent that Holdings, the primary lessee, and DBCT Management should be able to simultaneously comply with both the PSA and the access undertaking. In considering stakeholder comments regarding the draft access undertaking, the Authority believes it is important that Holdings, the primary lessee and DBCT Management retain the ability to comply with both documents.

The Authority also believes it is important that its assessment of the draft access undertaking is consistent with the framework of the QCA Act. In this regard, the Authority notes that both the PSA and the QCA Act provide for the primary lessee and the access provider respectively, to expand the facility. However, the PSA provides for the expansion of the terminal to be at the primary lessee's own cost and expense.

Conversely, the QCA Act (s.119 (2) (c)) states that the Authority must not make an access determination that would have the effect of requiring an access provider to pay some or all of the costs of extending the facility. It would appear, therefore, that the obligation to expand the terminal in the PSA is more onerous than in the draft access undertaking.

In any event, the Authority does not believe it should seek to have the draft access undertaking amended to be consistent with the PSA, if it was likely that such a proposal would be inconsistent with the QCA Act. Consequently, the Authority accepts the current wording of clause 10.2 of the draft access undertaking.

The Authority acknowledges the DBCT User Group's concerns regarding the capacity expansion triggers, in particular, those relating to sustained increases in demurrage costs and rail transportation costs due solely to additional tonnages (DAU, Vol 1: clauses 10.3 (a) (3) & (4)).

The Authority also notes these triggers are similar to the provisions of the PSA. However, the draft access undertaking is even more limiting as it requires the delays to be caused solely by the additional coal volumes, thereby ruling out circumstances where the additional volumes are one of a number of factors. As a result, the Authority believes the word "solely" should be removed from clause 10.3 (a) of the draft access undertaking to make it consistent with similar provisions in the PSA.

The Authority recognises the DBCT User Group's desire for the TCC to have recommendatory power, in terms of capacity expansions, stems from concerns that an unregulated monopolist may seek to limit capacity in order to earn monopoly rents. However, the Authority believes it would be inappropriate for the users of the terminal to have sole discretion over terminal expansion provisions. Moreover, a user committee should not have a right of veto whether or not terminal capacity expansions should occur.

The Authority sees merit in other aspects of the DBCT User Group's proposal, in particular, a consultation process to facilitate and promote expansions in a timely manner. The Authority notes that a consultation process could be designed to fit in with other aspects of the QCA Act.

The Authority proposes that DBCT Management submit a draft amending access undertaking when it decides to expand the terminal. Such an application would specify the demand forecasts and the expansion costs to be assessed by the Authority and, if approved, included into the regulated asset base. This process provides users and other stakeholders, via the Authority's assessment process, with the opportunity to submit their views on the costs and appropriateness

of DBCT Management’s proposed capacity expansion. This process is elaborated further in Section 4.4 of this Chapter.

The Authority believes that, as customers of the terminal, all access holders should be entitled to be consulted and given the opportunity to provide input on capacity issues. As a result, the Authority considers DBCT Management should be required to hold meetings and consult in good faith with all access holders on: current capacity and throughput; constraints on current capacity including demurrage and access holder transport costs; future contracts/forecasts that may impact on terminal capacity; significant issues relevant to terminal capacity; timing and nature of the next capacity expansion and impact on current capacity requirements, pricing and the Master Plan; and proposed changes to Terminal Regulations. The Authority notes DBCT Management’s proposed access holder committee would be the appropriate forum for this consultation. The Authority considers that it is reasonable for DBCT Management to hold meetings and consult in good faith with access holders on the above issues at least twice yearly. The Authority requires a copy of each meeting’s minutes to be distributed to all access holders, Holdings and the Authority.

While the Authority believes the users of the terminal should not have sole discretion in terms of voting in regard to when and how capacity expansions should occur, the Authority believes it is appropriate to have triggers to signal when a capital expansion is required. That is, the Authority believes that DBCT Management should be required to submit a draft amending access undertaking to the Authority outlining its proposed capacity expansion costs in the following circumstances:

- where access seekers have committed to a set percentage (to be determined following further consultation) of the next capacity expansion (for example, if the next increment in capacity is 11 million tonnes, then the trigger would occur when users have contracted for 5.5 million tonnes of the expansion increment); or
- where existing users with more than a set percentage (to be determined following further consultation) of the existing contracted tonnage request a capacity expansion.

The Authority is minded to put these triggers at around 40% to 60%, but requests DBCT Management and stakeholder views on the appropriate percentage.

These triggers need to be considered in the light of the proposed revenue cap, which will transfer the risk of excess capacity to users.

It is envisaged that DBCT Management’s draft amending access undertaking application will relate solely to a request for a revision of the revenue cap and a recalculation of the reference tariff (TIC) based on efficient capital expenditure costs and forecast tonnages. In terms of the Authority’s assessment process, the Authority would apply the WACC approved for the relevant regulatory period with operational expenditure handled in the current manner, as a pass through. Recovery of the capital expansion costs would be via an average cost arrangement, that is, a recalculation of the TIC for all users (see Section 4.4 of this Chapter).

This process would augment the existing expansion triggers based on demurrage and rail transport costs. In that regard, the Authority requires that DBCT Management disclose to access seekers, access holders and the Authority, DBCT Management’s process for determining the cost calculation regarding demurrage and average net costs to users as stated in clause 10.3(a) (3 and 4) of the draft access undertaking.

In the event that DBCT Management fails to expand capacity, the QCA Act provides for a dispute resolution process. That is, s.112 of the QCA Act provides for either an access seeker

or access provider to lodge an access dispute with the Authority should they fail to negotiate on an aspect of access to the terminal, such as capacity.

The Authority believes that clause 10.3(b) of the draft access undertaking which sets out specific circumstances upon which DBCT Management is said to have received a bona fide offer has some merit. While the clause does not seek to limit the circumstances in which a bona fide offer has been made, it seeks to provide some certainty by indicating under what circumstances DBCT Management will recognise when a bona fide offer has been made.

In order for the undertaking to be approved, it should be amended to:

- **remove the word “solely” from cl.10.3 (a);**
- **include a consultation process whereby DBCT Management will hold meetings not less than twice yearly to consult access holders in good faith on the following issues:**
 - **current capacity and throughput;**
 - **constraints on current capacity including impact on demurrage costs and access holder transport costs;**
 - **future contracts/forecasts that may impact on terminal capacity;**
 - **significant issues relevant to terminal capacity;**
 - **timing and nature of the next capacity expansion and impact on current capacity requirements, pricing and the Master Plan; and**
 - **proposed changes to Terminal Regulations;**
- **a copy of meeting minutes to be distributed to all access holders, Holdings and the Authority;**
- **require DBCT Management to submit a draft amending access undertaking to the Authority outlining its proposed capacity expansion in the following circumstances:**
 - **where access seekers have contractually committed to a set percentage (to be determined following further consultation) of the next capacity expansion; or**
 - **where existing access holders with more than a set percentage (to be determined following further consultation) of the existing contracted tonnage request a capacity expansion.**
- **require DBCT Management to disclose to access seekers, access holders and the Authority the process for determining the cost calculation regarding demurrage and average net costs to access holders as stated in clause 10.3(a)(3 and 4) of the draft access undertaking.**

The Authority is minded to put the capacity expansion triggers at around 40% to 60%, but requests DBCT Management and stakeholder views on the appropriate percentage.

Master Plan

DBCT Management's Position

The draft access undertaking specifies that, should DBCT Management be required to undertake a terminal capacity expansion, it will do so in accordance with the next applicable stage or stages of development as contemplated by the Master Plan (DAU, Vol. 1: clause 10.7).

The purpose of the Master Plan is to guide the development and expansion of the terminal to ensure capacity grows so as to match the anticipated growth in demand for terminal services from existing and future customers. The Master Plan is a requirement of the PSA which requires DBCT Management to develop and submit a Master Plan to Holdings in consultation with stakeholders, and review it each year in light of changing circumstances.

The draft access undertaking also sets out a process in the event that DBCT Management is unable to procure land, or obtain an approval in respect of the occupation or operation of the terminal that is required by DBCT Management to undertake construction or development necessary for a capacity expansion. DBCT Management propose that, where it is unable to procure relevant land or an approval for an expansion, the obligations regarding capacity expansions of the undertaking will be suspended to the extent affected by the inability. DBCT Management will, however, continue to use its best endeavours to procure that approval (DAU, Vol. 1: clause 10.6).

Stakeholder Comments

The DBCT User Group supports the Master Plan process but would prefer some flexibility in the sequencing of capacity expansions should that bring a better outcome for all stakeholders (DBCT User Group, sub. no. 5: 192).

Authority's Analysis

The draft access undertaking states that the next applicable capacity expansion will be undertaken in accordance with the Master Plan. While all stakeholders support the Master Plan process, the Authority does not believe strict adherence to its sequencing of capacity expansions is necessarily desirable as it would reduce flexibility in managing terminal capacity.

The Authority believes that expansions should generally be undertaken in accordance with the Master Plan. However, there should be sufficient flexibility to provide an option in terms of expansion paths and, where appropriate, re-sequencing of expansion stages if this improve the ability of the terminal to meet future demand requirements. Moreover, for clarification, the Master Plan as per clause 2.1 of the draft access undertaking is defined as 'the Master Plan as amended from time to time'. Accordingly, it may be amended without the need to submit a draft amending access undertaking.

The Authority accepts the provisions of the draft access undertaking relating to procurement of relevant tenure to or interest in land (clause 10.6) for expansion of the terminal.

In order for the undertaking to be approved, it should be amended to provide that:

- **in the event of a capacity expansion, strict adherence to the Master Plan is not required, should it be deemed more appropriate to undertake a future stage before the next planned stage.**

Expansion Costs

DBCT Management's Position

It is unclear from DBCT Management's submissions as to their position regarding how the costs of expansion should be shared among users.

Stakeholder Comments

DNRME believes DBCT Management's undertaking lacks sufficient information on how the costs associated with providing new capacity are to be shared (DNRME, sub. no. 7: 4).

Queensland Treasury believes that clarification is needed on how DBCT Management will meet the needs of existing and future users through capacity expansions and whether DBCT Management's proposal provides enough certainty and incentive (Queensland Treasury, sub. no. 8: 2).

The DBCT User Group submits that the cost of capacity expansions should be shared by all terminal users on an average cost basis (DBCT User Group, sub. no. 5: 26). It argues that charging incremental users for incremental costs would result in a range of multi-tiered and unworkable charges. In the same vein, PCQ highlights that the nature of the terminal is multi-user and historically, costs of capacity expansion have been shared among users (PCQ, sub. no. 10: 4).

Authority's Analysis

The Authority believes that, given the nature of the terminal as a multi-user terminal, it would be inappropriate to recover the incremental costs of capacity expansions only from the incremental users/tonnes. The Authority agrees with stakeholders that adopting a marginal approach would result in numerous tariffs involving burdensome administration and transaction costs.

Given the absence of objection by stakeholders, the Authority agrees that expansion costs should be shared on an average cost basis, with the TIC applying to each access holder. This would involve recalculating the TIC upon a terminal expansion to take into account the cost of existing and expanded capacity.

However, the Authority is aware that implementing this proposal will require renegotiating the existing user agreements as they currently only allow for movements in the TIC for annual CPI adjustments and for downward movements in circumstances where the other users negotiate a lower TIC (ie the so called "most favoured nation" clause). These arrangements would be insufficient to provide for an average cost pricing approach in the current circumstances where it is most likely that the incremental costs of expanded capacity will be higher than the average cost of existing capacity.

Consequently, while the existing user agreements remain in their current form, an average cost pricing approach could not be implemented. Nevertheless, the Authority is confident that this will occur as both DBCT Management and the DBCT User Group have indicated their support of such a proposal.

In the event that an agreement to amend the existing user agreements does not occur prior to the Authority making its final decision on the DBCT draft access undertaking, the Authority will have to amend this position to one where the price for new users is averaged across incremental

costs and not the costs of the whole terminal. The more preferred approach could, of course, be adopted at a later date via a draft amending access undertaking.

In order for the undertaking to be approved, it should be amended to ensure that:

- **the costs associated with expanding the terminal should be shared by all access holders on an average cost basis with the terminal infrastructure charge (TIC) recalculated upon terminal expansion.**

4.4 Unreasonable and Uneconomic Expansion of Terminal

DBCT Management's Position

DBCT Management states that it will not expand capacity if a capacity expansion is deemed to be unreasonable and uneconomic (DAU, Vol. 1: clause 10.4). The draft access undertaking proposes that if, having regard to:

- the actual or anticipated long term demand for the services of the terminal;
- the extent to which expansion or development work under the relevant stage of the Master Plan would produce capacity in excess of that demand;
- the cost of such expansion and development;
- the extent to which DBCT Management is able to demonstrate on reasonable evidence that those costs in their entirety would be unlikely to be accepted by the Authority as forming part of the DBCT Management's cost base for the purpose of determining the charges that DBCT Management may charge to access holders; and
- the long term nature of DBCT Management's investment in the terminal,

DBCT Management considers the expansion or accommodation of capacity to be unreasonable or uneconomic, it may submit a written proposal to Holdings proposing a modification or delay to the expansion that would otherwise be required (DAU, Vol. 1: clause 10.5(b)).

The draft undertaking then provides for DBCT Management to consult with Holdings, the State and access holders in good faith in respect of their proposed modification. The draft access undertaking states Holdings will not unreasonably withhold or delay its agreement to such modification or delay (DAU, Vol. 1: clause 10.5(c)).

The draft access undertaking defines unreasonable and uneconomic (DAU, Vol. 1: clause 10.5(a)) to be a situation where the Authority declines to include the expansion and development costs as part of DBCT Management's cost base for the purposes of determining access charges or where the Authority declines to make any decision, and DBCT Management has not agreed an alternative arrangement for funding the capacity expansion with an access seeker such that the capacity expansion has become reasonable and commercially justifiable without increasing access charges paid by access holders.

Stakeholder Comments

The DBCT User Group emphasises that the terms and conditions (namely the PSA) upon which DBCT Management contracted the lease of the terminal were fully known and the DBCT User Group notes with some concern that:

DBCT Management has included in its draft undertaking some terms that might be used in some circumstances to weaken its commitment to provide capacity expansions. For example, clause 10.5 of the draft access undertaking introduces concepts that the User Group does not believe were intended by the government when the lease was made available for tender. The User Group believes that clause 10.5 should be deleted in its entirety (DBCT User Group, sub. no. 5: 24).

On this basis, the DBCT User Group does not consider that clause 10.5 of the draft access undertaking (ie unreasonable and uneconomic provision) is appropriate.

Authority's Analysis

In conducting its analysis, the Authority has sought to ensure that arrangements are in place that encourage a least cost expansion of the terminal in response to user demand, and minimises the owner's and lessee's asset stranding risk for future capacity investments. Such arrangements, however, must also be tempered by public interest concerns, recognising that a reluctance to invest in expansions could impose greater costs on the coal industry as a whole compared to the costs associated with a premature or inappropriate capacity investment.

The draft access undertaking states that DBCT Management will expand the terminal unless they consider it to be unreasonable and uneconomic to do so. The DBCT User Group, on the other hand, argues that DBCT Management contracted to the lease on known terms and believes clause 10.5 creates uncertainty and therefore should be deleted. The Authority however, notes that the unreasonable capacity expansion clause (DAU, Vol.1: clause 10.4) of the draft access undertaking is largely consistent with the clause 11.8 of the PSA.

However, the Authority also notes that clause 10.5(a) of the draft access undertaking, which seeks to define the terms 'unreasonable' and 'uneconomic', does not appear within the PSA nor does the PSA attempt to define the terms 'unreasonable' and 'uneconomic'.

Clause 10.4 of the draft access undertaking is largely consistent with the PSA. However clause 10.5 (a) is in addition to the primary lessee's obligations in the PSA. The Authority understands that DBCT Management inserted clause 10.5(a) into the draft access undertaking to define situations in which DBCT Management considers an expansion is unreasonable and uneconomic. The purpose of this was for DBCT Management to facilitate a process to have the capacity expansion costs considered by the Authority and obtain some degree of surety that any capacity expansion costs associated with a terminal expansion would be recognised in the regulated asset base (RAB) for the purposes of calculating access charges.

However, both clauses largely deal with the primary lessee's obligations in the PSA and, to some extent, a clarification of those obligations. Neither clause 10.4 or 10.5 (a) seem to be particularly drafted to the context in which a matter is raised between DBCT Management and the Authority. Moreover, those clauses do not seek to involve the Authority exercising a relevant statutory power, whether it is approving a draft amending access undertaking or making an access determination in the event of a dispute.

Consequently, the Authority believes that clauses 10.4 and 10.5(a) should be deleted and replaced with clauses that outline a formal process for assessing capacity expansions costs for inclusion into the RAB. The Authority proposes that this formal process involve DBCT Management submitting a draft amending access undertaking under s.142 of the QCA Act each time a capacity expansion is required. Moreover, deleting clause 10.5(a) preserves consistency between, and reduces ambiguity associated with, the access undertaking and the PSA capacity expansion provisions.

Incorporating a formal capacity expansion expenditure approval process into the access undertaking also has the advantage of providing certainty to DBCT Management as to whether expansion costs will be recognised within the RAB. In this regard, terminal expansions based

on non-reference tonnes (eg short term contracts) may not attract the same level of assurity from the Authority as would an expansion based on long term reference tonne contracts. Moreover, the Authority believes that the absence of a process has the potential to make DBCT Management reluctant to commit to future capital investments. The Authority believes a reluctance to invest in expansions could impose greater costs on industry than the costs associated with premature or inappropriate investments.

An immediate recalculation of the TIC upon an approved capacity expansion of the terminal will ensure that only relevant and needed capital expenditure occurs, and is paid for by users, and avoids the need for a recalculation or adjustment of terminal tariffs at the end of the regulatory period on this account. In addition, it reduces any perverse incentives associated with granting DBCT Management an up front lump sum of capital for assets not in existence. It also allows for an open and transparent process whereby users and other stakeholders may make submissions to the Authority regarding the appropriateness of those costs and expansions, a key concern of the DBCT User Group.

In its June 2003 submission, DBCT Management indicated that it is likely that an extensive expansion of the terminal will be required during this period. DBCT Management indicated that an accurate estimation of likely capital expansion cannot be currently provided, submitting that the better approach is to seek approval for capital expansion costs to be included in the RAB when incurred and revisit TIC rates at that time to ensure a reasonable return on the then RAB is provided (DBCT Management, sub. no. 11: 7).

Given the absence of a forward capital expenditure program, that a capacity expansion would result in a recalculation of the tariffs (the TIC) and that the undertaking of capital expenditure is a review trigger for reference tariffs, the Authority believes a requirement for DBCT Management to submit to the Authority a draft amending access undertaking, under s.142 of the QCA Act, outlining the costs associated with the impending capacity expansion, is the appropriate process.

The Authority would publish the draft amending access undertaking and call for public submissions. The Authority would assess the submissions and undertaking with a view to approving or rejecting the draft amending access undertaking. Where the expansion costs are accepted, the Authority will roll the costs into the RAB and recalculate the terminal tariffs to apply. Where the application is rejected, the Authority would request DBCT Management to amend its draft amending access undertaking and resubmit to the Authority for approval. At any time in such a process, access seekers could lodge a dispute with the Authority and the Authority would make a determination. It is anticipated that the consultation/approval process would be able to be expeditiously handled given the limited nature of the draft amending undertaking and the likelihood that its submission would have user support.

In order for the undertaking to be approved, it should be amended:

- so that clauses 10.4 and 10.5 (a) of the draft access undertaking are deleted;
- to include an obligation on DBCT Management to submit a draft amending access undertaking to the Authority stating its claim for expansion costs to be included in its RAB each time a capacity expansion is required; and
- to provide that the TIC will be recalculated upon the Authority's approval of a capacity expansion.

4.5 Changes to capacity entitlements

Capacity transfers facilitate the better use of existing infrastructure to the extent that such arrangements may defer capacity expansions. Moreover, existing users can gain flexibility to better manage risk if, for example, they are unable to use all the capacity they have contracted from DBCT Management.

The Authority understands that existing user agreements provide users, after consent from DBCT Management, with the ability to assign all or part of their rights and entitlements, such as all or part of their annual contract tonnage and all or part of their annual limit. Any transfers are facilitated by a deed of covenant entered into by DBCT Management and the assignee. The assignee is required to satisfy DBCT Management that it has the financial and other relevant resources to enable it to discharge the obligations of the customer. When the assignment takes effect, the customer is discharged from all terms, conditions and obligations of its access agreement.

Changes to capacity entitlements including increases in contracted tonnages are addressed in Schedule B of the draft access undertaking. The relevant Schedule B principles are: Principle 7 – Changes to Annual Contract Tonnage; and Principle 11 – Assignment. These principles are addressed in Chapter 6 of this Decision.

5. OPERATIONAL ISSUES

Summary

At DBCT, the Terminal Regulations are the key operational rules that govern the procedures for receiving, handling and loading coal. The Authority has assessed these arrangements with a view to ensuring they do not serve to hinder access or discriminate between users. On the basis of this assessment, the Authority is not requiring amendments to the Terminal Regulations but it is requiring amendments to the undertaking in relation to the processes associated with amending the Terminal Regulations.

Another key element of an access regime is reporting of the access provider's performance in terms of service quality and compliance with the undertaking. The Authority has proposed a range of indicators on which DBCT Management must publicly report in order to provide a more transparent access regime. The Authority requires that DBCT Management also report certain information to the Authority in the form of regulatory accounts to allow the Authority to monitor elements of the regulatory regime.

5.1 Background

There are a range of operational matters that are relevant to the terms and conditions of access to the terminal and are part of the access regime. These include rules governing the day-to-day operation of the terminal relating to, for instance, the scheduling of trains and ships, cargo assembly and the stockpiling of coal. The terminal operations are also subject to a range of environmental and safety regulations which, if applied inappropriately, may potentially create access issues.

This chapter provides a background on the operational, environmental and safety issues at the terminal (5.2), addresses access issues raised by the Terminal Regulations (5.3), addresses other environmental and safety regulations/standards applicable to the terminal (5.4), and any reporting to be undertaken by DBCT Management (5.5).

5.2 Operational arrangements

The declaration for the purposes of third party access is of the coal handling service at the terminal by the terminal operator. Even though Holdings is the terminal owner, the provision of the coal handling service is divided between those services that are provided by DBCT Management and those provided by the Operator. While capacity is provided by, and access agreements are with, DBCT Management, the coal handling service is provided on a day-to-day basis by the Operator under the terms of the OMC.

Given the significance of these operational arrangements governing access to the terminal, the Authority needs to be satisfied that the proposed arrangements do not create a barrier to entry or allow for discrimination between users, whether between existing and new users, or between users with and without a shareholding interest in the Operator.

A relevant consideration is that DBCT Management is not a vertically integrated access provider and, *a priori*, is unlikely to have an incentive to use the non-price conditions of access to the terminal in a manner that prevents or hinders access or which discriminates between users. However, this does not preclude the potential for discrimination between users, as the day to day service is provided by the Operator and not all users have a shareholding interest in the Operator.

The terminal's operational arrangements are largely set out in the Terminal Regulations, the current version of which is included as Schedule E of the draft access undertaking. The access

provider, Operator and access holders have various obligations under the Terminal Regulations, access undertaking and contractual requirements. For example, the OMC gives the Operator the right to develop Terminal Regulations. Similarly, for access holders, the principles for inclusion in a standard access agreement require an access holder to comply with the Terminal Regulations. In addition, there are a number of laws which also impose a range of environmental and safety requirements which are also the subject of contractual commitments. The scope of these arrangements is set out below.

Draft Access Undertaking

The draft access undertaking defines the various access rights and obligations of the access provider and access seekers/holders in terms of the Terminal Regulations as they are amended from time to time, not in terms of the Terminal Regulations as set out in Schedule E (which are, the Terminal Regulations that are in force on the commencement date).

While the draft access undertaking itself does not set out a process to amend the Terminal Regulations, one of the principles proposed to be included in a standard access agreement (Schedule B, clause 15) indicates that it is DBCT Management's intention that the access holder committee will provide a consultative forum on any proposed changes to the Terminal Regulations. The Terminal Regulations themselves are drafted by the Operator and consented to by DBCT Management, in accordance with the OMC (discussed below).

The draft access undertaking provides for DBCT Management to comply with, and give effect to, the undertaking and any applicable laws in relation to the provision of third party access to the coal handling service (DAU, Vol. 1: clause 3). Schedule G of the draft access undertaking details the scope of the coal handling service and DBCT Management's obligations in relation to train scheduling, train unloading, coal storing and vessel berthing and loading. DBCT Management's provision of these services is subject to, among other things, the Terminal Regulations.

The draft access undertaking also provides for an access seeker to request from DBCT Management a copy of the current Terminal Regulations (DAU, Vol. 1: clause 5.2(a)), and that DBCT Management will have regard to, among other things, the Terminal Regulations when determining the terminal's optimal throughput capacity (DAU, Vol. 1: clause 10.1(a)).

Operation and Maintenance Contract

The OMC between DBCT Management and the Operator allocates responsibility to the Operator for the day-to-day operation and maintenance of the terminal. It specifies that the Operator must undertake the performance of services in accordance with an agreed specification and good operating and maintenance practice. Further, the Operator must ensure that the terminal is operated in a reliable and efficient manner.

In terms of specific requirements, the Operator must perform its obligations under the OMC in accordance with applicable law and Authority approvals, the applicable annual operation, maintenance and capital plan and budget, and the Terminal Procedures.

Further, the OMC requires that the annual operation, maintenance and capital plan and budget developed by the Operator in consultation with DBCT Management must address such matters as the maintenance program, major replacement, the capital program and the budget.

The Terminal Procedures, also developed by the Operator, address procedures and standards for operation and maintenance, health and safety, environmental management, emergency response, site access, quality management (consistent with ISO9002) and purchasing policy. DBCT

Management audits the Terminal Procedures annually and, following consultation with the Operator, notifies the Operator of any required amendments.

The OMC provides that the Operator may, with the consent of DBCT Management, from time to time, establish Terminal Regulations for the convenient operation and maintenance of the terminal. Further, the Operator may require that a user observe the provisions of such Terminal Regulations as a condition of access to the terminal. DBCT Management commits to include, in its user agreements, an agreement by users that the provision of services by the Operator will be subject to any applicable Terminal Regulations.

Access (User) Agreements

User agreements, or access agreements, establish on a contractual basis the access rights and obligations of both DBCT Management and users.

While the draft access undertaking does not include a standard access agreement, Schedule B does include the principles to be included in such an agreement. Further, the draft access undertaking commits DBCT Management to submit a standard access agreement within three months of approval of the undertaking. Among other things, the principles state that access will be provided subject to, and that access holders must comply with, the Terminal Regulations. More specifically, the principles allow for the: transfer of an access holder's coal from the unloading facility to the stockpile subject to, among other things, the Terminal Regulations and the discretion of the Operator; and an access holder committee to be a consultative forum for any amendments to the Terminal Regulations.

By way of background, the existing user agreements provide that the customer (user) agrees that the Operator may, with the consent of DBCT Management, establish and amend Terminal Regulations for the convenient operation and maintenance of the terminal. The customer must observe Terminal Regulations as a condition of access to the terminal.

The current user agreements provide that DBCT Management must undertake reasonable consultation with customers before consenting to establishing or amending Terminal Regulations. Further, DBCT Management must only consent to Terminal Regulations if it reasonably considers that, as a whole, they operate equitably among customers, having had regard to (among other things) their respective annual contract tonnages.

The customer acknowledges in its agreement that the Terminal Regulations may cover obligations on it to: arrange scheduling of railing in and shipment of coal in accordance with Terminal Regulations; ensure its coal is delivered, and vessels arrive so as to meet those schedules, but not so as to exceed its stockpiling entitlement and other reasonable operational requirements of the terminal; and be cooperative with the Operator and other customers in relation to scheduling.

Terminal Regulations

In accordance with the provisions of the OMC and user agreements, Terminal Regulations have been developed by the Operator with which all users must comply. The Terminal Regulations are a comprehensive set of arrangements that cover the full range of operational matters applying to the handling of coal at the terminal, from receipt of coal by rail to shiploading. For example:

- approved quality plans which detail special product handling requirements or specify stockpile nominations;

- scheduling of rail unloading and ship loading, including requirements on customers to advise the Operator of railing and shipping plans. The advice must be provided annually (by month), monthly (by week for the next 3 months) and weekly (for the next 12 days). For its part, the Operator must work with QR and customers to develop weekly and daily railing plans and, after receiving customer's vessel nominations, advise customers of vessel loading schedules;
- principles for accepting coal by rail (including allocating priority to train unloading over vessel outloading). It also includes obligations relating to: the loading of coal at a mine, such as notifying of consignment details; stockpiling and direct loading, including the Operator's right to establish stockpile stacking plans for each train consignment or to direct load onto a vessel; and consequences of coal not meeting the agreed specification - this is defined with respect to technical specifications, such as the moisture content of coal;
- storage of coal, including allocation of stockpile space; criteria for the usage of cargo assembly stockpiles, including an obligation on the Operator to consider applications in the sequence they are received; the ability to request special product handling, and how these services are to be charged; and obligations with respect to blending of coal, such as specifying at which points in the coal handling service blending may occur, and limits on the Operator's obligation to blend (ie. not from more than two stockpiles at a time or in a ratio greater than 60/40 where this causes material delays to other customers);
- shipping requirements, such as technical specifications for vessels loading at the terminal, terminal limitations and principles regarding the priority of vessels to be berthed and loaded. For example, vessels must be loaded in their order of arrival, subject to certain caveats such as the vessel being ready for loading and the vessel consignment being available;
- allocation of risk and liability in respect of coal at the terminal, indemnities by the customer for loss or damage caused by breach of a Terminal Regulation or otherwise negligent or wrongful act. It also acknowledges that trains and vessels do not always operate as scheduled and establishes that PCQ, the lessee, the Operator and the customer will not be liable for inaccurate scheduling information; and
- the right for the Operator to levy additional charges in relation to berthing of vessels, such as shipper's agent fees, wharfage and line handling charges.

The Terminal Regulations set out certain circumstances in which the Operator has discretion to depart from the Terminal Regulations. However, these discretions are typically qualified by a requirement to have regard to equity among users, and the efficiency of the coal transport chain.

For example, with respect to scheduling, the Operator may make minor departures from the Terminal Regulations if it increases the efficiency of operations of the terminal and this subsequently advantages one or more customers without significantly disadvantaging another (Terminal Regulations, clause 3.10).

In determining the priority of vessels, the Terminal Regulations state that vessels must be berthed and loaded in their order of arrival, except to the extent that the Operator determines other considerations override this priority. These include, among other factors, equity among all customers, and the optimum operation and efficiency of the coal transport chain (Terminal Regulations, clause 6).

The Operator has the ability in certain circumstances to reject coal, or to impose additional charges for material additional costs incurred (Terminal Regulations, clause 4.4).

While the discretions of the Operator allowed in the Terminal Regulations include caveats such as those outlined above with respect to particular services, there is no overriding obligation in the Terminal Regulations themselves, or in the standard access agreement principles in Schedule B, to not discriminate between users.

There appears to be no clear contractual obligation on the Operator or DBCT Management to comply with the Terminal Regulations, merely an obligation for user compliance although the undertaking commits DBCT Management to provide access to the coal handling service subject to, among other things, the Terminal Regulations.

Health, Safety and Environmental Laws and Regulations

Both DBCT Management and the Operator have obligations, under the PSA and OMC, to comply with any relevant laws and Authority approvals applicable to the terminal. The PSA and OMC also include particular obligations regarding environmental management and workplace health and safety at the terminal.

Environmental Regulation

DBCT Management has an overall obligation to minimise any adverse impact of the operations of the terminal on both the environment and local residents. Further, DBCT Management must comply with, among other things, the environmental strategy for the terminal, applicable environmental laws and the *Port of Hay Point Environmental Management Plan*.

DBCT Management also has an obligation under the PSA to develop an environmental strategy, for Holding's approval, which addresses various environmental issues surrounding the operation of the terminal, including environmental objectives and performance targets, proposals for noise and pollution exposure levels, environmental audits and arrangements for dust and noise suppression.

In turn, the Operator has certain obligations regarding compliance with environmental regulation under the OMC. This requires the Operator to comply with all laws imposing or containing requirements relating to the environment. Further, the Operator must obtain and comply with all licences and approvals required by the *Environmental Protection Act (QLD) 1994* (the EPA Act) for the operation of the terminal, and keep all licences and approvals current. However, DBCT Management is responsible for obtaining all environmental authority approvals necessary for the construction of any enhancement.

Workplace Health and Safety Regulation

DBCT Management has obligations under the terms of the PSA to comply with the reasonable directions of Holdings or any relevant government agency necessary for the safety of all users and occupiers of the port area.

The Operator is responsible under the terms of the OMC to comply with relevant workplace health and safety legislation. The Operator is deemed to be the 'Principal Contractor' pursuant to s.13 of the *Workplace Health and Safety Act 1995* (the WH&S Act). In broad terms, the Principal Contractor is responsible for ensuring: the orderly conduct of all work; that persons at the workplace are not exposed to various risks; that workplace activities are safe and without risk of injury or illness to members of the public at or near the workplace; and the provision of safeguards and safety measures (s.31(1) of the WH&S Act).

The Terminal Regulations include a requirement for customers to comply with site conditions and procedures issued by the Operator, and all lawful directions of the Operator in respect of

being within the terminal. The Terminal Regulations also require that vessels berthing and loading at the terminal meet all the requirements of the Australian Maritime Safety Authority (AMSA), and be able to comply with the berthing and unloading requirements in the Terminal Regulations safely, in accordance with the IMO Loading Code.¹⁴

5.3 Terminal Regulations

DBCT Management's Position

The current Terminal Regulations are included as a schedule to the draft access undertaking (Schedule E). They are defined in clause 2.1 as the regulations in force from time to time governing procedures for operating the terminal and the provision of the coal handling service. The PSA requires the undertaking to include the Terminal Regulations developed from time to time.

DBCT Management proposes a principle for inclusion in the standard access agreement that access is provided subject to the Terminal Regulations, and that access holders must comply with the Terminal Regulations as in force from time to time (DAU, Vol. 1: Schedule B, clause 2). Further, one of the purposes of the proposed access holder committee is to provide a forum for consultation between all participants on matters relating to any proposed changes to the Terminal Regulations (DAU, Vol. 1: Schedule B, clause 15).

These arrangements are underpinned by the OMC which gives the Operator the right to establish Terminal Regulations, with the consent of DBCT Management.

Stakeholder Comments

Stakeholders generally supported the existing operating arrangements at the terminal. For instance, the DBCT User Group was of the view that the Terminal Regulations do not constitute a barrier to entry, and added that:

In general, the Terminal Regulations are considered by all users to be appropriate and fair. They have been developed, and continue to be refined, in a spirit of cooperation (DBCT User Group, sub. no. 5: 42).

However, a number of stakeholders did seek greater clarification on the role of the Terminal Regulations within the access undertaking and, in particular, of the process to amend the Terminal Regulations. In this regard, Queensland Treasury stated that the role of the Terminal Regulations, and the ability of the Authority to oversee them, needed to be clarified (Queensland Treasury, sub. no. 8: 2).

The DBCT User Group also considered that the draft access undertaking's treatment of the Terminal Regulations was unclear. While the DBCT User Group considered that it was desirable in principle to have the Terminal Regulations as an adjunct to the undertaking, they considered that this should not serve as a constraint on the efficient operation of the terminal, nor on the ability of the Operator to seek ways to improve efficiency. The DBCT User Group proposed that the Terminal Regulations not be prescribed in detail in the undertaking or an access agreement.

The undertaking should provide for the Operator to formulate Terminal Regulations, which become binding on all stakeholders when consented to by DBCT Management, after consultation with users. Moreover, either the undertaking or the standard access agreement

¹⁴ The IMO Loading Code is the *Code of Practice for the Safe Loading and Unloading of Bulk Carriers* promulgated by the International Maritime Organisation pursuant to IMO Resolution A.862(2), as amended or replaced from time to time.

should clarify that DBCT Management, as well as the Operator and users, are obliged to comply with Terminal Regulations (to the extent that they relate to each of them) (DBCT User Group, sub. no. 5: 42-43, 197).

Stakeholders supported the provision of a dispute resolution process. DNRME also considered that there should be provisions for dealing with disputes about the application of the Terminal Regulations and processes for amending the Terminal Regulations (DNRME, sub. no. 7: 4). Similarly, the DBCT User Group submitted that, if either an access seeker or DBCT Management has reasonable grounds to believe that the Terminal Regulations act as an impediment to access, they should have the right to bring the matter to the attention of the Authority if a result cannot be achieved from consultations with DBCT Management (DBCT User Group, sub. no. 5: 197).

QR considered that a number of matters in the Terminal Regulations needed to be addressed. In particular, QR highlighted that: the undertaking (including the Terminal Regulations) was silent on the coordination of maintenance of the terminal's facilities and QR's infrastructure at the port; the Terminal Regulations did not distinguish between the rail access provider and the rail operator; and they only addressed the situation where customers wish to coordinate their weekly train ordering through the terminal (the rail operator may coordinate train orders).

QR also provided suggestions on how the Terminal Regulations could be improved in relation to the interface with QR's operations. In particular, it made suggestions regarding customers' obligations to advise of monthly railing and shipping requirements, weekly railing requirements and railing plans and the daily railing schedule, additional principles for the acceptance of coal at the terminal and obligations on the customer following rejection of coal wagons by the port (QR, sub. no. 9: 1-4).

Authority's Analysis

Operational protocols such as the Terminal Regulations are an important element in the access regime as they establish key parameters within which DBCT Management and, in a practical sense, the Operator allows access seekers/holders access to the declared service. Moreover, as compliance with the Terminal Regulations is a condition of access, the potential exists for them to be applied in a discriminatory manner, thus forming a barrier to entry to the declared service.

The Authority believes that the status of the Terminal Regulations in the draft access undertaking is unclear. While they form a schedule to the draft access undertaking submitted for the Authority's approval, the definition of Terminal Regulations suggests that they may change during the term of the undertaking. The Authority also understands that the OMC and existing user agreements contemplate the Terminal Regulations changing from time to time. Given this, and it is not beyond doubt, the Authority understands that the Terminal Regulations included in Schedule E do not form part of the undertaking. The Authority believes the status of the Terminal Regulations in the undertaking should be clarified.

The draft access undertaking does not clearly impose an equivalent obligation on the access provider and the access holder to comply with the Terminal Regulations that are in force from time to time. At the least, these obligations are not balanced. In particular, access holders must comply with the Terminal Regulations under the terms of their access agreement (Schedule B); while DBCT Management's obligation to comply is expressed indirectly through the definition of the coal handling service provided (Schedule G). The Authority considers that the obligation to comply with the Terminal Regulations should clearly apply to both the access provider and access holder.

In determining how the Terminal Regulations should be treated under the access regime, the key issue to consider is the trade-off between providing certainty to all parties and flexibility.

Stakeholders have argued the need for a degree of flexibility in the operation of the Terminal Regulations, as this provides an avenue for improving the efficiency of operating the terminal. Including the current Terminal Regulations (Schedule E) in the undertaking may reduce flexibility as this would require any subsequent changes to be approved by the Authority through a draft amending undertaking process. This approach may be too inflexible, unduly constraining terminal operations and potentially reducing terminal efficiency.

Conversely, including the Terminal Regulations in the undertaking provides all parties with greater certainty about the applicable conditions of access. Moreover, it would provide DBCT Management and users with greater certainty about how a potential access dispute about these conditions of access would be resolved. This is because the Authority may not make an access determination that is inconsistent with an approved access undertaking (s.119 of the QCA Act).

On balance, the Authority considers that the best approach would be for the undertaking to retain sufficient flexibility to allow the Terminal Regulations to be amended from time to time without having to be approved by the Authority via a draft amending undertaking. Although it is not clear, the Authority understands that this is the effect of the current definition of the Terminal Regulations. However, to remove any doubt, the Authority believes that Schedule E should be deleted from the undertaking. The Authority notes that including Schedule E in the undertaking may be confusing as the Terminal Regulations may change during the term. Moreover, access seekers will not be disadvantaged by their removal from the undertaking as the Terminal Regulations form part of the preliminary information provided to access seekers (clause 5.2).

Further, in order to provide greater clarity and certainty, the obligation on DBCT Management to comply with the Terminal Regulations in force from time to time should be more explicitly stated in the undertaking. However, it is important to have adequate protections in place to ensure that the Terminal Regulations are not applied in a discriminatory manner or in a manner that prevents or hinders access. It would also potentially be of concern if DBCT Management could unilaterally change the Terminal Regulations without prior consultation or any recourse to dispute resolution.

To address these issues, the Authority believes that the undertaking should include a framework within which the Terminal Regulations would operate, encompassing an obligation to consult on proposed changes to the Terminal Regulations and the right to dispute proposed changes. The elements of this framework to be included in the undertaking should include:

- an explicit obligation on DBCT Management to comply with, and ensure that the Operator complies with, the Terminal Regulations in force from time to time;
- an obligation on DBCT Management to not implement or consent to a proposed amendment to the Terminal Regulations without reasonable consultation with access holders and access seekers;
- a right to dispute proposed changes to the Terminal Regulations – under the dispute resolution provisions of the undertaking for an access seeker and under the dispute resolution provisions of an access agreement for an access holder. DBCT Management must not implement a proposed amendment to the Terminal Regulations until the outcome of any dispute has been determined;
- an obligation on DBCT Management to notify the Authority, current access seekers and access holders of amended Terminal Regulations and to provide a copy of the amended Terminal Regulations to them; and

- an obligation on DBCT Management to use its best endeavours to ensure that the Operator applies the Terminal Regulations in a manner that does not prevent or hinder a user's access to the terminal; and
- acknowledgement by DBCT Management that a failure to comply with the above obligation will amount to conduct by DBCT Management which itself constitutes prevention or hindering of a user's access to the terminal for the purpose of ss.104 and 125 of the QCA Act.

In reaching this conclusion, the Authority has taken into consideration the fact that existing users have generally been satisfied with the way the Terminal Regulations have worked, believing that they are both appropriate and fair and do not constitute a barrier to entry.

The Authority understands that both DBCT Management and existing users are satisfied with an arrangement which provides for greater flexibility, albeit at the expense of greater certainty. Moreover, given these stakeholders' views on the current operation of the Terminal Regulations, the Authority has not proposed any amendments to the current Terminal Regulations.

Rather, the Authority's approach focuses on any future changes to them. That is, while DBCT Management has the discretion to alter them without Authority approval, it must only do so in consultation with current and potential users, who will have recourse to dispute resolution if they consider the proposed changes unacceptable.

As noted above, the Authority considers that one oversight in the current arrangements is that the obligation to comply with the Terminal Regulations appears to lack balance. The Authority believes that the undertaking should clearly state that DBCT Management must comply with, and ensure the Operator complies with, the Terminal Regulations in force from time to time. The Authority recognises that it is the Operator who is responsible, from a practical perspective, for managing the terminal in accordance with the Terminal Regulations. As such, it should be incumbent upon DBCT Management to ensure that the Operator complies with the Terminal Regulations in order for DBCT Management to comply with the approved access undertaking.

Users are obliged to comply with the Terminal Regulations as a condition of access under access agreements (this is expressed in the undertaking in the Schedule B principle that access holders must comply with the Terminal Regulations as in force from time to time). Therefore, if a user did not comply with the Terminal Regulations it would be in breach of its access agreement. It is also clear from Schedule G that the coal handling service that a user is entitled to receive is subject to the Terminal Regulations.

By expressing the obligation to comply with the Terminal Regulations in force 'from time to time', stakeholders will retain greater flexibility than if the Terminal Regulations submitted as Schedule E of the draft access undertaking were included in the approved undertaking. That is, changes could be made to them without the responsible person for the undertaking submitting a draft amending undertaking for the Authority's approval.

This will provide flexibility in allowing the various stakeholders to be able to amend the Terminal Regulations if so desired, following consultation, and with recourse to dispute resolution if there is disagreement over the proposed changes. It would also mean that it would be a breach of the undertaking for DBCT Management to not comply with the Terminal Regulations, or to fail to ensure that the Operator complies with them.

The Act places an obligation on the access provider or user (or related body corporate) to not engage in conduct for the purpose of preventing or hindering a user's access to the declared service under an access agreement or access determination (ss.104, 125). This provides some

protection for users as, if DBCT Management applies the Terminal Regulations in a discriminatory manner, then DBCT Management, as access provider, would be subject to action under ss.104 or 125. However, the Authority understands that, if the Operator applies the Terminal Regulations in a discriminatory manner, no action may be available under ss.104 and 125 because these provisions only relate to the conduct of the access provider (ie. DBCT Management).

To address this, the Authority considers it is necessary to link the conduct of the Operator to that of DBCT Management in the undertaking. Accordingly, the undertaking should state that DBCT Management will use its best endeavours to ensure that the Operator applies the Terminal Regulations in a manner that does not prevent or hinder a user's access to the terminal. Further, it should include acknowledgement by DBCT Management that a failure to comply with this obligation will amount to conduct by DBCT Management which itself constitutes preventing or hindering access for the purpose of ss.104 and 125 of the QCA Act.

In terms of a process to amend the Terminal Regulations from time to time, the Authority believes that the undertaking should include an obligation on DBCT Management to consult on changes to the Terminal Regulations. It is likely that interested parties other than current access holders or access seekers would wish to be consulted on proposed changes to the Terminal Regulations. This might include future access seekers, QR or any other above rail train operator. In this regard, the Authority notes QR's comments on the content of the Terminal Regulations (QR, sub. no. 9).

However, it may pose potential difficulties for DBCT Management to be obliged to consult very widely, not least the question of how to identify all interested parties, such as potential future access seekers. Given this, the Authority believes that the obligation to consult on proposed changes to the Terminal Regulations should be limited to current access holders and access seekers. Although the Authority recognises the legitimate interests of other stakeholders, such as QR, in being consulted on proposed changes to the Terminal Regulations, limiting DBCT Management's obligation to consult on changes to access seekers and access holders is consistent with the legislative framework governing third party access. In particular, other interested parties beyond access holders and access seekers would not have the ability to notify a dispute over a proposed change to the Terminal Regulations. Of course, DBCT Management is free to consult with whoever it wishes and, in this regard, the Authority would strongly support the inclusion of other relevant stakeholders, such as rail operators, in any consultation process.

In addition to consulting on proposed changes, another key element in this framework is the ability to dispute proposed changes. The Authority believes that the undertaking should provide that, if any access seeker disagrees with a proposed change to the Terminal Regulations, it may refer the matter for dispute resolution in accordance with the process in clause 5.8 of the undertaking. If an access holder disputes a proposed change, it may refer this to dispute under the terms of its access agreement (the Authority has proposed principles in Schedule B to facilitate this – see Chapter 6 of this Decision).

In summary, the Authority considers that the Terminal Regulations contain important conditions of access to the terminal and, therefore, the undertaking needs to provide greater clarity about their status and how they operate. The Authority's proposed approach (ie. not including them in the undertaking, but making changes subject to consultation and dispute) provides greater flexibility than if the terms of the Terminal Regulations were included in the undertaking. Such inclusion would require a draft amending undertaking be submitted before any changes could be made to the regulations. However, under the Authority's approach, DBCT Management loses the benefit of the 'safe harbour' provisions of the QCA Act. The Authority considers that, on balance, its proposed approach best deals with the conflicting goals of flexibility and certainty with respect to the Terminal Regulations. However, the Authority would be willing to consider

in future the alternative approach of including the Terminal Regulations in the undertaking if desired by stakeholders.

In order for the undertaking to be approved, it should be amended as follows:

- **Schedule E should be deleted from the undertaking;**
- **the undertaking should include a framework applying to the Terminal Regulations encompassing:**
 - **an obligation on DBCT Management to comply with, or ensure the Operator complies with, the Terminal Regulations in force from time to time;**
 - **an obligation on DBCT Management to undertake reasonable consultation with access seekers and access holders prior to implementing or consenting to any proposed changes to the Terminal Regulations;**
 - **ability for access seekers and access holders to notify a dispute about any proposed changes to Terminal Regulations under clause 5.8 of the undertaking or under the dispute resolution provisions of an access agreement, respectively. DBCT Management must not implement a proposed amendment to the Terminal Regulations until the outcome of any dispute has been determined;**
 - **an obligation on DBCT Management to notify the Authority and current access seekers and access holders of amended Terminal Regulations and to provide a copy of the amended Terminal Regulations to them;**
 - **an obligation on DBCT Management to use its best endeavours to ensure the Operator applies the Terminal Regulations in a manner that does not prevent or hinder a user's access to the Terminal; and**
 - **and acknowledgement by DBCT Management that a failure to comply with the above obligation will amount to conduct which itself constitutes prevention or hindering of a user's access to the Terminal for the purpose of ss.104 and 125 of the QCA Act.**

5.4 Environmental, Safety Regulation and Operational Standards

As outlined in section 5.2, the terminal must operate in accordance with the applicable environmental and safety laws and the directions of the relevant authorities.

DBCT Management's Position

The draft access undertaking does not specify any particular environmental or safety regulation standards that are to apply at the terminal. However, it does state that DBCT Management will from time to time during the term undertake capacity expansions as is necessary to, among other things, ensure that the terminal complies with world's best practice in respect of quality standards for such facilities, environmental best practice and applicable environmental standards (DAU, Vol. 1: clause 10.2(b)).

This is complemented by the OMC, which requires the Operator to comply with all environmental laws and obligations under the WH&S Act. Also relevant are the Terminal Regulations, which require vessel compliance with, among other things, AMSA requirements and the IMO Loading Code. The Operator also has the right under the Terminal Regulations to reject coal that does not comply with the agreed specification if it would incur material delays as a result of attempting to unload, stockpile and load that coal (see Section 5.2 above).

Stakeholder Comments

The DBCT User Group submitted that no material access issues about environmental and safety issues were apparent. It noted that the standard for compliance with environmental and safety matters should be the standard prescribed by law or relevant Australian standards, not necessarily world's best practice, which may be unnecessarily expensive (DBCT User Group sub. no. 5: 43).

Authority's Analysis

Access issues are most likely to arise in the application of environmental and safety laws when the access provider has discretion in setting and/or enforcing standards. This is particularly an issue where the access provider has a related business potentially competing with the access seeker/holder, as in the case of QR.

This does not appear to be the case at the terminal as DBCT Management does not have any incentive to prevent or hinder access on these grounds. However, the Operator, owned by some of the users, may potentially have such an incentive in applying any discretion it may have under the Terminal Regulations. However, the Authority believes there are adequate safeguards with respect to the Operator discriminating between users given the Authority's proposed amendment with respect to the operation of the Terminal Regulations.

Users have raised a concern that clause 10.2(b), requiring DBCT Management to comply with world's best practice in environmental and safety matters, may be unnecessarily expensive. The Authority understands this is a requirement of the PSA. In its approach to the undertaking, the Authority has sought to ensure that the terms of the undertaking are not inconsistent with the terms of the PSA. Therefore, retaining this reference to world's best practice in the undertaking will not oblige DBCT Management to meet a higher standard than is currently required by the PSA and, as such, the Authority considers it should be retained in the undertaking.

5.5 Reporting by DBCT Management

A key element of a regulatory regime is reporting on aspects of the access provider's performance. This includes the provision of regulatory accounts to allow the regulator to monitor matters such as revenue and capital expenditure. It also includes reporting in relation to the quality of service provided by the access provider and its performance in complying with its undertaking.

Regulatory Accounts

DBCT Management's Position

The draft access undertaking does not include any provisions regarding the provision of regulatory accounts to the QCA.

Stakeholder Comments

There are no stakeholder comments on this.

Authority's Analysis

To enable the QCA to assess the level of annual capital charges and operating costs, and to roll forward the RAB, DBCT Management will be required to report to the Authority on an annual basis certain information relating to:

- the opening RAB value for the relevant year — by asset class/type consistent with the asset class/types used to determine the initial capital base;
- the amount of indexation of the regulated asset base calculated for the relevant year — by asset class/type;
- the amount of depreciation calculated for the relevant year — by asset class/type;
- DBCT Management's corporate overheads for the relevant year;
- the value of any new assets (capital expenditure) acquired during the relevant year — by asset class/type. Capital Expenditure is to be identified as either replacement or expansionary capital expenditure, and is to include information relating to the estimated life of each new asset;
- asset disposals for the relevant year — by asset class/type;
- the actual operating and maintenance costs incurred for the relevant year — in a format to be determined by the Authority. This should separately identify any minor capital; and
- an explanation for any significant variance in actual capital expenditure and/or operating and maintenance costs, and forecast capital expenditure and/or operating and maintenance costs for the relevant year.

This report will be provided to the Authority within four (4) months of the end of the relevant year.

Reporting of DBCT Management's Performance

DBCT Management's Position

The draft access undertaking does not cover matters relating to reporting of DBCT Management's performance, either in terms of compliance with its undertaking or the terminal's operation. DBCT Management does not propose to report on the terminal's performance in the undertaking.

Stakeholder Comments

Stakeholders were in favour of DBCT Management reporting on its performance and compliance with its undertaking. However, PCQ questioned the benefit of making such information public (PCQ, sub. no. 10: 1). DBCT Management also agreed to monitor compliance with the undertaking and work with stakeholders to ensure efficient operation of the terminal, including sharing information under appropriate safeguards. However, it also questioned the benefit of public provision of such information, noting it may be commercially

detrimental to the terminal, the users and other stakeholders (DBCT Management, sub. no. 11: 3). The DBCT User Group commented that, while a level of public reporting is necessary to establish the credibility and transparency of the undertaking process, it is more important that DBCT Management reports to stakeholders (DBCT User Group, sub. no. 5: 18).

QR considered that matters to be included in public reporting would include technical performance and indicators relating to safety and negotiating access to the terminal, for example, timeframes for handling access requests (QR, sub. no. 9: 1).

Authority's Analysis

Performance reporting normally forms an important part of the regulatory environment, benefiting a diverse range of stakeholders by engendering confidence in an access regime. In particular, it serves to assure stakeholders of the integrity of the undertaking and the quality of service provided. Regular flows of relevant information increases the transparency of a regulated entity's operations as it demonstrates its compliance with its access obligations, and provides information about, and incentives to improve, service quality. Public reporting provides access holders and access seekers with valuable information with which to make informed decisions about cost effectiveness, assisting access negotiations.

Consistent with this approach, QR is obliged to report on a range of indicators relating to its access obligations and its network performance as part of its access undertaking. In this regard, the Authority also notes that both the Gladstone Port Authority and Port Waratah Coal Services Terminal, neither of which are subject to a regulatory regime, publicly report on the technical and operational aspects of their respective terminal operations.

Given this, the Authority believes the undertaking should include an obligation on DBCT Management to publicly report on its performance, both in terms of its compliance with its undertaking and the operational and service quality performance of the terminal.

The undertaking encompasses a wide range of matters including pricing, service quality and the negotiation framework, which may potentially be publicly reported on through either a compliance or service performance indicator. Although stakeholders generally did not consider that such information needed to be made public, the Authority believes that, to be of benefit to future access seekers, reporting would need to be published.

The Authority considers that there are certain key stages in access negotiations that warrant being reported on. For instance, DBCT Management should report on the timeliness of providing an Indicative Access Proposal, the length of the negotiation process and the frequency of access disputes. The Authority has recommended performance indicators be reported in relation to each of these. In addition, in order to effectively monitor the operation of the undertaking, the undertaking should allow the Authority to request provision of certain additional performance measures.

Service quality performance indicators may cover a range of matters relating to terminal performance. In requiring public reporting on performance, the Authority appreciates that not all aspects of the terminal's performance will be in control of DBCT Management or the terminal operator. For example, terminal operations will be affected by the performance of the associated rail network and the size composition of the vessels calling at the terminal. Consequently, the performance indicators may identify trends in performance but they will not necessarily identify the cause of any change in terminal performance. Moreover, the indicators may also reflect factors which are outside the control of the terminal operator. Nevertheless, this should not preclude DBCT Management from reporting on service performance indicators as it will provide insights into terminal performance within the coal supply chain.

The Authority also believes that public reporting of terminal performance should not seek to place an onerous compliance burden on DBCT Management and should seek to report on those indicators that would be of most benefit to stakeholders. Consequently, the Authority has proposed indicators that are either currently reported on internally or based on existing information sources.

Reflecting this, the Authority proposes the following performance indicators for the terminal as set out in Table 5.1.

Table 5.1: Summary of Proposed DBCT Key Performance Indicators

<i>Performance Dimension</i>	<i>Proposed KPI</i>	<i>Definition</i>
1. Train Handling	Tonnes/hour of train handling	The rate at which trains discharge their tonnes expressed in tonnes per gross train-hour. Gross hour means the total time in terminal (departure time minus arrival time).
2. Train Scheduling	% of on time train arrivals (arriving within 1 hour of scheduled arrival time)	The percentage of trains that arrive on time. This KPI would be measured as the proportion of trains that arrive within a pre-defined interval of their scheduled arrival time.
3. Installed Capacity	Gross operating capacity (GOC)	GOC is the capacity that would be realised if all operations went according to plan; that is, the throughput under optimal conditions, but making a realistic allowance for scheduled equipment maintenance, lost time at the start and end of each train load, and the distribution of workload between equipment of different nameplate capacity.
4. Capacity Utilisation	Capacity Utilisation Ratio	Measured as the ratio of tonnes of coal throughput to GOC.
5. Terminal Operational Effectiveness	Ratio of net operating capacity (NOC) to gross operating capacity (GOC)	The extent to which the terminal is able in practice to deliver the gross operating capacity — expressed as the ratio of actual (net) operating capacity to the capacity that would be available if all went according to plan (gross operating capacity).
6. Stockyard Management	Terminal area available for storage (m ²)	The average area available for coal storage measured in m ² .
7. Stockyard Utilisation	Stockyard Utilisation Ratio	Measured as the ratio of tonnes kept in stockpile to stockpile capacity.
8. Shiploading Performance	Tonnes loaded per ship-hour at berth segregated by category of vessel	The rate at which ships are loaded expressed in tonnes per gross ship-hour at berth. Gross time at berth is measured as departure time minus arrival time.
9. Ship Waiting Time	Average ship delay in port	The average ship delay would be measured as the average time between first arrival in port and time of coming to berth.

- Train Handling KPI — *tonnes/hour of coal discharged per hour*. The Authority understands that data on tonnes discharged from rail is readily available, as is time of arrival and departure of trains. Moreover, the proposed KPI internalises possible

variations in the average payload per train. The Authority considers the appropriate measure for time in terminal should be gross time in terminal (i.e. departure time minus arrival time);

- Train Scheduling KPI — *percentage of trains arriving within 1 hour of scheduled arrival time*. The Authority considers that irregularity and deviations from schedule reduce terminal efficiency and may also increase linehaul and off-site storage costs. The Authority understands that the terminal operator collects data on a weekly basis in terms of trains ordered, scheduled and received;
- Installed Capacity KPI — *gross operating capacity (GOC)*. GOC describes capacity of the terminal to efficiently handle the actual and reasonably anticipated future growth of demand for the use of the terminal by access holders and access seekers. GOC is not the nameplate capacity of installed machinery but rather, an estimate of the capacity that could be achieved if all systems operated as planned. Determining appropriate terminal capacity is a central concern to the owners of DBCT and is also a critical driver of coal transportation and handling costs. As a result, the Authority considers that GOC should be included as one of the performance indicators. The Authority understands that reporting this indicator should be straight forward as the Master Plan 2004 presents a simple formula for estimating GOC which is transparent and driven by simple parameters;
- Capacity Utilisation KPI — *ratio of tonnes of coal throughput to GOC*. This KPI aims to monitor the extent to which installed capacity is utilised.
- Operational Effectiveness KPI — *ratio of net operating capacity (NOC) to gross operating capacity (GOC)*. The Authority considers that this indicator will provide stakeholders with information about the extent to which contracted capacity is delivered. NOC is a measure of the realistic minimum capacity of the terminal, taking into account factors that collectively reduce the terminal's overall performance, such as breakdowns. The NOC measure will capture the effect of equipment breakdown as well as other factors reducing effective capacity. The Authority also understands that reporting this indicator should be straight forward as DBCT Management employs this measure as part of its Master Plan.
- Stockyard Management KPI — *terminal area available for storage*. A key concern of users is the amount of coal that can be stored at the terminal. This KPI should be directly and readily measurable;
- Stockyard Utilisation KPI — *stockyard utilisation ratio*. This indicator seeks to measure the utilisation of the stockyard and is measured as the ratio of tonnes kept in stockpile to stockpile capacity.
- Shiploading Performance KPI — *tonnes loaded per ship hour at berth segregated by category of vessel*. The rate at which ships are loaded affects both terminal costs per tonne and the productivity of shipping and hence the costs of sea freight or demurrage. It is therefore appropriate and important that this aspect of terminal performance is monitored. The Authority considers that segregating the measure by ship class would be useful to account for the fact that it can take longer to load larger vessels than small ones. Gross time at berth (departure time minus arrival time) should be the appropriate metric to provide an indicator of impact of terminal performance on ship productivity; and
- Ship Waiting Time KPI — *average time between first arrival in port and time coming to berth*. Ship waiting time affects the costs of the shipping leg, often though not necessarily entirely through demurrage charges. It also serves as an alternative indicator

that the capacity of the terminal is being approached. While not a perfect indicator as ships will slow to save fuel if it is known that there is congestion at the port, this tendency is however limited because of the first-in first-out protocol employed at the port. As a result, the Authority considers that the proposed KPI is a reasonable indicator and serves as a basis for providing reasonable estimates of demurrage costs when required.

The Authority also notes that clauses 10.3(a) (3) and (4) of the draft access undertaking requires DBCT Management to add capacity where necessary to meet the *bona fide* needs of new users or increased volumes for existing users in such a way that there be no increase in demurrage costs or the average net costs across all access holders of transporting coal from mine to port over any three consecutive months. Given the uncertainty about the effectiveness of this clause, yet its importance in facilitating and signalling the need for capacity expansions, the Authority requires DBCT Management to report on the following performance areas:

- demurrage costs; and
- average net transports costs of access holders.

The Authority believes that additional transparency on these two matters will assist in the wider understanding of whether a terminal expansion is justified. However, the Authority is not in a position to establish the detail of how these two indicators should be defined. The Authority would consider any definitions suggested by DBCT Management.

In order for the undertaking to be approved, it must be amended so that:

- **DBCT Management is required to report to the Authority annually within 4 months of the close of the relevant financial year, information relating to:**
 - the opening RAB value for the relevant year — by asset class/type consistent with the asset class/types used to determine the initial capital base;
 - the amount of indexation of the regulated asset base calculated for the relevant year — by asset class/type;
 - the amount of depreciation calculated for the relevant year — by asset class/type;
 - DBCT Management’s corporate overheads for the relevant year;
 - the value of any new assets (capital expenditure) acquired during the relevant year — by asset class/type. Capital Expenditure is to be identified as either replacement or expansionary capital expenditure, and is to include information relating to the estimated life of each new asset;
 - asset disposals for the relevant year — by asset class/type;
 - the actual operating and maintenance costs incurred for the relevant year at a level to be determined by the Authority. This should separately identify any minor capital; and
 - an explanation for any significant variance in actual capital expenditure and/or operating and maintenance costs, and forecast capital expenditure and/or operating and maintenance costs for the relevant year.
- **DBCT Management is required to publicly report on its compliance with the undertaking, on an annual basis:**
 - the number and percentage of total indicative access proposals provided within the applicable timeframe;
 - the number and percentage of access applications received for which an extension of time for provision of an indicative access proposal is sought by DBCT Management;
 - the average delay (in days) taken to provide an indicative access proposal not provided within the applicable timeframe;
 - the number of instances where an issue has been referred to dispute resolution;
 - the average length of the negotiation period (in days), where the negotiation period has commenced and has ceased as the result of the execution of an access agreement in respect of the access sought by the access seeker;
 - the average length of the negotiation period (in days), where the negotiation period has commenced and has ceased as the result of any reason other than the execution of an access agreement in respect of the access sought by the access seeker;
 - the number of instances where a negotiation period commenced has ceased as the result of the execution of an access agreement in respect of the access sought by the access seeker; and
 - any other performance measure requested by the Authority.

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- **DBCT Management is required to publicly report on the following service quality key performance indicators for the terminal, on a quarterly basis:**
 - **tonnes of coal discharged from trains per hour;**
 - **the percentage of trains arriving within an hour of scheduled arrival time;**
 - **gross operating capacity (Mtpa);**
 - **capacity utilisation ratio;**
 - **the ratio of net operating capacity to gross operating capacity;**
 - **terminal area available for storage (m²);**
 - **stockyard utilisation ratio;**
 - **tonnes loaded per ship-hour at berth segregated by category of vessel;**
 - **average ship delay in port;**
 - **demurrage costs; and**
 - **average net transport costs of access holders.**

6. ACCESS AGREEMENTS

Summary

The Authority supports the commitment in the undertaking for DBCT Management to develop and submit a draft standard access agreement for the Authority’s approval within 3 months of the undertaking’s approval.

The draft access undertaking includes a set of principles to guide the development of a standard access agreement.

The Authority proposes a range of amendments to these principles in order to ensure that access agreements are fair and reflect a reasonable balance of risks between the parties, thereby protecting the legitimate business interests of both access seekers and DBCT Management.

Key amendments proposed by the Authority relate to the principles relevant to shipping of coal, changes to contract tonnage, remedies and guarantees.

With regard to the remedies available to either party for default under an access agreement, the Authority is seeking further stakeholder input on the detail of these provisions prior to finalising its view on the appropriate principles to be included in the undertaking.

6.1 Background

As part of establishing the framework for third party access to the terminal, an access undertaking may include a standard access agreement or, alternatively, principles to guide the negotiation of an access agreement. The role of ‘standard’ terms and conditions of access is to provide greater certainty for both DBCT Management and access seekers by setting out in greater detail the various access rights and obligations of the contracting parties.

Once approved, the standard access agreement will form part of the undertaking. This provides certainty for parties to access negotiations as, if an access dispute arises, the QCA Act provides that the Authority must not make a determination that is inconsistent with the terms of the approved undertaking. DBCT Management and an access seeker may agree to terms and conditions that differ from those contained in a standard access agreement. However, given the above constraint, in the event of a dispute, the terms of the standard access agreement would limit the scope of any dispute and the Authority’s determination in resolving a dispute.

This chapter addresses the framework in the undertaking governing access agreements and the proposed process for developing a standard access agreement (6.2) and the principles for inclusion in a standard access agreement (6.3).

6.2 Access Agreements

DBCT Management’s Position

DBCT Management proposes that granting of access will be underpinned by an access agreement that is developed and finalised during the negotiation process prescribed in Part 5 of the draft access undertaking (DAU, Vol. 1: clause 11.1(a)). DBCT Management and an access holder are to be the parties to an access agreement (DAU, Vol. 1: clause 11.1(b)).

DBCT Management commits to provide a final access agreement to an access seeker as soon as reasonably practicable, once the access seeker has indicated to DBCT Management that it is satisfied with the terms and conditions of the draft access agreement. The parties are to use

reasonable efforts to execute the final access agreement as soon as practicable after negotiations have been finalised (DAU, Vol. 1: clause 11.1(e)).

While the draft access undertaking does not include a standard access agreement, it does include a commitment from DBCT Management to develop a standard access agreement based on a summary of principles that will form the basis of a standard access agreement (Schedule B). DBCT Management proposes that an access agreement must, unless otherwise agreed, be consistent with the approved standard access agreement or, where one has yet to be approved, with the principles outlined in Schedule B (DAU, Vol. 1: clause 11.1(c)).

The draft access undertaking provides for a draft standard access agreement to be prepared and submitted to the Authority within 3 months of approval of the undertaking. The Authority must consider this draft standard access agreement and either approve, or refuse to approve it, within 45 business days of receipt, or such longer time advised by the Authority. If the Authority refuses to approve the draft standard access agreement, it must provide DBCT Management with a written notice indicating the reasons for refusal. DBCT Management proposes that, if it amends and submits to the Authority the draft standard access agreement in accordance with the Authority's written notice, the Authority will approve the draft standard access agreement. An approved standard access agreement will form part of the approved undertaking (DAU, Vol. 1: clause 11.2).

Stakeholder Comments

The DBCT User Group considered it appropriate for the standard access agreement to be developed in conjunction with the access undertaking as there was no legitimate reason for standard access agreement to be developed after the undertaking has been approved (DBCT User Group, sub. no. 5: 43).

The DBCT User Group considered that some of DBCT Management's proposed principles for inclusion in a standard access agreement were either unacceptable or too broadly stated and unclear. The DBCT User Group noted that this point serves to illustrate that the standard access agreement should be developed concurrently with the undertaking (DBCT User Group, sub. no. 5: 43-44).

Authority's Analysis

Ideally, the standard access agreement should be submitted and considered as part of the draft access undertaking. However, the Authority also accepts the merits in DBCT Management's proposed approach to develop a draft standard access agreement within three months of the Authority's approval of the undertaking. Such an approach provides scope to finalise a set of high level principles that are included in the undertaking. These principles will provide guidance to the development of the detail of the draft standard access agreement.

The standard access agreement is defined in clause 2.1 of the undertaking as the pro-forma access agreement to be developed which must include the principles set out in Schedule B. The Authority believes this definition should be amended to reflect the fact that the standard access agreement will incorporate detailed terms and conditions that are consistent with the principles in Schedule B rather than specifically including those principles.

The draft access undertaking is silent on what would occur if DBCT Management fails to submit a draft standard access agreement (in accordance with clause 11.2(a)) or fails to amend and submit the draft standard access agreement in accordance with the notice provided to it by the Authority (clause 11.2(c)). In such circumstances, the Authority has limited scope to require DBCT Management to submit a draft amending undertaking. Moreover, if the Authority refuses to approve a draft amending undertaking, the Authority cannot insist on it being

resubmitted in a stated form. While such an eventuality will not impinge on an access seeker's rights, it may leave certain significant matters unfinished.

This uncertainty may provide greater scope for disputes. While such circumstances may not be completely satisfactory, the Authority does not believe it is sufficient reason to reject the Schedule B principles or the clause 11 obligation to develop a standard access agreement. However, it is the Authority's intention to further develop the Schedule B principles, with the benefit of further stakeholder comments, between publishing this Draft Decision and the Final Decision to ensure the legitimate business interests of access seekers are adequately protected prior to the approval of a full standard access agreement.

In order for the undertaking to be approved, Schedule B must be amended to:

- **define 'standard access agreement' in clause 2.1 to reflect that it will incorporate detailed terms and conditions consistent with the principles in Schedule B.**

6.3 Principles for Inclusion in Standard Access Agreement

Where a standard access agreement has not been approved by the Authority, an access agreement must be consistent with the principles in Schedule B of the undertaking. These include principles relating to: term and termination; shipping of coal; payment of charges and rebates; operation and maintenance charges; review of charges; recording of tonnage; changes to annual contract tonnage and reference tonnage; assignment, guarantees and warranties; remedies; dispute resolution; expansion of terminal; and access holder committee. Each of these principles is discussed in turn below.

1. *Term and Termination*

DBCT Management's Position

Schedule B provides that:

- 1.1 Each agreement will set out its commencement and termination dates.
- 1.2 The termination date will be no less than 10 years after the commencement date.
- 1.3 The agreement will provide the grounds on which DBCT Management or an access holder may terminate the agreement. Either party may terminate the agreement if a financial default is not remedied within 30 days, or a non-financial default is not remedied within 60 days.
- 1.4 Disputes regarding defaults which are not based on a failure to pay money must be settled through the dispute resolution process to be provided by the agreement.
- 1.5 The agreement will allow for the access holder's right to have its coal handled to be suspended if the access holder is in default of a financial obligation which has not been remedied for 14 days. In this event, the access holder's obligations based on its annual contract tonnage will be unchanged, but DBCT Management's obligations to handle the amounts will be reduced proportionately.

Stakeholder Comments

The DBCT User Group considered that the term of an access agreement should be no less than five years given DBCT Management's proposal that access holders give five years notice to reduce their annual contract tonnage (DBCT User Group, sub. no. 5: 194).

The DBCT User Group also considered that the proposed principles related only to long term take or pay contracts. The DBCT User Group requested further clarification on how short term and/or non-take or pay contracts would be treated. The DBCT User Group suggested that the reference contract be defined as a five year take or pay contract, and that any deviations to the reference contract be priced relative to this on the basis of reasonably demonstrated cost variations. The DBCT User Group requested that this be made explicit in the undertaking (DBCT User Group, sub. no. 5: 194).

The DBCT User Group considered that bona-fide disputes about the payment of financial obligations should not trigger suspension (DBCT User Group, sub. no. 5: 194).

Authority's Analysis

The draft access undertaking provides that an access agreement will be consistent with an approved standard access agreement or, if one is not approved, the principles in Schedule B. Schedule B includes a principle that the termination date will be not less than 10 years. It also includes principles requiring that access charges be calculated on the basis of the pricing structure set out in Schedule C of the draft access undertaking, which includes take or pay arrangements. When considered together, the standard access agreement relates only to long term take or pay contracts.

The Authority recognises DBCT Management's desire to have long term access contracts as this provides it with considerable revenue certainty. This also appears to be consistent with past practice at the terminal, with nearly all existing contracts being Product 4 (ie. greater than 10 years, with a take or pay component). The Authority sees merit in an approach where the reference service is for a long term take or pay contract as it provides certainty for both DBCT Management and the access holder. This certainty is likely to be important as both are operators of long lived capital intensive assets. The standard access agreement and Schedule B principles will be relevant in any access dispute about access on 'reference terms' (ie. long term, take or pay).

However, this definition of a reference service does not preclude the development of other non-reference services (ie. short term, no take or pay). The Authority believes that access seekers wishing access on other terms can still seek to do so, with DBCT Management obliged to negotiate on this basis. In the event of a dispute in such circumstances, the Authority would not be obliged to resolve the dispute by simply reiterating the terms of the standard access agreement or Schedule B. Rather, the Authority's determination would be guided by the terms of the standard access agreement, Schedule B and the circumstances of the particular matter. The Authority has proposed that an additional paragraph be added to clause 11.1 to clarify this.

The Authority believes that the approach in the draft access undertaking is sufficiently flexible and is therefore acceptable. For the non-price elements of an access agreement, users will generally be receiving a similar service given the relatively homogeneous nature of the coal handling service subject to access (as set out in Schedule G). Also, the Terminal Regulations, which govern the operational arrangements for handling coal at the terminal, will apply equally to all access holders. These elements of access will be governed by the undertaking and are unlikely to be subject to variation amongst access holders.

In terms of pricing matters, where an access seeker requires access on terms other than on a long term take or pay basis, the Authority notes that these negotiations are still covered by the undertaking – that is, it is still ‘access’ to the ‘coal handling service’. The approved reference tariff will apply to reference terms (ie. standard access agreement terms). However, divergences from these reference terms may result in access charges that diverge from the reference tariff.

Access seekers are protected in that access charges must be set in accordance with the pricing principles in the undertaking. Moreover, the undertaking does not allow price differentiation other than to reflect differences in cost and risk (clause 9.6). Further, if the parties cannot reach agreement on the price, it may be referred for dispute resolution. For instance, if an access seeker was negotiating a 5 year take or pay contract and DBCT Management would be required to expand the terminal to meet the access seeker’s capacity requirements, it may be reasonable for the access charge to be levied at a premium on the TIC to reflect the greater risk imposed on DBCT Management.

For these reasons, the Authority considers that, although the standard access agreement approved under clause 11.2 or the principles in Schedule B will not strictly apply, for an access seeker seeking access on other than reference terms (ie. a shorter term contract, or one with no take or pay), there will still be a reasonable degree of certainty with respect to the terms and conditions of access.

In terms of the termination rights set out in this clause, the Authority considers that these lack balance. In particular, it would seem reasonable that the agreement should set out both suspension and termination rights. DBCT Management should not be able to terminate an agreement unless certain thresholds are first met, namely that the breach (for non-financial defaults) is material and that DBCT Management has first exercised its right to suspend. Further, the agreement should specify that reasonable notice be given prior to suspension or termination. The Authority also has concerns that the time period applying to both the suspension and termination rights outlined may be too short, but will be guided by stakeholder views on this point.

The Authority accepts principle 1.4 relating to resolution of non-financial disputes, subject to a minor amendment to reflect that dispute must be ‘referred for resolution’ rather than ‘settled’, consistent with principle 10 (Dispute Resolution).

While the Authority notes that disputes relating to a failure to pay money are addressed in clause 6 of the Schedule B principles, the Authority concurs with the users that principle 1.5 requires amendment. The Authority does not accept that an access holder’s rights can be suspended simply because a dispute regarding payment of charges has been unresolved for 14 days. Rather, this principle should be amended so that a bona-fide dispute about the payment of financial obligations under an access agreement should not trigger a suspension of an access holder’s right to have its coal handled.

In order for the undertaking to be approved, clause 11.1(c) and Schedule B must be amended as follows:

- **clause 11.1(c) should clarify that an access agreement must, unless otherwise agreed, not be inconsistent with an approved standard access agreement or the principles in Schedule B;**
- **an access agreement should provide suspension and termination rights, which are subject to certain thresholds: namely, a breach for non-financial default must be material and DBCT Management must exercise its right to suspend prior to termination.**
- **an access agreement should provide for reasonable notice to be given prior to suspension or termination taking effect;**
- **a bona-fide dispute about the payment of financial obligations under an access agreement should not trigger a suspension of an access holder's right to have its coal handled; and**
- **principle 1.4 regarding disputes for non-financial default should be made consistent with principle 10 dealing with dispute resolution.**

2. Shipping of Coal

DBCT Management's Position

Schedule B of the draft access undertaking proposes six principles relating to the handling of coal at the terminal, namely:

- 2.1 The agreement will specify the access holder's annual contract tonnage and reference tonnage in each contract year whereby the reference tonnage must be no less than 80% of annual contract tonnage in any one contract year.
- 2.2 The agreement will entitle access holders to have their annual contract tonnage handled in the relevant contract year. The access holder must use all reasonable endeavours to offer their annual contract tonnage for handling in the relevant contract year and to ship their annual contract tonnage at an even rate throughout the contract year.
- 2.3 In return for payment of the required fees and charges to DBCT Management, access holders will be entitled to receive the coal handling service within the terminal. Access holders will have no right of possession to any part of the terminal nor will they have rights to dedicated stockpile. Coal is to be delivered to the terminal by rail.
- 2.4 Subject to:
 - (a) the Terminal Regulations;
 - (b) contractual obligations to access holders under existing user agreements or access agreements;
 - (c) the requirements of other access holders; and
 - (d) the absolute discretion of the Operator,

the agreement will allow, at the request of the access holder, the transfer of the access holder's coal from the train unloading facility at the terminal to the stockpile area requested by the access holder and the stockpile of the access holder's coal in that area.

- 2.5 The agreement will set out the obligations of DBCT Management in the provision and operation of the terminal. Primarily, DBCT Management must make every reasonable effort to ensure the terminal is available and operating so as to enable the contracted tonnage to be handled.
- 2.6 The agreement will state that access is provided subject to the Terminal Regulations, and that access holders must comply with the Terminal Regulations as in force from time to time. The access holder must advise both DBCT Management and the Operator of any issues relating to the handling of its coal at the terminal.

Stakeholder Comments

The DBCT User Group considered that the notion of reference tonnage being no less than 80% of annual contract tonnage represented a new limitation on user choice. The DBCT User Group considered that DBCT Management's proposal effectively reduces DBCT Management's risk exposure and provides for it to increase revenue. The DBCT User Group noted that, under its proposal, all users would enter into take or pay contracts (DBCT User Group, sub. no. 5: 194).

The DBCT User Group noted a number of additional matters: first, that DBCT Management's proposal that access holders do not have rights to a dedicated stockpile is not provided for in existing user agreements; second, that the qualifications relating to stockpiling are ambiguous, undesirable and require further clarification. While acknowledging the need for some qualification on the absolute right to stockpile, it believed the proposed caveats are unacceptable (DBCT User Group, sub. no. 5: 194).

Authority's Analysis

The Authority considers that the proposal to limit reference tonnage to 80% or more of the annual contract tonnage in any one year is acceptable. The Authority believes that this is a reasonable risk management mechanism for DBCT Management. The Authority notes that, although it does represent a limit on users' choices, historically, this has not been an issue as nearly all coal currently shipped would be 'reference tonnage'.

The Authority accepts the merits of DBCT Management's proposal that users should not have a right to a dedicated stockpile in the access agreement. The Authority believes that, for the efficient operation of the terminal, the Operator should have discretion and flexibility in allocating and stockpiling coal in areas which best utilise terminal capacity. A user will be entitled under its access agreement to have its annual contract tonnage handled in the relevant year. Stockpiling and cargo assembly will form part of the coal handling service provided by DBCT Management, as stipulated in Schedule G.

The Authority believes that the entitlement to have tonnage shipped in accordance with the coal handling service should be sufficient in protecting the legitimate business interests of the users.

Many of the principles in clause 2 outline the access holder's right to have its coal 'handled' and to receive the 'coal handling service'. The Authority notes that its proposed changes to the definition of these terms (clause 2.1, clause 4) will ensure that the range of services an access holder is entitled to receive under its access agreement (as reflected in the standard access agreement principles) is consistent with the scope of the coal handling service as outlined in Schedule G.

With respect to principle 2.4, the Authority concurs with the DBCT User Group that many of these caveats are unacceptable.

The Authority believes that the first caveat is reasonable as the Terminal Regulations are necessary rules for the efficient operation of the terminal to which all users and DBCT Management are bound. However, the remaining caveats are too vague and do not give access holders sufficient certainty about the actual coal handling service they are entitled to.

In particular, the Authority considers that the last caveat, whereby coal is transferred from the train unloading facility to the stockpile area at the absolute discretion of the Operator, is too open ended and does not provide sufficient protection of users' interests. DBCT Management and, in turn, the Operator, should be bound by the Terminal Regulations in how coal is unloaded and transferred. Therefore, the Authority accepts that the shipping of coal is subject to the Terminal Regulations, but the remaining caveats (in (b), (c) and (d)) should be deleted.

To provide certainty about the users' access entitlements, the Authority believes that DBCT Management should have an absolute obligation to 'make the Terminal available' rather than making 'every reasonable effort' in ensuring the terminal is available to handle the contracted tonnage (principle 2.5). This commitment is fundamental to the users' access rights and DBCT Management's obligations in this regard should be stronger than a 'reasonable efforts' obligation. Consistent with this view, the Authority also considers that principle 2.3 should be amended to more positively state DBCT Management's obligation to provide the coal handling service. There may be instances where it is reasonable that DBCT Management is unable to provide access, for example, where there is a force majeure event (such as a cyclone). However, this is covered under the definition of the coal handling service in Schedule G, which is expressed as being subject to, among other things, no force majeure event prevailing. The Authority notes that the consequences of a failure to provide access to the level contracted are dealt with elsewhere in the standard access agreement principles (ie. remedies).

Principle 2.6 provides that access holders will be provided access in accordance with the Terminal Regulations and that access holders must comply with the Terminal Regulations. In order to provide consistency and to balance the obligations of the access holder and DBCT Management, the Authority believes that both the access holder and DBCT Management must comply with the Terminal Regulations as in force from time to time, rather than just the access holder. Moreover, the Authority has recommended that the undertaking include a framework governing the operation of the Terminal Regulations, including a process for proposed changes to the Regulation (see Chapter 5). Certain elements of this framework need to be included in an access agreement and, therefore, also in Schedule B, namely: an obligation on DBCT Management to comply with the Terminal Regulations, and ensure that the Operator complies; an obligation on DBCT Management to undertake reasonable consultations with access holders about proposed changes to the Terminal Regulations; the right for an access holder to dispute proposed changes; an obligation on DBCT Management not to implement changes until the outcome of any dispute has been determined; and a requirement that DBCT Management notify access holders of any changes to the Terminal Regulations and provide a copy of the revised Terminal Regulations.

In order for the undertaking to be approved, Schedule B must be amended to:

- **clearly state that, in return for payment of access charges, DBCT Management will provide the coal handling service within the terminal;**
- **delete principles 2.4(b)-(d);**
- **provide an absolute obligation on DBCT Management to make the terminal available to handle contracted tonnage;**
- **provide an obligation on both DBCT Management and access holders to comply with the Terminal Regulations as in force from time to time; and**
- **provide an obligation on DBCT Management to not implement or consent to proposed changes to the Terminal Regulations without reasonable consultation with access holders;**
- **allow access holders to notify a dispute about any proposed changes to the Terminal Regulations under the dispute resolution provisions of the agreement. DBCT Management must not implement a proposed change to the Terminal Regulations until the outcome of the dispute is determined; and**
- **provide an obligation on DBCT Management to notify access holders of any amendments to the Terminal Regulations and provide access holders with a copy of the revised Terminal Regulations.**

3. *Payment of Charges and Rebates*

Schedule B proposes four principles in relation to the payment of access charges and rebates. In relation to access holders, Schedule B proposes that:

- 3.1 The agreement will set out the capital charge to apply, comprising a terminal infrastructure charge (TIC), which will include a fixed component, and a throughput rebate. Access holders must pay the TIC calculated in a manner consistent with Schedule C.
- 3.2 The agreement will also set out the operation & maintenance charge payable by the access holder and calculated in accordance with Part 4 below.
- 3.3 The agreement will set out the terms for payment of access charges, including a provision for the payment of interest on any outstanding balances.

It is also proposed that:

- 3.4 DBCT Management will pay a throughput rebate to all access holders, calculated in a manner consistent with Schedule C.

While stakeholders commented on DBCT Management's proposed pricing structure (including Schedule C), stakeholders did not comment on the above standard access agreement principles.

The principles relating to the payment of charges and rebates will need to be amended to reflect the Authority's proposed form of regulation and pricing structure, as set out in Chapter 7 of this Draft Decision. In particular, it must provide for the calculation of: a capital charge (TIC); take or pay liabilities; penalties for shipping Excess Tonnes; and obligations with respect to paying/receiving amounts to adjust for any under (over) recovery of DBCT Management's revenue cap. These charges will be calculated in accordance with Schedule C of the undertaking (as proposed to be amended by this Draft Decision). The agreement should also

provide for interest to be paid/charged at DBCT Management' WACC on the balance of the unders/overs account.

In order for the undertaking to be approved, Schedule B must be amended to:

- **provide for access charges, including take or pay liabilities, penalties for Excess Tonnage and adjustments for under/over recovery of DBCT Management's revenue cap, to be calculated in accordance with Schedule C; and**
- **provide for interest to be paid/charged at DBCT Management' WACC on the balance of the unders/overs account.**

4. Operation and Maintenance Charges

DBCT Management's Position

Schedule B provides that:

4.1 Operation & maintenance charges will comprise:

- (i) a fixed handling charge to be paid by monthly instalments in advance. It will be calculated on the Operator's total fixed operating costs, other expenditure incurred by the Operator for the operation and maintenance of the terminal, and minor capital expenditure for the terminal allocated across access holders according to annual contract tonnage;
- (ii) a variable handling charge per tonne handled. The formula for calculating the variable charges is based on the total number of tonnes handled at the terminal, each access holder's proportion of the tonnes thereof and the Operator's total operating costs less the total fixed operating costs referred to in section 4(i) hereof;
- (iii) reasonable charges for miscellaneous services provided at the terminal; and
- (iv) additional reasonable handling charges, if the nature of the coal or if the access holder's requirements for handling results in material additional costs or delays.

4.2 Fixed and variable operation & maintenance charges will initially be based on estimates of the relevant costs and tonnage handled, with regular reconciliation to actuals and adjustments paid by or to the access holder as appropriate.

Stakeholder Comments

The DBCT User Group considered that the provisions in relation to operation and maintenance charges are quite imprecise and should be clarified (if they are accepted by the QCA). For simplicity, it considered that fixed and variable operating and maintenance charges should be uniformly applied without additional charges being applied for miscellaneous services or unspecified handling costs (this is based on the user's proposed pricing model) (DBCT User Group, sub. no. 5: 194). It considered that any additional charges should be in the context of a re-allocation of the total operational costs and not be an opportunity for DBCT Management to make an additional profit from handling charges. The DBCT User Group noted that existing user agreements were subject to these contentious provisions and have not been fully invoked in the past, hence the user's proposed modified structure (DBCT User Group, sub. no. 5: 195).

Authority's Analysis

The Authority generally accepts the principles relating to operation and maintenance charges, having regard to the fact that the ownership of the Operator by the users should provide adequate incentives to ensure that these operating costs are efficient (see Chapter 10). Nevertheless, the Authority believes that, for clarity, the provision allowing for operation and maintenance charges to include reasonable charges for miscellaneous services should be subject to agreement between the access holder and DBCT Management (principle 4.1(iii)).

The Authority accepts the DBCT User Group's concern that the proposal relating to additional handling charges (due to additional costs or delays) is too vague (principle 4.1(iv)). While the Authority does not have any concerns about introducing charges to provide incentives to efficiently use the terminal, the Authority believes that the basis and the level of the charges should be clearly defined and agreed between the access holder and DBCT Management. Accordingly, the Authority believes that principle 4.1(iv) should be deleted.

In order for the undertaking to be approved, Schedule B must be amended to:

- **make clear that charges for miscellaneous services provided at the terminal are subject to an agreement between the access holder and DBCT Management; and**
- **delete principle 4.1(iv).**

5. *Review of Charges*

Schedule B of the draft access undertaking provides for the review of access charges, namely:

- 5.1 The agreement will provide for amendment of access charges in line with changes in approved reference tariffs.
- 5.2 An amendment to access charges may be retrospective to apply from the date of commencement of the revised reference tariff.

Stakeholders did not comment on the above standard access agreement principles.

The Authority accepts these principles.

6. *Recording of Tonnage*

DBCT Management's Position

Schedule B of the draft access undertaking provides for measuring coal tonnages handled for invoicing purposes, namely that:

- 6.1 The agreement will set out the obligations of the access holder in relation to the recording of coal tonnage handled.
- 6.2 Access holders must commission an independent surveyor to issue a certificate of weight of each shipment of the access holder's coal loaded on a vessel at the terminal. They must also promptly send the cargo manifest, including a statement of the certified weight of the shipment to DBCT Management (or as directed by DBCT Management) on completion of loading, and ensure a notice is attached to the cargo manifest stating the quantity of each product making up the shipment. The information will be used by DBCT Management to calculate the TIC and other relevant charges.

- 6.3 If it can be demonstrated that an account previously sent to or paid by an access holder was incorrectly calculated, or based on incorrect information, so that a party was disadvantaged, the agreement will provide for an adjustment.

Stakeholder Comments

There are no stakeholder comments.

Authority's Analysis

The Authority accepts the principles 6.1 and 6.2. However, principle 6.3 should be reworded to provide for a dispute resolution process governing disputed accounts. Accordingly, the Authority considers that principle 6.3 should be amended to state that, where an access holder or DBCT Management has a bona-fide dispute regarding an account, it may notify the other party of the dispute. The agreement will provide a fair and reasonable process for resolution of bona fide disputes regarding accounts. Also, to facilitate transparency, the Authority considers that access holders should have the ability to check the accuracy of the calculation of access charges through having access to the cost and throughput details that are used in determining access charges.

In order for the undertaking to be approved, Schedule B must be amended to:

- **provide that, where there is a bona fide disputed account, access holders are able to have access to the information used in the calculation of access charges, including cost and throughput details; and**
- **provide for a fair and reasonable dispute resolution process for bona fide disputed accounts.**

7. *Changes to Annual Contract Tonnage and Reference Tonnage*

Schedule B of the draft access undertaking proposes a number of principles relating to managing an access holder's tonnage entitlements, namely that:

- 7.1 an access holder's reference tonnage may only be reduced under the agreement in the following ways:
- (i) If the access holder has arranged for the transfer of reference tonnage to or from another access holder or to an access seeker and the access holder or access seeker is acceptable to DBCT Management and is prepared to enter into a binding agreement in relation to the transferred reference tonnage on terms and conditions acceptable to DBCT Management.

On giving DBCT Management five year's notice of the extent and period of the reduction required or as otherwise agreed with DBCT Management.

- 7.2 An access holder's non-reference tonnage may only be reduced under the agreement by giving DBCT Management one year's notice of the extent and period of the change required or as otherwise agreed with DBCT Management.
- 7.3 An access holder may seek to increase its reference tonnage or annual contract tonnage at any time but will be treated as an access seeker and the provisions of the access undertaking will apply.

- 7.4 The agreement will provide for the handling of coal in excess of the annual contract tonnage. An access holder may do this if it does not cause additional expense or unreasonable interference to another access holder, and it pays the additional TIC and operation & maintenance charges in respect of each tonne so handled.
- 7.5 If, in the reasonable opinion of DBCT Management, an access holder is not using, or is unlikely to use, its annual contract tonnage over a sustained period, the agreement will allow DBCT Management to reduce the access holder's annual contract tonnage, subject to the access holder being able to satisfactorily demonstrate a case for retention of its access contract tonnage.

Stakeholder Comments

Both DNRME and the DBCT User Group argue that DBCT Management should consider a capacity transfer process. DNRME submitted that arrangements for dealing with both capacity transfers between users and capacity resumption from users should be transparent (DNRME, sub. no. 7: 3).

The DBCT User Group considers that it is normal for users to experience variations in annual throughput and to accommodate these variations via take or pay arrangements and secondary trading (DBCT User Group, sub. no. 5: 27). The DBCT User Group believes that coal miners have a relatively volatile risk profile, being subject to price and exchange rate volatility. As a result, it believes they should be able to ameliorate their exposure to take or pay liabilities via secondary trading, as this is fundamental to achieving the lowest net present value of total terminal costs. Without such trading, there is a risk that terminal capacity will be prematurely or unnecessarily expanded (DBCT User Group, sub. no. 5: 127).

The DBCT User Group argues that explicit processes should be developed (and form part of the standard access agreement) in order to facilitate secondary trading. It argues this is preferable to having a compulsory capacity resumption process administered by DBCT Management (DBCT User Group, sub. no. 5: 27-29).

Consistent with this view, the DBCT User Group raised specific concerns with principle 7.3 of Schedule B, which provides that an existing access holder seeking an increase in tonnage will be treated in the same manners as would a new access seeker. In particular, the DBCT User Group considered that any reasonable and normal variations to an access holder's annual contract tonnage should be treated within an existing access agreement, rather than as new tonnage to be separately negotiated (DBCT User Group, sub. no. 5: 195).

The DBCT User Group also noted that its proposed approach to take or pay provisions should preclude DBCT Management from having a right to resume capacity as the users' take or pay obligations would cover the cost of capacity. Given the sometimes volatile nature of mining operations, the DBCT User Group considered that mines who commit to take or pay contracts should not be subject to capacity resumption. The DBCT User Group requested that any capacity resumption rights granted by the Authority to DBCT Management be significantly constrained (DBCT User Group, sub. no. 5: 195).

Authority's Analysis

The Authority accepts these principles, subject to the following comments. The Authority believes principle 7.1(i) relating to an access holder transferring its entitlement should be qualified so that DBCT Management must be reasonable in determining whether an access seeker or access holder is acceptable as a transferee and also that it will be reasonable in determining if the terms and conditions are acceptable.

With respect to principle 7.3, the Authority accepts that a sustained increase in contracted tonnages should be treated as a new access application. That is, all requests for a permanent increase in reference tonnage should be treated by DBCT Management as a new access application in accordance with the relevant provisions in DBCT Management’s access undertaking. This will ensure that new access seekers are not unfairly disadvantaged compared to current access holders.

However, the Authority accepts that access agreements should allow a temporary increase in throughput to be accommodated, provided it is at no other access holder’s expense. In this regard, the Authority notes that principle 7.4, which is accepted by the Authority, allows for handling of coal in excess of annual contract tonnage under certain circumstances (that is, where it does not cause additional expense or unreasonable interference to other access holders). This provides users with the potential ability to ship additional coal if required. Moreover, users have the ability to manage unanticipated changes in tonnage requirements to some extent through secondary trading. Principles 7.3 and 7.4 should be amended to clarify this.

With regard to DBCT Management’s right to resume capacity (principle 7.5), the Authority does not accept that resumption of access rights at the terminal is reasonable, given the revenue cap proposed and the existence of substantial take or pay obligations. In these circumstances, there will be a clear economic imperative for users not to hoard capacity, as they will pay for it.

Where reductions in capacity entitlements is in the mutual interest of DBCT Management and an access holder, negotiations between both parties is likely to be resolved without recourse to resumption of the rights. Where a mutual interest does not exist, DBCT Management’s interests are protected by both the take or pay arrangements and for the incentive for the access holder to find an alternative user of its under-utilised capacity rights through secondary trading arrangements. The Authority is not, therefore, convinced that these arrangements need to be supported by DBCT Management possessing resumption rights.

The Authority therefore rejects DBCT Management’s proposed resumption process. In terms of developing a capacity trading process, the Authority believes that the standard access agreement should specify such a process.

In order for the undertaking to be approved, Schedule B must be amended to:

- **qualify principle 7.1(i) to require DBCT Management to act reasonably in determining if a proposed recipient of transferred access rights is acceptable and if the terms and conditions of the transfer are acceptable;**
- **clarify that principle 7.3 relates to requests for sustained increases in tonnage and that principle 7.4 relates to temporary increases in tonnage; and**
- **delete principle 7.5 giving DBCT Management resumption rights.**

8. *Set-off*

Schedule B of the draft access undertaking proposes that each party will have a power under the agreement to set-off any amount under the agreement which is due and payable to the other party. The amount set-off will be deemed to have been paid.

Stakeholders did not offer a comment on this principle, and it is also acceptable to the Authority.

9. Remedies

DBCT Management's Position

Schedule B of the draft access undertaking provides for a series of remedies for access holders and DBCT Management where a delay is caused by the other party.

In the case of access holders, Schedule B proposes that:

9.1 The access holders' remedies for a delay on the part of DBCT Management will be provided under the agreement. An access holder can recover costs, losses and damages to the extent of, but only to the extent of:

- (i) any amounts DBCT Management receives from its insurers; plus
- (ii) any amounts DBCT Management recovers from the Operator or any third persons (or their insurers) for negligence or breach; less
- (iii) any costs incurred by DBCT Management in pursuing the above recoveries.

in the event that DBCT Management is solely or primarily (i.e. at least 95%) responsible for a delay, then an access holder can also recover (and is limited to recovering) that part of any claim against DBCT Management which is for a recovery of an amount equivalent to the fixed component of the TIC which would not have been payable had the delay not occurred.

In the case of DBCT Management, Schedule B proposes that:

9.2 The agreement will provide that any delay on the part of the access holder to offer coal for handling in accordance with the agreement, irrespective of cause, gives DBCT Management a right to charge for the duration of the delay:

- (i) any relevant fixed component of the TIC; and
- (ii) any fixed operation & maintenance charges.

The access holder's obligation to ship coal under its agreement is a reasonable endeavours obligation to offer its annual contract tonnage for handling in the relevant contract year and to ship its annual contract tonnage at an even rate throughout the contract year (Schedule B, principle 2.2)

The undertaking defines a 'delay' as 'unscheduled or abnormal stoppage or delay in loading or unloading an access holder's coal at the terminal resulting in a delay of more than 24 hours but will not include any delays required to ensure good operating and maintenance practice at the terminal'.

Schedule B also proposes that the agreement will also provide for a system of delay notices, which may be issued by either party in the event of a delay. Notices for each quarter will be reviewed by DBCT Management, the access holder and the Operator at the conclusion of the quarter. The review will address the extent to which delays occurred, and any need for redress.

Stakeholder Comments

The DBCT User Group considered that these principles are unacceptable. The DBCT User Group noted that these terms were applicable to the previous unregulated monopoly

environment, and need to be renegotiated on a commercially fair basis to reflect the current regulatory environment (DBCT User Group, sub. no. 5: 195).

The DBCT User Group considered that the MAR should be offset to provide compensation for breach of contract due to negligence, over-commitment or deliberate breach (DBCT User Group, sub. no. 5: 195).

The DBCT User Group further considered that paragraph 9.2 required further clarification, and questioned its relevance given the DBCT Management's proposed approach to take or pay (DBCT User Group, sub. no. 5: 195).

Authority's Analysis

The Authority has serious concerns regarding the balance and commerciality of these provisions. They appear to have the effect of significantly limiting DBCT Management's liability even in circumstances where DBCT Management has failed to deliver on its contractual commitments to provide access. The Authority considers that a meaningful degree of liability should be reserved to provide greater balance and to act as an incentive for DBCT Management to perform its obligations under the access agreement.

The Authority also has particular concerns in relation to the obligation imposed upon an access holder to continue to pay take or pay charges in the event of a force majeure event at the port, and also in circumstances where DBCT Management is at fault or has failed to meet its commitments due to deliberate or criminal misconduct.

In the case of take or pay liabilities, where a throughput shortfall is primarily the fault of DBCT Management, including due to serious, deliberate or even criminal misconduct on DBCT Management's part, the Authority considers that there is a compelling argument for a corresponding reduction in the access holder's take or pay obligations in the relevant year.

The Authority recognises that allocating risk in the case of force majeure events at the port is more complex. In considering the best approach to this, the Authority believes that an important guiding principle should be that the access provider should be able to recover its costs where it has acted prudently – that is, in the light of information then available, the access provider could not reasonably have acted any earlier to address the risk at a lower cost.

In regard to DBCT Management's proposal to limit an access holder's remedies to what it may recover under insurances, the Authority has a number of concerns with regard to the effectiveness of this approach in delivering any meaningful remedy for access holders. In particular, clause 9.1(a) links the amount recoverable from DBCT Management to the amount DBCT Management is able to recover from its insurer. The Authority understands that the relevant insurance in this case would be an indemnity type of policy under which the insurer agrees to indemnify DBCT Management against its liability to other parties. This type of insurance will only respond to the liability that DBCT Management actually has. In other words, DBCT Management must have a legal liability to the access holder before the policy is triggered. However, given the wording of principle 9.1(a), there needs to be a payout under the policy before DBCT Management incurs a liability. Given this, the Authority has concerns about the effectiveness of this clause.

The Authority further understands that remedies available under principle 9.1(b) may also potentially be quite limited or non-existent. Firstly, there is no express obligation on DBCT Management to pursue action against any third party. Accordingly, it can choose to take no action, in which case there is no liability. Secondly, even if DBCT Management did take action against a third party, DBCT Management could not itself claim damages that the access holder had suffered unless DBCT Management was in turn liable to the access holder for the same

damages. In the absence of liability on the part of DBCT Management to pay damages to the access holder, it will not be able to claim those damages from the third party.

On a related issue, the question of liabilities revolves around the definition of ‘delay’, where a delay must be greater than 24 hours and excluding delays due to ensuring good operating and maintenance practice at the terminal. The Authority recognises that the potential for accumulation of such delays may have serious adverse commercial consequences for an access holder, yet they would be without any remedy. In order to create incentives for DBCT Management to minimise such delays, it may be appropriate for the accumulation of 24 hour delays beyond a defined threshold to result in liability for DBCT Management for failure to provide access.

The Authority also notes that the Terminal Regulations (clause 7) include provisions relating to liability and indemnities, namely for: risk to coal at the terminal; indemnity for loss or damages caused by a breach of the Terminal Regulations or otherwise by the negligence or intentionally wrongful act or omission of the customer; and liability for inaccurate scheduling information. The Authority considers that provisions which establish the extent of liability of the parties for certain risks associated with access to the terminal are important legal provisions that belong in the access agreement, and not in the operating rules for the terminal. Accordingly, principles relating to indemnities and liabilities for these risks should be reflected in Schedule B.

In light of the above, the Authority considers that the principles in Schedule B relating to remedies are not appropriate. However, the Authority recognises the complexity and commercial significance of this issue, and seeks further stakeholder comments on the appropriate way forward on this matter. In the interim, the Authority proposes to delete the current principles in clause 9 and replace them with principles to the effect that the agreement will establish the liabilities of the parties with respect to delays/failure to provide access, that the liabilities of the parties in the case of a force majeure event should be specifically addressed in the agreement and that the agreement will include provisions setting out the respective obligations of the parties to hold relevant insurances, particularly in the event that liability is linked to the extent of insurance recovered.

The Authority notes that the detail of these principles will be developed with the benefit of feedback from stakeholders, and the Authority will endeavour to more specifically determine appropriate principles prior to the release of its Final Decision. These principles will ultimately be reflected in detailed provisions in the standard access agreement which is to be submitted to the Authority by DBCT Management within three months of the approval of the undertaking.

In order for the undertaking to be approved, Schedule B must be amended to:

- state that the agreement will include provisions setting out liabilities in the event of a delay or failure to provide access;
- state that the agreement will set out the liabilities of the parties in the case of a force majeure event;
- state that the access agreement will provide for insurances to be effected by the parties to appropriately provide for the relevant insurance risks; and
- state that the agreement will include provisions setting out the indemnities and liabilities of the parties with respect to product risk at the terminal; liability for breach, negligence or intentionally wrong act or omission; and liability arising from inaccurate scheduling information.

10. Dispute Resolution

Schedule B proposes that the standard access agreement will include a dispute resolution procedure involving compulsory negotiation and conciliation, followed by optional arbitration. A dispute arising out of, or in connection with an access holder agreement should be dealt with by either party giving notice of the dispute to the other providing details. Court proceedings or arbitration are not to be commenced until the negotiation and conciliation procedure has been complied with.

Stakeholders did not comment on the dispute resolution principle.

The Authority generally supports a staged dispute resolution process, provided parties have recourse to expert resolution or arbitration, as appropriate, if attempts to resolve the dispute through negotiation and conciliation fail. Accordingly, the Authority accepts this principle noting, however, that the details of the process to be followed, including a potential role for the Authority in the arbitration of disputes, will need to be fully developed as part of the standard access agreement.

11 Assignment

Schedule B of the draft access undertaking provides for the SAA to allow:

- 11.1 an access holder to assign all or part of rights and entitlements under the agreement (including all or part of its annual contract tonnage) permanently or temporarily with the prior written consent of DBCT Management, which must not be unreasonably withheld. The access holder may also, with DBCT Management's prior written consent, permit a third party to offer coal for handling through the terminal using an access holder's annual contract tonnage entitlement.
- 11.2 DBCT Management, in consultation with the access holders, may assign all or any part of its benefits under the access agreement to any person who is responsible, and has the expertise and financial capacity to operate and maintain the terminal and comply with DBCT Management's obligations.

Stakeholder Comments

The DBCT User Group considered that DBCT Management should also be required to not unreasonably withhold consent to users permitting a third party to offer coal for handling through the terminal (DBCT User Group, sub. no. 5: 195).

The DBCT User Group noted that the current ownership structure of the terminal operator served as a strategic priority for them. As such, the DBCT User Group considered that it was unacceptable to allow DBCT Management to assign or novate the OMC to another party, or enter into a new operator agreement. The DBCT User Group considered that such actions by DBCT Management should trigger a review as the 'checks and balances' of the current system would be difficult to transfer into a new system (DBCT User Group, sub. no. 5: 195-196).

Authority's Analysis

With regard to principle 11.1 providing for an access holder to assign its rights under the agreement, the Authority considers that it should clearly state that the agreement will provide for the secondary trading of capacity. Also, the Authority concurs with the DBCT User Group that DBCT Management should also be required to not unreasonably withhold its consent to users permitting a third party to offer coal for handling through the terminal. The agreement

should also state that access holders are released from obligations under the access agreement (but not from liabilities that may have arisen before assignment) on assignment.

The Authority acknowledges the DBCT User Group's concerns about DBCT Management's right to assign the OMC to another party. However, the OMC is an entirely separate agreement to the access agreement and, accordingly, DBCT Management's right to assign or novate the OMC to another party or to enter into a new operating agreement is not an issue which would fall within the scope of the assignment clause in an access agreement. However, the Authority agrees with the DBCT User Group that the OMC and the ownership structure of the Operator is a key issue underpinning this undertaking. The Authority proposes to address this by linking the term of the undertaking to DBCT P/L ceasing to be the Operator (see Chapter 2).

In terms of DBCT Management's right to assign access agreements, although this principle proposed that DBCT Management merely consult with an access holder regarding assignment, the Authority considers this is acceptable as, in a port environment where there are multiple users, a requirement to obtain the consent of all users may be problematic in the sense that it could potentially disrupt port operations where the users are unable to agree. As such, the Authority considers principle 11.2 is acceptable. User's interests with respect to assignment of an access agreement are protected to a considerable degree by the requirement that DBCT Management may assign the agreement to any person who is responsible and has the expertise and financial capacity to operate and maintain the terminal and comply with its obligations.

It is important to distinguish between DBCT Management's obligations under an access agreement and under the undertaking. This provision applies to DBCT Management's ability assign an access agreement, and does not impact on DBCT Management's responsibilities under the undertaking, which is binding on Holdings and which places obligations on DBCT Management as the access provider.

In order for the undertaking to be approved, Schedule B must be amended to:

- **state that the agreement will provide for secondary trading of capacity;**
- **state that the agreement should establish that the access holder is released from obligations under the access agreement on assignment (but not from liabilities that may have arisen before assignment); and**
- **require DBCT Management to not unreasonably withhold its consent to users permitting a third party to offer coal for handling through the terminal.**

12. Guarantees

DBCT Management's Position

Schedule B allows for the standard access agreement to provide that, if required by DBCT Management, then within a time specified by the agreement, the access holder must provide guarantees which secure the obligations of the access holder to DBCT Management from entities which are reputable and of good financial standing as determined by DBCT Management acting reasonably.

Stakeholder Comments

The DBCT User Group considered that this provision should be appropriately qualified, so that guarantees are only required where commercially appropriate. The DBCT User Group noted that the existing user agreements provided commercial safeguards which ensures payment,

except where a user becomes insolvent — even in this case, the insolvent user’s tonnage contract will more than likely be absorbed relatively quickly by an another user (DBCT User Group, sub. no. 5: 196).

The DBCT User Group considered that new mines which have not shipped coal through the terminal before should be required to place guarantees. However, such requirement should be relaxed and eventually removed as time progresses and the new mine is consequently able to demonstrate its commitment (DBCT User Group, sub. no. 5: 196).

The DBCT User Group also noted that DBCT Trustee is the effective owner of the terminal and not DBCT Management, which it states has quite limited assets. To this end, the DBCT User Group considered that DBCT Trustee should be a party to each access agreement, as guarantor of DBCT Management’s obligations in order to provide ‘an appropriate level of security to access holders’ (DBCT User Group, sub. no. 5: 192).

Authority’s Analysis

The Authority believes that this principle should be qualified to provide for DBCT Management to require guarantees or any other security reasonably acceptable to DBCT Management, only where based on its reasonable assessment of the creditworthiness of the access holder. Access seekers should only have to lodge security with DBCT Management which genuinely reflects the risk DBCT Management has taken on with respect to payments under the agreement. Furthermore, DBCT Management must be reasonable in deciding whether to accept a particular form of security.

The Authority also agrees with the DBCT User Group that, as an access holder develops a track record over time, and agreements may be for long periods, access holders who have provided a guarantee should be able to request a review by DBCT Management of the need for a guarantee, having regard to its creditworthiness, if it reasonably considers its financial circumstances have changed and such a review is warranted. Further, an access holder should have the ability to dispute the outcome of such a review.

The Authority recognises the DBCT User Group’s concerns regarding the financial security of the access holder’s rights in the circumstances where DBCT Management is the sole access provider yet it may be another entity within the Prime Infrastructure group that holds the interest in the terminal assets. However, the Authority does not consider that there is insufficient security for access holders due to the fact that DBCT Trustee is not a party to access agreements. In particular, if the DBCT User Group’s concern is that DBCT Management may become insolvent and be unable to provide contracted services, the PSA provides Holdings with the right to terminate the lease. In this eventuality, the Authority considers that the entities controlling the terminal at that point would have every incentive to continue to provide services to access holders. Moreover, the undertaking currently clearly establishes DBCT Management as the access provider. To amend the undertaking to provide for DBCT Trustee to also be a party to access agreements would be undesirable as it may diminish clarity about the roles of the various entities under the undertaking and the QCA Act.

In order for the undertaking to be approved, Schedule B must be amended to:

- **allow for DBCT Management to require guarantees or any other security reasonably acceptable to DBCT Management, based on its reasonable assessment of the creditworthiness of the other party; and**
- **to provide for a review for any such guarantees if requested, with the outcome of such a review to be subject to dispute resolution.**

13. Warranties

DBCT Management's Position

Schedule B includes a principle that the standard access agreement will provide that DBCT Management will warrant, under the agreement, that subject to normal repairs and maintenance, each terminal component will be maintained to be available to operate to at least its rated design capacity (as set out in the agreement);

Stakeholder Comments

The DBCT User Group questioned whether blanket component ratings should be comprehensively maintained across all terminal components. For example, a prudent asset management policy for the terminal could require shiploader 1 to be maintained in a reasonable standby condition, but not necessarily at its rated design capacity, since it is now used only as a standby machine. The condition as it currently stands may impose unnecessary costs on the users of the terminal (DBCT User Group, sub. no. 5: 196).

Authority's Analysis

The Authority considers that the user's concern that it may not be economic to maintain equipment to its rated design capacity has considerable merit. Moreover, it is unclear whether these rated design capacities are to be specified in individual user agreements or under the OMC. Rather, the Authority considers that the standard access agreement should provide that terminal components should be maintained to at least their rated design capacity, provided that capacity is consistent with the least cost operation of the facility over the long term.

In order for the undertaking to be approved, Schedule B must be amended to state that:

- **each terminal component will be maintained to at least its rated design capacity, provided that capacity is consistent with least cost operation of the facility over the long term.**

14. Expansion of Terminal

Schedule B of the draft access undertaking provides for:

- 14.1 The agreement will provide that any decision of DBCT Management to expand the terminal must be preceded by consultation with the access holders as to the reasons, extent, timing and estimated cost of any proposed expansion.
- 14.2 The agreement will provide that DBCT Management must use all reasonable endeavours to carry out expansion with minimal interference to the handling of the access holder's coal.

There are no stakeholder comments.

The Authority accepts this principle.

15. Access Holder Committee

DBCT Management's Position

Schedule B of the draft access undertaking provides for:

- 15.1 DBCT Management and the access holder will agree, pursuant to the access agreement, to participate in a committee consisting of one representative of each of DBCT Management, the Operator, and each access holder — to be known as the access holder committee.
- 15.2 The purpose of the committee will be to provide a forum for consultation between all participants on matters relating to the operation and performance of the terminal, any proposed enhancements for the terminal (including any expansions of terminal capacity), and any proposed changes to the Terminal Regulations.
- 15.3 The agreement will set out the formal arrangements for the running of the committee including meetings (which shall be held no less frequently than semi-annually) and appointment of a chairman.

Stakeholder Comments

The DBCT User Group supported a consultation process, and noted that it is proposing to extend this into the Terminal Capacity Committee (DBCT User Group, sub. no. 5: 196).

Authority's Analysis

The Authority generally accepts this principle. However, the Authority proposes an amendment to principle 15.2, where the purpose of the access holder committee is defined. As discussed in Chapter 4 of this Decision, the Authority believes that a consultation process should be held by DBCT Management with access holders, no less than twice yearly to consult on certain capacity-related issues such as current capacity and throughput, constraints on current capacity including impact on demurrage and user transport costs and future contracts/forecasts that may impact on terminal capacity. Moreover, the Authority proposes that a copy of the minutes of this consultation process should be distributed to access holders, DBCT Holdings and the Authority.

Accordingly, this clause should be amended to cross-refer to the Authority's proposed requirements regarding capacity expansion consultations as set out in Chapter 4 of this Decision.

In order for the undertaking to be approved, Schedule B must be amended:

- so that principle 15.2 cross-refers to the matters to be set out in the new clause 12.4 of the undertaking (capacity expansion consultations); and
- so that principle 15.3 includes a requirement to provide for the distribution of the minutes of the meetings to access holders.

7. FORM OF REGULATION AND PRICING ARRANGEMENTS

Summary

The form of regulation, pricing structure and associated incentive mechanism implemented in a regulatory environment should ideally promote economic efficiency, revenue adequacy, and the public interest. Those matters should also ensure that the risks are allocated to those best able to handle them. The main risks faced in the DBCT case are volume risk, and capacity expansion risk associated with increasing demand.

The Authority considers the form of regulation that best manages the risks associated with DBCT is a revenue cap with an unders and overs mechanism. The approach will provide DBCT Management with revenue certainty over all possible volume outcomes, and provide both DBCT Management and the users with increased certainty in relation to capacity expansions.

Pending the outcome of its further review of more disaggregated pricing structures, the Authority proposes to continue with a single \$/tonne access charge with a take or pay mechanism. The Authority has accepted most aspects of the take or pay mechanism proposed by the DBCT Users Group on the grounds that it places the volume risk on users, who are in the best position to handle this risk.

Unless DBCT Management and the users agree otherwise, the pricing arrangements established by the undertaking will only apply to access agreements entered into after the commencement of the undertaking, resulting in dual pricing structures at DBCT. Under such an arrangement, existing users would effectively pay the average price of the installed capacity whereas new users would pay a price based on the incremental cost of expanded capacity. Both DBCT Management and the users have indicated a desire to avoid a dual pricing arrangement. As a consequence, the Authority has written this Draft Decision on the basis that both parties will agree to a uniform pricing arrangement. If the Authority is not advised that has been resolved before the issue of the Final Decision, the Authority will revisit this issue in that Final Decision.

7.1 Background

Incentive regulation seeks to provide a regulated business with an adequate return for the services it provides, and incentives to improve productivity. It typically involves specifying: the form of regulation being a price cap, revenue cap, or some hybrid of the two; the incentive mechanisms to encourage productivity improvements; the distribution mechanisms to share the benefits from such improvements with users; and review triggers for resetting revenue/prices.

Important considerations in choosing the form of regulation include the efficient allocation of risk, the appropriate incentives for the regulated business such as the incentive to expand throughput or to increase efficiency and the degree of uncertainty about projected throughput. Risk sharing arrangements, such as take or pay contracts or revenue sharing arrangements for higher than expected volumes, provide mechanisms which share the volume risks between the extremes of a price cap and a revenue cap.

Ideally, the pricing arrangements should promote economic efficiency, revenue adequacy, and the public interest. The pricing arrangements provide the mechanism by which the revenue required to provide the business with an adequate return is transformed into actual prices charged to users. The pricing arrangements should encourage efficient use of the terminal's services, thereby minimising the total costs for the facility as a whole.

The existing prices at DBCT consist of an average price with take or pay and rebate components to dampen the revenue variations associated with volume fluctuations. In its draft access

undertaking, DBCT Management has effectively proposed to continue the current pricing arrangements but with new values. In response, the DBCT User Group has proposed alternative pricing arrangements for the undertaking.

Unless DBCT Management and the users agree otherwise, the pricing arrangements established by the undertaking will only apply to access agreements entered into after the commencement of the undertaking. The pricing arrangements that apply to tonnages currently shipped through the terminal are established under existing user agreements.

While both DBCT Management and the DBCT User Group have indicated a preference for a single pricing regime for existing and new contracts, the possibility remains that, into the future, there may be two different pricing arrangements applying to tonnages shipped through the terminal, depending on whether they are shipped under contracts entered into before or after the approved undertaking commences.

This chapter addresses: the form of regulation to apply at the terminal (7.2); pricing objectives (7.3); pricing structure (7.4); reference tonnage (7.5); limits on price differentiation (7.6); and reviews of the reference tariff (7.7).

7.2 Price or Revenue Cap

The pricing arrangements currently in place are very similar to those proposed by DBCT Management in their draft access undertaking. Under the current arrangements, a terminal infrastructure charge (TIC) is applied to each tonne of throughput. There are four products available under the current arrangements and each of these attracts a different TIC value. The four products are variants on whether the contract is greater or less than 10 years in length and whether the contract has take or pay arrangements incorporated or not.

The current arrangements also have a throughput rebate mechanism which serves to share the benefits of additional tonnages being shipped. Once the terminal's aggregate tonnage for a year reaches a throughput rebate threshold tonnage (TRTT), 50% of the TIC is then returned to the users for each tonne of throughput over this level. The TRTT level is based on a proportion of annual committed tonnes.

The take or pay arrangements require an existing user to pay around 45% (this diverges from the take or pay rate proposed under the draft access undertaking of 50%) of their relevant TIC for each tonne of their annual contracted throughput allocation which is not used. The Authority understands that nearly all tonnages shipped under current contracts are on take or pay terms.

Under the current and proposed arrangements, operations and maintenance costs are fully passed on to users.

DBCT Management's Position

The draft access undertaking sets out DBCT Management's pricing objectives in relation to developing access charges. Amongst other things (see section 7.3 for more details), DBCT management includes achieving its annual revenue requirement (ARR), so as to provide a commercial return to its shareholders, as one of its pricing objectives. (DAU, Vol. 1: clause 9.1).

In its accompanying submission, DBCT Management indicates that it supports an incentive regulation approach, and that it has developed pricing arrangements that allow its revenues to be aligned with the interests of access holders to ensure both the efficient operation of the terminal and maximisation of throughput. The draft access undertaking provides for the derivation of a

terminal infrastructure charge (TIC) based on DBCT Management's ARR and its contracted reference tonnage. DBCT Management proposes a rebate mechanism to encourage access holders to ship product and share any additional revenue resulting from actual tonnage shipped in excess of reference tonnage.

DBCT Management argues that its aggregate revenue is effectively constrained, but there is incentive for it to promote the efficient use of the terminal through limited sharing in the upside revenues from actual tonnage in excess of contracted reference tonnage. DBCT Management considers that it nevertheless retains significant downside risk in the circumstances where actual tonnage falls below the throughput rebate threshold tonnage in any given contract year.

DBCT Management considers that this hybrid price-revenue cap arrangement establishes a desirable balance between achieving the lowest possible price, and ensuring adequate incentives are in place to encourage the efficient use and optimisation of capacity (without adversely affecting other coal chain costs, such as demurrage) (DAU, Accompanying Submission: 7).

Stakeholder Comments

The DBCT User Group considers that the hybrid price-revenue cap proposed by DBCT Management is not the most appropriate form of regulation for the terminal. The DBCT User Group submitted that its greatest concern with DBCT Management's proposed approach is that it could create an environment where DBCT Management is able to argue that expansions are unnecessary or uneconomic. This could delay the capacity expansion process, potentially at significant cost to users and the Queensland economy.

The DBCT User Group considers that a revenue cap should apply to the terminal's revenues, at least in the first regulatory period, as long as the increased level of risk assumed by the users was reflected in pricing outcomes. The DBCT User Group considers that its proposed revenue cap approach addresses the issue of expansion timing by providing DBCT Management with a defined revenue stream for new capacity. The DBCT User Group considers this would remove any substantive issue as to the reasonableness or economic viability of an expansion (DBCT User Group, sub. no. 5: 29-30). In addition, the DBCT User Group submitted that its proposed revenue cap and pricing proposals better promote fairness and efficiency and provide better incentives for appropriate behaviours (DBCT User Group, sub. no. 5: 30).

Another issue which concerned the DBCT User Group was the circumstances in which DBCT Management secures a higher return than the ARR. The DBCT User Group was concerned that the approach contained in the draft access undertaking would create inappropriate incentives. For example, it may encourage DBCT Management to contract for non-reference tonnage so it could recover the TIC which would not be subject to the rebate arrangements.

For similar reasons, it may create incentives to delay the signing of new contracts for reference tonnage. The DBCT User Group also considered that the approach could create incentives for users to over-contract capacity in order to ensure that throughput remains on the 'flat' part of DBCT Management's revenue curve (DBCT User Group, sub. no. 5: 30).

Other DBCT User Group concerns with DBCT Management's proposed approach included:

- *seemingly symmetrical nature of volume risk sharing is illusory* — the DBCT User Group noted that, historically, the terminal has experienced consistent growth and that there is a low probability of throughput falling below the throughput rebate threshold tonnage in any of the relevant years. However, there is a high likelihood of terminal throughput exceeding the aggregate reference tonnage. Consequently, the DBCT User Group considered that the proposed sharing of volume risk is heavily biased in DBCT Management's favour and that this is inappropriate, particularly on account of some

unintended consequences in relation to take or pay commitments and terminal expansion. Moreover, the DBCT User Group did not consider it appropriate that DBCT Management gain the benefit from increases in throughput. That is, it considered that the almost complete absence of any downside volume risk for DBCT Management does not justify a benefit for any upside volume variations (DBCT User Group, sub. no. 5: 115-116);

- *risks creating an unacceptable environment for take or pay commitments* — the DBCT User Group considered that take or pay commitments play a critical role with regard to capacity expansions as they provide an accountability mechanism for those seeking capacity. The DBCT User Group, therefore, considered that a take or pay commitment forms the most appropriate obligation by an existing or new user seeking terminal capacity and that all users should be subject to substantial take or pay commitments. Accordingly, the DBCT User Group considered that the contractual arrangements, and underlying regulatory arrangements, should be consistent with users accepting all downside risk associated with the terminal (other than the credit risk of a user). It argued that, in this environment, the risk to DBCT Management from terminal expansions is minimised (DBCT User Group, sub. no. 5: 117); and
- *allocation of volume risk is not efficient* — the DBCT User Group argued that an efficient allocation of risk involves a risk being assigned to the party best able to manage it, and a risk being assigned to the party that ascribes the lowest value to it. The DBCT User Group considered that users have greater control over their throughput and their terminal commitments through take or pay liabilities. Accordingly, it argued that users should bear the volume risk as they are best able to manage it. Moreover, in terms of valuing risk, the DBCT User Group considered that volume risk should be assigned to users as DBCT Management’s unit holders may value relatively highly a stable flow of dividend income whereas, in contrast, the mines using the terminal have a relatively volatile risk profile with exposure to price and exchange rate volatility (DBCT User Group, sub. no. 5: 118).

The DBCT User Group considered that the undertaking provided a vehicle to align the incentives of DBCT Management, users and the public interest. However, for the reasons outlined above, it did not consider that allowing DBCT Management to benefit from volumes exceeding the aggregate reference tonnage provided an appropriate basis to reflect this relationship (DBCT User Group, sub. no. 5: 118-119). The DBCT User Group stated that:

DBCT Management’s incentives with respect to volume are perverse — DBCT Management’s returns to its unit holders are maximised when terminal throughput is maximised with minimal capital expenditure — as there is no corresponding liability for DBCT Management as demurrage increases (DBCT User Group, sub. no. 5: 119).

The DBCT User Group, therefore, considered that the undertaking should contain explicit incentives for DBCT Management to provide timely and cost effective expansions in response to user demand. Consequently, the DBCT User Group indicated its willingness to accept a very high level of take or pay commitment associated with contractual liabilities for using terminal capacity (DBCT User Group, sub. no. 5: 119).

In addition to providing timely and cost effective capacity expansions, the DBCT User Group identified various other areas where DBCT Management could affect both the performance of terminal operations and the coal supply chain, and which it believed should be considered in the context of incentive regulation arrangements, namely: capacity planning and delivery; improving productivity of existing capacity; operator accountability; and customer satisfaction with DBCT Management’s performance. Under the DBCT User Group’s proposal, DBCT Management is a facilitator rather than a direct contributor in most areas of potential performance improvement and, as such, DBCT Management would accrue fewer benefits (DBCT User Group, sub. no. 5: 121-122).

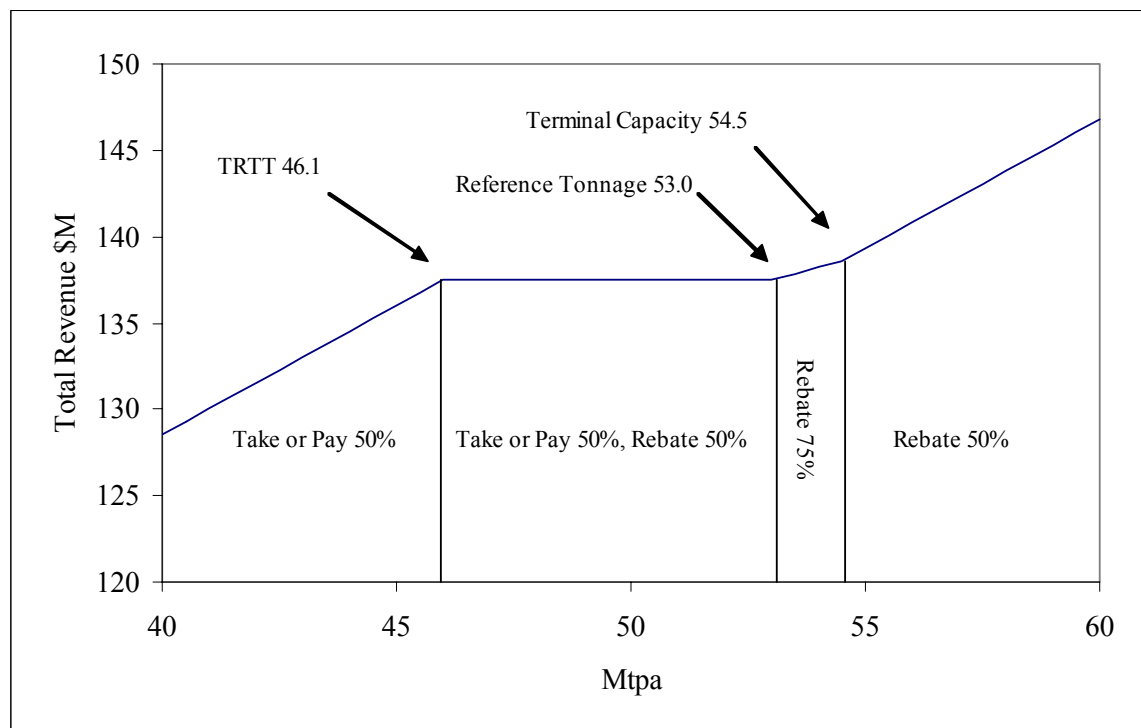
The DBCT User Group raised the issue of which party should bear the risk associated with an access seekers' creditworthiness. Specifically, it considered that DBCT Management was the only party in a position to make an assessment of this. Moreover, it is appropriate that the credit risk for a particular access seeker or user is not passed on to other users. Accordingly, the DBCT User Group considered that DBCT Management should bear the risk of a user defaulting on its agreement because of either financial failure or bankruptcy. In such circumstances, the DBCT User Group proposed that the ARR be adjusted to account for the lost contribution from the defaulting user (DBCT User Group, sub. no. 5: 122).

The QRC noted that the key drivers are the requirement to attain lowest whole-of-life cost to shippers, recognising the legitimate claim by the infrastructure provider to receive a return on capital commensurate with the risk it is exposed to, thus encouraging ongoing investment in the facility. The QRC supported the DBCT User Group's proposed revenue cap model and reiterated that the rate of return assessment is inextricably linked to the pricing structure (QRC, sub. no. 2: 7).

Authority's Analysis

DBCT Management has proposed applying a hybrid price-revenue cap to the terminal's revenues. Under this approach, while DBCT Management bears the risk of under-recovering its revenue if volume falls below a specified threshold, there is a sharing of revenues if volumes exceed contracted tonnage (this arrangement is illustrated in Figure 7.1). In contrast, the DBCT User Group has proposed a pure revenue cap.

Figure 7.1: Revenue under DBCT Management's approach



Source: The Terminal Capacity, Reference Tonnage, and TRTT values are FY2005 estimates from DBCT Management's draft access undertaking, Schedule C, p. c-4.

In considering the most appropriate form of regulation to apply to the terminal, the Authority has had regard to a number of factors, such as revenue adequacy, the incentives created for both DBCT Management and users and the implications for the management of capacity, for example the timing and pricing of capacity expansions and the lost opportunities or delay costs that may result when capacity is not expanded. These matters are all significant issues for the

users as demurrage costs can be quite onerous and DBCT Management does not face the demurrage costs. This is particularly critical given that the terminal is currently capacity constrained. While the Authority notes that the draft access undertaking includes capacity expansion triggers related to demurrage costs, the Authority is not confident these triggers will be effective in limiting increases in delay costs.

Consequently, the Authority considers it is important to have a regulatory environment that creates appropriate incentives for DBCT Management in terms of when it should undertake capacity expansions. The Authority also believes that the legitimate business interests of users could be significantly affected by demurrage costs if the form of regulation provides incentives for DBCT Management to over-contract for capacity.

DBCT Management's approach has merit in terms of providing it with a reasonable degree of revenue certainty, as well as creating some incentives for the more efficient use of capacity, through sharing upside benefits of higher than expected throughput. This is supported by the take or pay terms of contracts entered into under the terms of the undertaking. Nevertheless, the Authority believes that this approach is better suited to circumstances where there is a more effective trigger for capacity expansion or where there is excess capacity such that new tonnages are less likely to increase delay costs.

Despite the merits of DBCT Management's proposed approach, the Authority is of the view that a revenue cap is the form of regulation that is likely to create the best incentives for the access provider in terms of contracting for throughput and managing terminal capacity in an optimal way. The Authority has reached this view for a number of reasons.

First, the timely investment in additional terminal capacity is a critical issue for users. The Authority recognises that DBCT Management has a legitimate interest in undertaking such investment only where it can be commercially justified by earning an adequate rate of return on that investment. DBCT Management may be reluctant in some circumstances to invest in additional terminal capacity unless it has sufficient certainty of achieving such a return. This situation may be compounded by the fact that the expansion path of the terminal includes large investments involving significant additional capacity (for example, a third outloading string).

Under a revenue cap, DBCT Management will have revenue certainty in regard to future capacity expansions. That is, it is the users who will bear the volume risk associated with an increase in capacity. The Authority considers this is a preferable arrangement to one where there may be a case for expansion, yet DBCT Management is reluctant to commit to this because of uncertainty about future demand. Moreover, the Authority considers users are best placed to manage this volume risk, so it is reasonable that it is borne by users and, as discussed in Chapter 4, that they have a significant input into the timing of capacity expansion.

Second, related to this are the incentives DBCT Management faces under a revenue cap as opposed to the hybrid it has proposed. In certain cases, DBCT Management may have an incentive under its hybrid approach to ship as much throughput as possible at the existing level of capacity, and deferring any expansion. This potential for DBCT Management to over-contract for capacity, and earning above benchmark returns by doing so, may have significant adverse consequences for users in terms of delays at the terminal and consequent demurrage costs. Terminal delays may also have impacts on rail transport costs, mine operation costs and any associated consequential losses. DBCT Management has only very limited liability for such costs and, therefore, it may not have adequate incentives to take them into account. The Authority believes that these associated delay costs and consequential losses would be minimised under a revenue cap.

Revenue caps are typically associated with unders and overs accounts to adjust for any under or over collection of revenue by the access provider at the end of the year. The regulatory

arrangements for DBCT will need to provide a mechanism to achieve this. Specifically, any shortfall in DBCT Management’s annual revenue requirement will need to be met by access holders. Any over-recovery of revenue will similarly need to be redistributed back to access holders. The Authority considers that such an account should accrue interest at the WACC rate during the period funds are held in it, to be included in the amounts owed to DBCT Management or paid out by DBCT Management at the end of the year.

The DBCT User Group submitted that DBCT Management should bear the risk associated with an access seeker’s creditworthiness as it is best placed to manage this risk. If a user defaults on its access agreement, the DBCT User Group proposed that the annual revenue requirement should be adjusted to account for this. The Authority considers that DBCT Management should have the incentive to manage this default risk. Its interests are safeguarded to a considerable extent as the undertaking allows DBCT Management to cease negotiations if an access seeker or its guarantor is not of good financial standing. If DBCT Management does enter into an access agreement with a party, the SAA allows for the access holder to provide a guarantee of its obligations under the agreement, if DBCT Management considers this is reasonably justified having regard to the creditworthiness of the access holder (see Chapter 6).

In this way, DBCT Management will have the incentive through the access negotiation process to manage default risk. The Authority also notes that DBCT Management would still have a claim over take or pay amounts owed under the agreement if a user defaults. Basically, DBCT Management should bear this default risk over the regulatory period. As such, access revenue which DBCT Management has been unable to collect as a result of contract default should not be taken into consideration in determining any end of period unders or overs adjustment until such time as replacement tonnes are found or the contract expires.

In order for the undertaking to be approved, it must be amended so that:

- **a revenue cap approach is adopted;**
- **there is an unders and overs account which accrues interest during the period funds are held in it; and**
- **DBCT Management assumes full responsibility for, and non-defaulting users are not penalised for, outstanding access revenue of a defaulting user.**

Incentive regulation regimes typically include: arrangements for sharing efficiency gains, including the determination of a productivity offset, ‘X’, to apply within the regulatory period; and any benefit-sharing arrangements for sharing any out-performance of ‘X’ between regulatory periods. X-factors are usually considered in terms of achievable productivity improvements in operations.

The draft access undertaking for DBCT is not typical in this regard because operating costs are passed directly through to users (see Chapter 10 for further details). As a result, the Authority does not propose applying an X-factor to the revenue cap for DBCT. As discussed later in this chapter, the Authority assesses the merits of prices to promote efficient utilisation of the facility.

Although there will be no X-factor adjustment, revenue will be rolled forward on the basis of an annual Consumer Price Index adjustment.

7.3 Pricing objectives

DBCT Management’s Position

DBCT Management has set out a number of pricing objectives in clause 9.1 of its draft access undertaking. In developing access charges, DBCT Management’s objectives are to:

- achieve its annual revenue requirement (ARR) in order to provide a commercial return to its shareholders;
- provide incentives for efficient utilisation of terminal capacity;
- ensure equitable treatment of access holders and access seekers;
- encourage efficient future investment in the terminal; and
- ensure full recovery from access holders of terminal operating costs.

Stakeholder Comments

The DBCT User Group states that the pricing objectives should be augmented so that the pricing structure also achieves:

- the lowest net present cost of total terminal related costs — a principle issue is developing a pricing structure which provides appropriate pricing signals that will promote efficient use of the terminal and reward behaviour that defers capacity augmentation;
- transparency — a pricing mechanism should enable charges to be traced to their origin, and the mechanism should be predictable to enable a user to forecast their terminal usage costs;
- simplicity — transaction costs and the number of disputes are likely to be lower the more simple the pricing mechanism is, reducing costs for all parties;
- equity and the recognition of swings and roundabouts — in a simple pricing structure some users may benefit more than others from certain aspects of the structure, but in general, the DBCT User Group considers there will be equity amongst the users; and
- tolerable levels of risk — changing to the more complex pricing structure proposed by users represents a risk. Given this, the DBCT User Group argues that a conservative approach to cost reflectivity is best as full cost reflectivity, at least initially, would be unnecessary and undesirable (DBCT User Group, sub. no. 5: 140-142).

These points are addressed further below for each of the pricing structures presented by DBCT Management and the DBCT User Group.

The DBCT User Group also considers the pricing objectives should be expanded to include the following:

- ensure efficient terminal operating costs;
- ensure coal chain efficiency;
- ensure the long term competitiveness of the Bowen Basin coal industry; and
- ensuring that the terminal continues to be managed, operated and maintained at a high standard to meet the needs of existing and future users (DBCT User Group, sub. no. 5: 189).

The DBCT User Group argued that, although these objectives might extend beyond the usual range of concerns of a terminal owner, they are required to be taken into account by DBCT

Management under the PSA and should be included as objectives of the owner, Holdings, as an instrumentality of the Queensland Government.

In addition, the DBCT User Group has also noted that clause 9.1(a) of DBCT Management's proposed pricing objectives refers to 'providing a commercial return to its shareholders', that is, the shareholders of DBCT Management, when it is principally a return to the unit holders in DBCT Trust that is relevant. The DBCT User Group also proposed that the wording in clause 9.1(d) should refer to encouraging efficient expansion of the terminal (where required), rather than 'investment in' the Terminal (DBCT User Group, sub. no. 5: 189).

Authority's Analysis

The Authority considers that the principles upon which access charges should be based include achieving revenue adequacy, providing a price structure which promotes efficient use of the terminals' facilities, simplicity/practicality, a transparent pricing mechanism and equity between users.

In light of the above criteria, the Authority considers DBCT Management's pricing principles to be generally sound, subject to the amendments discussed below.

With respect to DBCT User Group's argument that their proposed additional principles should be included in the pricing objectives because they are included in the PSA, the Authority considers that it is not necessarily appropriate to repeat these in the access undertaking. Specifically, the objectives relating to the whole of chain efficiency and the long term competitiveness of the Bowen Basin coal industry, while laudable, are very broad and are beyond the control of DBCT Management. In the Authority's opinion, the pricing objectives in the undertaking should be succinct to avoid confusion and the potential for conflicting objectives.

Similarly, while the Authority notes the DBCT User Group's concerns regarding the pricing objectives relating to the commercial returns to DBCT Management's shareholders, it does not believe there is sufficient reason to justify an amendment to the draft access undertaking. DBCT Management and DBCT Trust are both wholly owned entities of Prime Infrastructure Management and Prime Infrastructure Trust. Ownership of the latter two entities is by the same parties by virtue of the ownership of stapled securities in Prime Infrastructure Management and Prime Infrastructure Trust.

Despite this, there is merit in including the DBCT User Group's proposed pricing objective relating to the efficient operating costs of the terminal. Clause 9.1 of DBCT Management's draft access undertaking has been expressed in terms of developing an access charge, which by definition covers the operating costs. Although the Authority has accepted the proposal of passing through the operating costs at the terminal to the users, a detailed efficiency assessment of the operating costs has not been undertaken. As the company which operates the terminal is owned by 6 of the 9 terminal users, it is expected that there is sufficient incentive for the Operator to ensure the terminal is operated efficiently. Accordingly, the Authority believes it is appropriate to include efficient terminal operating costs as a pricing objective for DBCT Management. It should be noted that the Authority has recommended that the definition of the terminal operating costs be redefined as it is too broad (see Chapter 10 for details).

In order for the undertaking to be approved it should be amended as follows:

- **add an additional clause 9.1(f): ensure efficient Terminal Operating Costs.**

7.4 Pricing Structure

DBCT Management's Position

DBCT Management has proposed an access charge which will have two components: a capital charge and an operating and maintenance charge (DAU, Vol. 1: clause 9.2). The capital charge (reference tariff) is the focus of this section, especially the pricing structure used to determine the capital charge paid by each user. The operating and maintenance charge, which is the component of the access charge through which DBCT Management recovers the terminal operating costs, is proposed to be passed through to access holders (DAU, Accompanying Submission: 39).

The reference tariff will apply to coal handled under the reference terms (ie, terms and conditions of a standard access agreement). Such coal is referred to as reference tonnage. The capital charge for coal which is not handled under the reference terms will be negotiated between DBCT Management and the access seeker. The reference tariff will be set so that DBCT Management's annual revenue requirement (ARR) will be recovered over the aggregate reference tonnage (assuming the reference tariff applies to all reference tonnage).

Outline of Reference Tariff

The reference tariff has two parts - a TIC and a throughput rebate (TR). The TIC, in turn consists of two parts, a fixed component and a variable component. The variable component is based on an access holder's throughput, while the fixed component is payable irrespective of an access holder's throughput. The fixed component is the take or pay mechanism and all tonnages contracted on reference terms are subject to the take or pay arrangement. The take or pay arrangement aims to reduce any downside volume risk for DBCT Management. Schedule C of the draft access undertaking sets out the method for calculating the different components of the reference tariff and these pricing arrangements are summarised below (DAU, Vol. 1: clause 9.3).

The TR applies when aggregate tonnes shipped through the terminal are in excess of a defined threshold (the TRTT). That is, a proportion of revenues earned from tonnes shipped above the TRTT will accumulate in a TR pool, to be distributed amongst users at the end of each year. The TR received by an individual user from the pool will reflect, among other things, the relative efficiency of that user's use of the terminal (discussed further below). DBCT Management argues that these incentive mechanisms encourage users to provide accurate forecasts of tonnages to be shipped.

Under the proposed pricing model, all users will initially be charged the same TIC for each tonne shipped through the terminal in a contract period. The TIC is a \$/tonne measure and has been calculated so that it is constant in nominal terms (ie, the TIC is declining in real terms) for the length of the regulatory period. The TIC is a function of the terminal's annual revenue requirement (ARR), aggregate reference tonnage in a contract period (T^R) and the TRTT in a contract period. It is slightly higher than a simple average price – that is, if the TRTT is about 85% of T^R , then the TIC is about 8% higher than a simple average price.

DBCT Management’s proposed TIC is calculated as follows:

$$\text{TIC} = \frac{\text{ARR}}{\left(\text{TRTT} + 0.5 \times (\text{T}^{\text{R}} - \text{TRTT})\right)}$$

Where:

TIC	=	the Terminal Infrastructure Charge
ARR	=	Annual Revenue Requirement
TRTT	=	Throughput Rebate Threshold Tonnage
T ^R	=	Aggregate Reference Tonnage

According to Schedule C of DBCT Management’s draft access undertaking, the TIC rate to apply to all reference tonnage is \$2.77. For each user, the TIC is subject to two adjustments at the end of each year. The first of these compares an access holder’s actual throughput to contracted throughput to determine if that access holder has under or over shipped. Penalties apply for both undershipment (take or pay penalty of 50% of the TIC) and over shipment (a TIC premium of 30% is applied to reference tonnages handled in excess of an access holder’s contracted reference tonnage). The second adjustment occurs if the terminal’s aggregate reference tonnage (T^R) is greater than the TRTT. If the T^R is greater than the TRTT, then the throughput rebate pool is allocated amongst users based on throughput tonnage (adjusted for tonnages on cancelled trains) and relative efficiency.

DBCT Management has proposed to introduce an efficiency adjustment to the TR pool distribution by introducing an efficiency factor progressively. That is, the efficiency factor will not have an impact on the distribution of the rebate pool in the first year, and will be fully implemented by the final year of the regulatory period.

The efficiency factor for each user is based on their level of consumption of the key terminal resources, that is, inloading hours, outloading hours, and any use of cargo assembly from cancellation/delay to ship loading. The relative efficiency of each user will influence the magnitude of their rebate. That is, a more efficient user will receive a relatively higher throughput rebate per tonne. Usage of the terminal’s resources is costed based on a set of benchmark costs, which are yet to be developed (DAU, Accompanying Submission: 46).

DBCT Management’s pricing proposal is linked to its proposed hybrid revenue cap. Over a certain range of throughput, the revenue received by DBCT Management would be constant – that is, between the TRTT and the aggregate contracted tonnage level (see Figure 7.1 above). Below the TRTT, DBCT Management will not fully recover the facility’s revenue requirement. At throughput levels above contracted tonnage, DBCT Management’s revenues will be in excess of the facility’s revenue requirement.

Take or pay

DBCT Management argue that the total cost to access holders of the terminal’s services will be minimised if DBCT Management is able to ensure both the efficient use of capacity and that expansions of capacity are actually necessary and funded. DBCT Management has, therefore, proposed a pricing framework that encourages take or pay contractual terms. DBCT Management considers that the take or pay terms place an incentive on access holders to contract for capacity that they can reasonably expect to use, providing a disincentive to hoard capacity. DBCT Management argues that take or pay arrangements give access holders the

incentive to accurately predict their terminal capacity requirements, enabling DBCT Management to closely match terminal capacity with demand. DBCT Management considers that, without such arrangements, a significant capacity buffer would be required to ensure the efficient operation of the terminal, and that this would raise costs for all access holders (DAU, Accompanying Submission: 41).

The pricing framework proposed by DBCT Management (clause 9, Schedule C) is linked to take or pay terms (the take or pay penalty is 50% of the TIC) as DBCT Management proposes to recover its ARR over the aggregate Reference Tonnage. Reference Tonnage is defined as: tonnages contracted as Product 4 under existing user agreements (ie. for a term of 10 years or more with a take or pay component) plus tonnages contracted on Reference Terms (ie. under the terms of the standard access agreement). In essence, DBCT Management proposes to recover its ARR over tonnages contracted on long term take or pay terms. Revenue earned on tonnages on non-reference terms or on tonnages in excess of nameplate capacity will be shared between DBCT Management and users on a 25/75 and 50/50 basis respectively. These additional revenues will be returned to users through the rebate pool.

Under current user agreements, nearly all throughput is contracted on long term take or pay terms (Product 4). Under the draft access undertaking, the pricing framework in Schedule C (Reference Tariff) and the pricing principles included in Schedule B (principles for inclusion in a standard access agreement) include take or pay liabilities for contracted tonnages which are not shipped. That is, an access holder will be required to pay the fixed component of the TIC rate (50%) on reference tonnes not shipped.

Whole of Supply Chain Efficiency

DBCT Management proposes, on a best endeavours basis and in consultation with stakeholders, to implement mechanisms to improve the efficiency of the overall coal chain. These initiatives include introducing efficient pricing signals in three stages over the term of the undertaking, namely:

- Stage 1 (2004-06) — pricing signals aimed at promoting efficient terminal utilisation which operate at the throughput rebate level;
- Stage 2 (2006-08) — pricing signals aimed at promoting efficient terminal utilisation which operate at the TIC and operation and maintenance charge level; and
- Stage 3 (2008-11) — pricing signals reflective of amended business, mining and transport practices which drive changed behaviour across the whole of the Goonyella export coal supply chain.

The draft access undertaking also proposes establishing a coordination body, the Goonyella Supply Chain Committee, with representation from DBCT Management, the Operator, access holders, rail operators and the rail network manager. The purpose of the Committee is to facilitate efficiency initiatives for the whole of the Goonyella coal chain. DBCT Management proposes that any savings in coal chain costs resulting from changes made to existing arrangements should be shared equitably with DBCT Management. DBCT Management commits to submitting a draft amending undertaking which encapsulates any proposed changes for the Authority's approval. Further, it commits to meet with the Authority on an annual basis to report progress on the initiatives agreed by the committee (DAU, Vol. 1: clause 12).

The Stage 1 pricing signals are detailed in Schedule C. An approximate timetable for Stages 2 and 3 is in Schedule H.

Stakeholder Comments

DBCT User Group's Critique of DBCT Management's Proposed Pricing Structure

In its submission, the DBCT User Group reviewed DBCT Management's proposed pricing structure. It noted that, under DBCT Management's proposed model, the magnitude of the price signalling component is driven by the relative efficiency of the users, the size of the rebate pool, each user's terminal use and the extent to which the allocation of that pool is purely volume driven or driven by relative efficiency. The DBCT User Group considers that this approach is:

- indirect, and therefore not causal — the cost reflective element is not driven by a user's actual consumption of capacity but rather by the size of the rebate pool (determined by total terminal throughput) and a user's relative capacity consumption. Price signals are indirect as there is the potential that a reward for good behaviour will depend upon a range of outcomes beyond a user's control.
- uncertain — users will have no knowledge of the magnitude of the value of any price signals at the time their behaviour is meant to be influenced, instead only finding out their prices at the end of the year.
- likely to be ineffective — price signalling works on a relative measure of performance, rather than a truly cost reflective attribution of costs to users. That is, the impact of a user's behaviour will depend primarily on the behaviour of others.
- relatively weak — the DBCT User Group's indicative modelling suggests that, depending on the size of the pool, DBCT Management's cost reflectivity will be less than that proposed under the User's model.

In terms of the pricing principles espoused by the DBCT User Group, it considers DBCT Management's proposed approach lacks transparency and is not simple (DBCT User Group, sub. no. 5: 142-143).

DBCT User Group's Proposed Pricing Structure

The DBCT User Group has proposed an alternative price structure which it considers is more cost reflective than DBCT Management's proposal and, as such, will provide incentives to use the terminal's services more efficiently. The access charge would be a three part tariff based on inloading usage, outloading usage and a balancing item. In addition, the pricing structure would also include a take or pay mechanism. The DBCT User Group has proposed that the inloading and outloading tariffs be charged on a \$/hour basis.

The inloading charge would be based on time spent at inloading (first coal to last coal) plus a notional set up time per train consignment (40 minutes). The time at inloading would include any delays attributable to the user and these would include minor breakdowns (those of less than 40 minutes duration). Delays not attributable to the user would include scheduled maintenance; major breakdowns; non-weather working time; and above rail operator delay (absorbed into the residual charge).

The DBCT User Group has proposed to base the inloading charge on the costs which would be involved with the most sensible deferral to consider, namely expanding the inloading facility from two receival systems to three, together with associated upgrades to the stockpile system. The DBCT User Group has estimated the cost of developing a third receival system at \$100 million. The DBCT User Group is of the view that, with consideration of the additional capacity provided by the third system, an inloading charge of approximately \$1,000/hour (ie,

approximately \$0.30/tonne) is broadly representative of the likely magnitude of the future costs of providing this additional capacity (DBCT User Group, sub. no. 5: 146).

The outloading charge would be based on outloading time (first coal to last coal). The time at outloading would include any delays attributable to the user including draft checking time; ship deballasting; product changes (including equipment set-up); await draft clearance; await ship instruction; ship delays; and single event shore side breakdowns not in excess of 4 hours. Delays that would not be attributable to the user would include scheduled maintenance; non-weather working time; coal too wet as a result of heavy rain since ship berthed; stop loading to provide ship access at another berth when hatch log is not broken; and tidal delays during loading. For multi-user ships, outloading capacity consumption would be considered as the gross outloading time attributable to the user (based on the user's share of time between first coal and last coal) less the user's proportion of any loading delays not attributable to the user (based on the user's ratio of loaded tonnes to the total for the vessel).

The DBCT User Group considers, for pricing purposes, the most appropriate incremental capacity expansion can be provided by surge bins, which are estimated to cost around \$20 million. Assuming 75% utilisation, the DBCT User Group has indicated that the cost reflective charge associated with the additional capacity is approximately \$1,500/hour (ie, around \$0.40/tonne).

The DBCT User Group has indicated in its submission that it does not expect the facility's revenue requirement to be fully collected from the inloading and outloading charges alone. Therefore, the DBCT User Group has proposed to incorporate a balancing item into the pricing structure. The balancing item would, on a \$/tonne basis, effectively collect any revenue shortfall. It has been proposed that the balancing item would be adjusted each quarter to account for any under or over collection of revenues resulting from increased or declining efficiency respectively.

A final year adjustment would also be required to account for the take or pay arrangements (discussed below).

The DBCT User Group has proposed that there be no stockpiling charge while the Operator of the terminal controls the allocation of stockpiling but that this issue should be revisited in the future.

The DBCT User Group considers the issue of train cancellation is addressed adequately elsewhere in the coal system, and given the complexity of attributing causation to train cancellations, the DBCT User Group has proposed not to penalise train cancellation through the pricing structure for the terminal.

The DBCT User Group has proposed that the users be billed on a per vessel basis. The per vessel bill would include outloading time for the vessel, total inloading time consumed since the last bill, and the balancing item based on outloading tonnes per vessel.

The DBCT User Group's proposal is a pure revenue cap. That is, irrespective of the facilities throughput, DBCT Management will always fully recover the facility's revenue requirement.

Take or pay

The DBCT User Group considered that the following principles should apply to take or pay arrangements:

- they should promote the lowest net present value of total terminal related costs, which may be achieved if users are enticed to neither under nor over-contract for their

throughput requirements (users are in the best position to manage volume risk, and the take or pay arrangements provide the primary vehicle for signals to be sent to users to accomplish this);

- transparency — allows the users to interact effectively with the take or pay environment;
- simplicity — simple rules minimise the risk of disputes;
- equity and swings and roundabouts — the inherent volatility of production levels and shipping relative to forecast should be recognised; and
- tolerable levels of risk — users should be able to ameliorate their exposure to take or pay liabilities, preferably through secondary trading (DBCT User Group, sub. no. 5: 126-127).

The DBCT User Group considered that DBCT Management’s approach to take or pay was less likely to minimise terminal costs and the risk of disputes. Instead, the DBCT User Group proposed an alternative take or pay model which it believed would promote consistency between contracted and actual tonnage, ensuring more reliable capacity planning and more efficient use of capital expenditure at the terminal. Further, the DBCT User Group noted that this model was consistent with its proposed ‘revenue cap’ approach whereby users bear a relatively high proportion of volume risk.

Under the DBCT User Group’s proposed model, take or pay liabilities would apply outside a certain volume collar. For undershipment of contracted tonnage, the DBCT User Group proposed that relatively high take or pay liabilities be applied on the basis that this would discipline future capacity expansion commitments, encourage secondary trading of capacity and allocate volume risk to the party best able to manage it (ie. users). For shipping in excess of contracted tonnage, the users considered that substantial charges be applied to users who materially exceed the threshold. The DBCT User Group noted that this charge reflects demurrage costs, which tend to increase at an increasing rate in response to additional throughput. The DBCT User Group also proposed shortfall payments and rebates to address under/over recovery of the MAR (DBCT User Group, sub. no. 5: 130-131).

In summary, the DBCT User Group proposed that take or pay liabilities be assessed on the following basis:

- where the user operates within a 90%-110% band of contracted volume (subject to shortfall payments as described below) — nil;
- for users whose throughput is below contracted capacity — 90% of charges for the difference between actual throughput and the 90% minimum threshold (subject to shortfall payments and secondary trading described below);
- for users whose throughput exceeds contracted capacity — additional charges to apply on that portion of throughput that exceeds contracted capacity as follows:
 - a 25% additional TIC charge to apply to incremental throughput levels between 110% and 125% of contracted capacity; and
 - a 50% additional TIC charge to apply to incremental throughput levels greater than 125% of contracted capacity.
- to the extent that the application of take or pay arrangements results in over-recovery of the MAR, the excess is to be returned to users in proportion to their actual throughput;

- to the extent that these rules generate a shortfall in MAR, that shortfall be paid by each user whose actual throughput is less than contracted throughput in proportion to that user's shortfall; and
- the regime should provide for settlements on an annual basis (DBCT User Group, sub. no. 5: 134).

The DBCT User Group considered that secondary trading of capacity was important to managing the risk associated with prospective take or pay liabilities. It also suggested that the Operator is in the best position to monitor capacity trading. The DBCT User Group acknowledged that such trades should not affect the assignor's liability to DBCT Management for the TIC, in the event that the assignee fails to meet its obligations (unless prior consent has been given) (DBCT User Group, sub. no. 5: 133).

Whole of Supply Chain Efficiency

The DBCT User Group believes a process for improving coal chain efficiencies is worthwhile, although it does not support DBCT Management's proposed process. The DBCT User Group believes that DBCT Management's staged introduction of efficient pricing signals, in particular stage three, is so non-specific as to be of no real effect (DBCT User Group, sub. no. 5: 192).

The DBCT User Group considers that the "best endeavours" wording of clause 12(a) together with clause 12(g), which imposes no obligation on DBCT Management to enter into any new arrangements, qualifies the commitment of DBCT Management to improving whole of coal chain efficiency.

The DBCT User Group also believes that DBCT Management has not defined the basis or rationale for why it should obtain "an equitable sharing in the benefits of savings". It considers that the savings arising from efficiencies in the coal chain are more likely to result from actions of other stakeholders such as users and the Operator, rather than DBCT Management. In any event, the DBCT User Group has proposed a three-year term for the undertaking and, hence, considers clause 12 to be largely impractical (DBCT User Group, sub. no. 5: 23).

QR and the DNRME support proposals to improve the overall efficiency of the Goonyella coal supply chain. QR notes it is willing to explore possibilities for closer co-operation between it and coal chain stakeholders with a view to developing initiatives that benefit all parties. Accordingly, QR is willing to actively participate in the proposed Goonyella Supply Chain Committee. QR noted an immediate concern is the co-ordination of programming of maintenance of DBCT facilities with QR's infrastructure at the port. It notes the undertaking, including the Terminal Regulations, makes no mention of this (QR, sub. no. 9: 1). DNRME submit that DBCT Management's draft access undertaking should include more details as to the proposed pricing signals and arrangements intended to promote efficient terminal utilisation and improve coal chain efficiency (DNRME, sub. no. 7: 3).

Authority's Analysis

As discussed in section 7.2 above, the Authority has recommended a revenue cap. Therefore, the question here is what pricing structure is the most appropriate to recover DBCT Management's assessed revenue requirement. In considering this, the Authority has had regard to revenue adequacy, efficiency incentives, simplicity/practicality, equity between users and transparency.

The pricing structures proposed by DBCT Management and the DBCT User Group differ to varying degrees on the criteria identified above. Both approaches have their merits and limitations.

Revenue adequacy is critical to ensuring that the terminal earns sufficient revenue to maintain the infrastructure appropriately and to provide sufficient incentive to expand the terminal when required. It will be determined to a large extent by the regulatory regime and, under a revenue cap, DBCT Management will have a high degree of certainty over its revenue, irrespective of the price mechanism.

The efficiency incentives are of considerable importance to the decision on which structure should be implemented as they can directly affect users' behaviour, potentially resulting in greater operational efficiency. This may lead to the deferment of expansion and reduce the overall cost of using the terminal. The extent to which the pricing structure provides incentives for greater efficiency will depend on just how cost reflective it is and how transparently pricing signals are conveyed.

DBCT Management has proposed a pricing structure that includes an element to be phased in over the initial regulatory period which is designed to promote the efficient use of existing terminal capacity. While the importance of this element of the reference tariff will grow over time, for the most part the tariff is based on the TIC (including take or pay component) which is a single \$/tonne charge across all users. Consequently, being a single tariff structure, DBCT Management's proposed price structure does not include a strong and direct signal reflecting the costs the major services provided at the terminal, such as inloading, stockpiling and outloading, as the user's proposed approach.

Incentives to influence users' behaviour in relation to their use of the terminal's services under DBCT Management's price structure only operate through the efficiency component of the annual TR adjustment. The TR received by each user will be influenced by that user's relative efficiency of terminal use, taking into account the usage of certain terminal services. Specifically, a user's share of the TR pool will reflect its usage of inloading, outloading and usage of the cargo assembly area where shiploading has been cancelled or delayed. This distribution will be based on a user's 'rebatable' throughput, which is its total throughput adjusted to subtract tonnages on cancelled trains.

The Authority considers that DBCT Management's proposed approach of linking the TR distribution to usage of these key terminal services is a positive step over the existing pricing structure as it conveys important pricing signals to users. In particular, there appears to be merit in the proposed cargo assembly charge given the potential for disruption to terminal operations where cargoes are assembled but loading is delayed or cancelled. However, these pricing signals, by operating through the TR mechanism, are indirect, reducing any potential influence on user's behaviour that might result in more efficient use of these services. The efficiency component does not affect the TIC paid throughout the year, but rather only influences a user's price when the TR is paid at the end of the period. As such, the efficiency adjustment is retrospective in nature and is only likely to provide a muted and indirect incentive to users to ensure their behaviour is efficient.

In addition, the nature of the efficiency adjustment mechanism in DBCT Management's proposal is such that the quantum of the rebate pool and the distribution of the rebate pool can be heavily influenced by other user's behaviour, potentially reducing any benefit to an individual user from behaving efficiently. This may reduce a user's incentive to use the terminal's services efficiently. Further, the total size of the rebate pool depends on total terminal throughput, and is therefore beyond the control of individual users. Moreover, under DBCT Management's proposed approach, the efficiency adjustment is only introduced progressively throughout the term. The detail of further proposed changes (to be undertaken as

part of steps 2 and 3 as outlined under the proposed whole of supply chain efficiency measures) are yet to be developed.

The DBCT User Group's proposed pricing structure is a more direct, cost reflective approach than DBCT Management's proposal, although it excludes a direct charge for stockpiling/cargo assembly. The stated reason for excluding a stockpiling/cargo assembly charge was that the terminal Operator controlled the allocation of stockpiling. The DBCT User Group did not elaborate on this point any further in its submission.

With the DBCT User Group's proposed time of use price structure, a more efficient user will be charged less for the same level of throughput than a less efficient user. As each user's relative efficiency affects only the amount they are charged, the behaviour of other users should not diminish a user's incentive to improve their efficiency levels. In addition, as the users would be billed on a per vessel basis, the signalling effect (ie linking good performance with a low charge) would be immediate thereby reinforcing the incentive for a user to improve their efficient use of the terminal's services. As this is a more direct link between any costs associated with the usage of the terminal and prices paid, this process would be likely to have a more pronounced impact on users' behaviour than DBCT Management's proposal, potentially resulting in higher levels of efficiency at the terminal.

The pricing structure proposed by the DBCT User Group will be subject to three adjustments. One of these adjustments, the balancing item adjustment, occurs at the end of each quarter. The other two adjustments, being for under or over haulage and for under or over collection of revenues, occur at year end. The nature of the pricing mechanism proposed by the DBCT User Group is such that, for all of these adjustments, the outcome for a user is not dependent on the behaviour of the other users, but is solely dependent on their own ability to meet their forecast demand and to use the terminal efficiently. As such, a user's incentive to use the terminals services efficiently is not undermined by the prospect that the behaviour of other users will reduce that user's benefit from operating efficiently. In fact, it is possible that action by all users to improve efficiency may release capacity to new demand, resulting in a price decline for all users as the fixed level of revenue will be recovered over more tonnages.

However, despite the many merits of the pricing structure proposed by the DBCT User Group, the Authority is concerned about the practical limitations of that approach. In particular, the Authority understands that the separate pieces of equipment in the inloading and outloading stream have different rated capacities. For instance, while

- inloading is rated at 5500tph:
 - stacking machines nos. 1 and 2 are rated at 4250tph;
 - stacking/reclaiming machine no. 3 is rated at 4500tph;
 - stacking/reclaiming machines nos. 4 and 5 are rated at 5000tph;
- outloading is rated at 7200tph:
 - stacking/reclaiming machines nos. 1 and 2 are rated at 3800tph;
 - stacking/reclaiming machine no. 3 is rated at 4000tph;
 - stacking/reclaiming machines nos. 4 and 5 are rated at 4800tph.

As a result, outloading and, in particular, inloading performance depends on, to a degree, the combination of machines the terminal operator has chosen to handle a particular user's coal.

This is outside the control of the user and decisions in relation to it will be made by the terminal operator with a view to optimising the terminal's operations. As a result, time of use charges that seek to encourage users to more efficiently use the terminal's facilities will be affected by factors that are both within and beyond the control of users. The Authority is concerned that by including factors that are beyond the users' control, this will diminish the incentive properties of the time of use charges. Of greater concern, is that it may also result in users adopting strategies to ensure that they get selected to use those facilities with the faster handling rates. If this eventuated, the time of use charges would be counter productive as such strategies would be likely to adversely affect the efficient operation of the terminal.

While the Authority sees merit in the time of use charge approach and the efficiency incentives it provides, the Authority is reticent to require a move to time of use charges for inloading and outloading while these outstanding concerns persist. The Authority does not consider that these concerns are insurmountable, in that it would seem possible to adjust for the impact of different capacity machines. Similarly, the Authority is currently unconvinced that there should not be a stockpiling/cargo assembly charge. The Authority therefore proposes to further address these issues with stakeholders before making its Final Decision. Pending the outcome of this, the Authority will continue with a \$/tonne charge.

Take or pay

The Authority supports take or pay arrangements as a means of providing appropriate incentives with respect to contracting for terminal capacity. That is, if access holders have to pay a take or pay charge on tonnages they have contracted for, but not shipped, they will have a strong incentive to accurately forecast throughput requirements and to not under or over-contract for capacity.

Access contracts that line up as closely as possible with actual throughput will greatly assist the access provider in planning and managing its capacity requirements, thereby contributing to an optimal expansion path being followed at the terminal. In addition, take or pay arrangements ensure that, under a revenue cap arrangement, the cost of any excess capacity (a throughput shortfall) is shared broadly in accordance with contract tonnage, not actual tonnage. The ability to undertake secondary trading of capacity provides a mechanism by which users can manage the volume risk they bear under the take or pay regime.

The DBCT User Group has proposed an alternative structure to the take or pay charges to apply at the terminal which it considers more likely to minimise terminal costs and the risk of disputes.

This proposal involves higher take or pay charges for tonnages not shipped, but only outside a 90% - 110% band of contracted volume. The penalty escalates the greater the divergence from contracted tonnage above the 110% threshold.

The Authority believes that this proposal imposes greater emphasis on an individual user's contractual commitments and is likely to result in users adopting contractual commitments that more accurately reflect their anticipated usage pattern. Consequently, the Authority accepts the DBCT User Group's proposed arrangements relating to the take or pay element of the TIC and penalties for tonnages in excess of contracted throughput. Acceptance of the DBCT User Group's proposals is appropriate given that they will be assuming the volume risk under the revenue cap proposal.

Whole of Supply Chain Efficiency

The Authority agrees with stakeholders that it would be desirable to achieve improvements and efficiencies across the whole of the coal chain, and therefore supports measures designed to identify and facilitate such efficiency measures. However, the Authority also recognises the enormous complexity and difficulties in achieving whole of coal chain improvements, given the number of stakeholders and interdependent factors. Moreover, DBCT Management is responsible for only one link in the supply chain, and so is mindful of not placing obligations on DBCT Management with respect to the whole supply chain that is beyond its ability to control. Given this, the Authority considers it is reasonable for the undertaking to include an obligation on DBCT Management to consult with stakeholders on whole of coal supply chain efficiency issues.

Many of the provisions in this Part 12 of the draft access undertaking reflect DBCT Management's overall approach with respect to the pricing arrangements introduced over its proposed seven year term. As the Authority has largely rejected DBCT Management's pricing approach, as well as recommending a five year term, several of these provisions will need to be amended or deleted. In particular, the Authority proposes that clause 12(c) which sets out the different stages proposed by DBCT Management for introducing efficient pricing signals over the term of the undertaking should be deleted as it is no longer applicable. This will necessitate some consequential amendments in clause 12(d) to reflect this change. Clause 12(e) should also be deleted as it no longer applicable. However, the Authority notes that DBCT Management is free at any stage to submit a draft amending undertaking which includes any proposals relating to improvements in whole of supply chain efficiency.

The Authority's proposed pricing structure

Implementing a pricing mechanism at the terminal as part of the access undertaking will be strongly influenced by the breadth of its application. If the existing product 4 tonnage was not subject to the new pricing structure, while new reference tonnage was, the need to operate several different pricing structures concurrently may arise. That is, there may need to be an individual pricing structure for existing product 4 tonnages, new reference tonnages, and all non-reference tonnages.

The complexity of the pricing structure would depend on the circumstances. For example, if the incremental cost of new capacity is lower than the average cost of existing capacity, a new price based on a revised average cost could be determined for new users. The "most favoured nation" clause in the existing agreements will ensure that a lower price for any one customer is passed on to existing customers. In such circumstance, the pricing structure would remain relatively simple.

Conversely, if the cost of new, incremental capacity is higher than the average cost of existing capacity, the "most favoured nation" clause could not be relied upon to ensure the price to existing customers would increase. As a result, a two or multi tier pricing structure may arise where the product 4 tonnages would effectively pay the average price of the installed capacity whereas new users would pay a higher price based on the incremental cost of expanded capacity. This incremental price may change over time as the cost of each new stage of capacity expansion is unlikely to be the same. The Authority understands that this is the most likely outcome as the costs for new capacity appear likely to be higher than the costs for existing capacity.

Such an arrangement would lead to complexities in the allocation of the ARR across the different categories and possibly the distribution of the rebate pool across eligible recipients. In particular, it is likely that there would be a wide range of events which, when they occurred,

would result in a reset of the reference tariffs for one or more of the above mentioned categories of tonnage.

As such, for a simple and transparent pricing structure to be implemented at the terminal, the Authority sees merit in a pricing structure that applies to both existing product 4 tonnage and any new reference tonnage. This would avoid many of the above mentioned issues. This effectively would mean that DBCT Management and the existing users would need to agree to alter the terms and conditions of existing product 4 tonnage contracts to encompass the new pricing structure. Both DBCT Management and the DBCT Users Group have indicated to the Authority that it would be desirable for the new pricing structure to apply to all reference tonnage including existing product 4 tonnage.

On this basis, the Authority has developed a pricing structure to apply to all reference tonnage which revolves around a revenue cap as discussed below. If DBCT Management and the DBCT User Group are unable to agree on the application of the new pricing structure to existing product 4 tonnage, an alternative pricing structure for the terminal will need to be devised. The alternatives would require the concurrent running of different pricing structures for existing product 4 tonnage and new reference tonnage, and would be subject to the complexities mentioned above.

As discussed previously, the Authority favours a revenue cap regime based on the incentives it offers in relation to efficient and timely expansion of the terminal. Pending the outcome of the further consideration of more disaggregated pricing arrangements, the Authority's proposed pricing structure is a single \$/tonne TIC with the DBCT Users Group's proposed take or pay and unders and overs mechanisms. Implementation of this alternative will result in the volume risks associated with throughput at the terminal falling substantially on the users. The details of the Authority's proposed pricing structure are provided in Part B of this decision in Section 9 and Schedule C.

The revenue cap will apply to reference tonnages while the ARR will be assessed on all relevant terminal costs. A proportion of these costs are attributable to non-reference tonnages. Consequently, the Authority proposes that the revenue cap for reference tonnages be determined as:

$$\text{Revenue Cap} = \text{ARR} \times \frac{\text{Reference Tonnage}}{\text{Total Contracted Tonnage}}$$

The treatment of non-reference tonnage is considered in the following section, 7.5.

DBCT Management has proposed that the TIC be defined (see section 7.4 above) in such a way that, if contracted tonnages are handled, then a refund would be routinely paid to users at the end of the year. The Authority believes that, rather than accepting DBCT Management's definition, the TIC should be defined as:

$$\text{TIC} = \frac{\text{Revenue Cap}}{\text{Reference Tonnage}}$$

Compared to DBCT Management's method for calculating TIC, the Authority's approach will result in a lower TIC value as it is not grossed up to take account of the TR mechanism.

The take or pay and unders and overs mechanisms will be applied at the end of the period once all outcomes in relation to throughput are known. The take or pay mechanism will be considered first, with users settling any amounts owing under this mechanism. Following this, total revenues for the period will be determined and compared to the ARR. Any under (over)

recovery of revenue will be collected (distributed) from (to) each reference tonnage access holder in proportion to their contracted throughput. This adjustment will be retrospective in nature, that is, affecting the individual users previous period TICs rather than an adjustment to the TIC for the next period. This will provide DBCT Management with a degree of cash flow certainty in each period.

In order for the undertaking to be approved, it should be amended such that:

- **it adopts a revenue cap. A definition of ‘revenue cap’ must be included in clause 2.1;**
- **the TIC should be on a \$/tonne basis;**
- **it reflects the DBCT Users Group approach to take or pay, including penalties for over-shipment;**
- **it includes an unders and overs account to correct for any shortfall/over recovery of revenue; and**
- **Part 12 (Whole of Supply Chain Efficiency) retains an obligation on DBCT Management to consult with stakeholders on whole of supply chain efficiency issues, but removes references to the proposed stages for introducing efficient pricing signals.**

7.5 Reference Tonnage

DBCT Management's position

Reference Tonnage is defined in the draft access undertaking as: that portion of an existing access holder's annual contract tonnage that is contracted to be handled as Product 4 (as that term is defined in the existing user agreement — tonnages contracted for a term of 10 years or more with a take or pay component); and, for an access holder under an access agreement, that portion of the access holder's annual contract tonnage which is contracted to be handled in accordance with the reference terms. Reference terms are defined as the terms and conditions of a SAA (DAU, Vol. 1: clause 2.1).

Schedule C of the draft access undertaking sets out the TIC rate (ie. the reference tariff) applicable to an access holder who enters into an access agreement on reference terms. This TIC rate is calculated based on the aggregate reference tonnage in the contract year (ie. it does not take into account tonnages contracted on terms that differ from the SAA). This reference tariff will be set such that DBCT Management's ARR is recovered over the aggregate reference tonnage, assuming the reference tariff applies to all reference tonnage (DAU, Vol. 1: clause 9.3(a)).

The capital charge for coal handled on terms and conditions other than the reference terms will be negotiated between DBCT Management and the access seeker, subject to section 9.6 of the draft access undertaking (limits on price differentiation).

Further, the principles for inclusion in a SAA state that the agreement will specify the access holder's annual contract tonnage and reference tonnage in each contract year, whereby the reference tonnage must be no less than 80% of the annual contract tonnage in any one year. It also provides that the termination date of an agreement will be no less than 10 years after commencement. (DAU, Vol. 1: Schedule B, clause 2).

Stakeholder Comments

The DBCT User Group's comments in relation to reference tonnage primarily reflect its concerns about DBCT Management's proposed hybrid price/revenue cap. In particular, the DBCT User Group considered that the incentives created by DBCT Management's approach may be inappropriate. For example, DBCT Management may have an incentive to contract for non-reference tonnage (to recover TIC which would not then be subject to the rebating arrangements). The DBCT User Group noted that, although it does not support DBCT Management's proposed model, if it is adopted, the undertaking should incorporate explicit arrangements for the provision of non-reference tonnage to trigger a review of the reference tariff, with revenues earned from non-reference tonnage to be incorporated into benefit sharing mechanisms. Moreover, it considered that users do not have sufficient protection against DBCT Management entering into contracts in excess of capacity, particularly in relation to the sale of non-reference tonnage (DBCT User Group, sub. no. 5: 30, 32, 41).

In contrast to DBCT Management's approach, the DBCT User Group believed that any revenue from tonnages for shorter periods or on non take or pay terms (that is, non-reference tonnages) should be brought to account rather than constitute non-reference tonnage under DBCT Management's proposed hybrid price cap (DBCT User Group, sub. no. 5: 154).

Authority's Analysis

The concept of reference tonnage is integral to DBCT Management's proposed hybrid price-revenue cap and the derivation of its proposed reference tariff. There will need to be some amendments made to this in order to reflect the Authority's recommended revenue cap approach. In particular, the Authority is proposing that the reference tariff be set taking into account all tonnages shipped through the terminal (not just reference tonnages).

However, the Authority does not believe that the revenues earned from non-reference tariff tonnes should be allocated into the calculation of the unders and/or over payments mechanism. The reference tariff is calculated on the basis of a standard set of costs and risks. Non-reference tariffs will vary from the reference tariffs based on the additional costs and risks to DBCT Management from contracting on non-standard terms and conditions. Including all non-reference revenues within the revenue cap would therefore not recognise the additional costs and risks borne by DBCT Management in contracting on non-standard terms.

Whether this will become a major issue in practice is uncertain as almost all tonnages under current contracts are Product 4. Also, Schedule B requires that at least 80% of an access holder's annual contract tonnage must be reference tonnage.

In order for the undertaking to be approved, it must be amended so that:

- **reference tariffs are set taking into account all tonnages shipped through the terminal (not just reference tonnages); and**
- **the revenues earned from non-reference tariff tonnes are not allocated into the calculation of the unders and/or over payments mechanism.**

7.6 Limits on Price Differentiation

DBCT Management's Position

DBCT Management will not differentiate access charges between access seekers or between access seekers and access holders other than to reflect differences in costs (direct or indirect) or risks to DBCT Management of providing access (DAU, Vol. 1: clause 9.6).

Stakeholder Comments

The DBCT User Group considered that allowing differentiation for “differences in costs (direct or indirect) or risks to DBCT Management of providing access” is too broadly stated and requires more precision. It considered an access undertaking should be detailed on such a fundamental issue. In any event, the DBCT User Group suggested a different pricing approach (DBCT User Group, sub. no. 5: 190).

DNRME expressed particular concerns about any potential price discrimination among users, particularly in the absence of any information about the relevant costs. DNRME also expressed concern about the lack of detail in the undertaking about the possible factors that may give rise to different costs and how these might affect pricing. In particular, the undertaking gives no indication of the likely risks, how they would be assessed and the principles used to reflect these risks in pricing. As other parts of the undertaking deal with risk, there is a concern about the potential overlap or scope for unfair treatment of individual users. DNRME considers there needs to be considerable clarification as to the relevant costs and risks that might be considered to justify price differentiation, and the principles for such price differentiation. It also submitted that it is not clear that the limitations on price differentiation in the draft access undertaking effectively reflect an access provider's obligation under the QCA Act to not prevent or hinder access to the terminal (DNRME, sub. no. 7: 4).

Authority's Analysis

The draft access undertaking proposes that the reference tariff will apply to tonnages contracted on the basis of the yet to be finalised standard access agreement. The undertaking also provides for there to be some flexibility in these arrangements by allowing DBCT Management and an access seeker to negotiate on the basis of non-standard terms and conditions. Under these circumstances, DBCT Management have proposed that the access charge will vary from the reference tariff based on the cost and risk differences associated with the extent to which the non-standard terms and conditions vary from the standard access agreement. In commenting on these arrangements, stakeholders have indicated that the undertaking should contain more detail on how these cost and risk differences will be established.

However, it is not clear to the Authority that providing greater detail on this aspect of the undertaking is warranted at this time.

First, the Authority believes that there will be limited opportunities to depart from the reference tariff. The Authority believes that the ability to negotiate non-standard terms and conditions of access will be quite limited as the scope of the coal handling service, as set out in Schedule G of the draft access undertaking, is quite tightly defined. As discussed in chapter 2 of this draft decision, this is not unusual given the homogenous nature of the terminal's coal handling systems and processes. Nevertheless, the most obvious departure from the standard terms and conditions may well relate to the term of the contract and the applicability of the take or pay arrangements. For example, the existing user agreements already provided for 5 year contracts and for contracts without any take or pay components. The undertaking allows for access seekers to negotiate for access on non-reference terms (eg. a 5 year contract). However, access

charges will diverge from the reference tariff to reflect differences in cost and risk to DBCT Management of providing that access.

Second, the purpose of the broadly defined limit on price differentiation is to provide flexibility to access negotiations and this flexibility may be lost if the limit is more narrowly defined. The undertaking and the standard access agreement will establish a comprehensive set of standard terms and conditions upon which DBCT Management will provide access to access seekers. The rationale for an access charge that appropriately reflects the additional costs and risks associated with a set of non-standard terms and conditions is to provide flexibility to the negotiation of access that are different from the standard terms. Providing detailed guidelines on how the access charges will be calculated in such circumstances may unintentionally limit the range of matters on which DBCT Management and an access seeker are able to negotiate a variation to the standard terms and conditions.

Third, in the event there is a concern or disagreement on how the variation from the reference tariff is calculated, the existing provisions of the QCA Act and the undertaking will apply. There are two remedies in either of these circumstances. The QCA Act does not allow DBCT Management to seek to prevent or hinder access. This prohibition continues to apply, and DBCT Management will only be deemed to not have breached this prohibition if it can demonstrate that the access charge only varies from the reference tariff on the basis of cost or risk differences. Also, in the event that DBCT Management and an access seeker are unable to agree on an access charge, either party could refer a dispute to the Authority for resolution. In resolving such a dispute, the Authority would have regard to the undertaking and to the particular circumstances of the dispute.

7.7 Reviews of Reference Tariffs

Regulatory regimes may include review trigger events that prompt an unscheduled review of the arrangements that are otherwise set to apply for the entire regulatory period. The inclusion of such triggers provides flexibility to deal with the elements of a regulatory regime subject to uncertainty or change. It may be that certain elements of the regime are so fundamental that, if they change during the term, a review is warranted. For example, DBCT Management proposes that, in the absence of forecast capital expenditure in the proposed initial TIC, an increase in the capacity of a facility is likely to warrant a price recalculation.

DBCT Management's Position

DBCT Management commits to amend a reference tariff from time to time in accordance with changes in the parameters used to calculate the reference tariff as set out in Schedule C of the draft access undertaking (DAU, Vol. 1: clause 9.4 (a)). In terms of the relevant reference tariff parameters, DBCT Management notes that any changes in the aggregate reference tonnage, terminal capacity or regulated asset base will trigger a reassessment of the TIC charge, and that it will accordingly submit a draft amending access undertaking (DAU, Accompanying Submission: 47).

The draft access undertaking states that the Authority will approve an amended reference tariff it deems consistent with the principles and objectives provided for in both Part 9 and Schedule C (DAU, Vol. 1: clause 9.4 (b)).

DBCT Management also commits to submitting a draft amending access undertaking where, acting reasonably, it considers the reference tariff framework prescribed in Schedule C to no longer satisfy the pricing principles and objectives prescribed in Part 9, or could be structured to more effectively achieve them. The draft access undertaking provides that the Authority will approve an amended reference tariff it deems consistent with the principles and objectives provided for in Part 9 (DAU, Vol. 1: clause 9.4 (b), clause 9.4(c)).

Apart from the triggers for a review of the reference tariff (TIC), the draft access undertaking refers to a number of other specific circumstances in which DBCT Management commits to submitting a draft amending undertaking to the Authority. For example, DBCT Management commits to preparing a draft amending undertaking setting out its obligations in relation to ring-fencing if, in the future, it develops interests in upstream or downstream markets. These non-reference tariff review triggers are addressed in the relevant chapters of this draft decision.

Stakeholder Comments

The DBCT User Group did not support DBCT Management's proposed reference tariff model. However, the DBCT User Group considered that, if the Authority were to adopt such a model, the undertaking should incorporate explicit arrangements for the provision of non-reference tonnage to trigger a review, with revenues earned from non-reference tonnage to be incorporated into benefit sharing mechanisms (DBCT User Group, sub. no. 5: 32).

The DBCT User Group considered that tariffs (and the pass through of operating costs) should be reviewed if DBCT P/L ceases to be the operator of the terminal. The DBCT User Group also considered that, if a revenue cap is not adopted, then the Authority should reserve itself the right to review tariffs, rather than leaving this at the discretion of DBCT Management. The DBCT User Group noted that issues to be considered include throughput, revenue from non-reference tonnage, capital investments and new reference tonnage.

The DBCT User Group believed that the Authority should not be bound in the manner suggested by clauses 9.4 (b) and (d) (these state that the Authority will approve an amended reference tariff if it is satisfied that it is consistent with the principles in Part 9 and Schedule C). The DBCT User Group noted that clause 9.3(j) of the draft access undertaking provides that the TR must be paid annually in arrears. This raised some concerns about what security there should be to users (eg. holding funds in a trust account), and the monetary interest that DBCT Management would earn on these funds before being rebated. The DBCT User Group noted that these considerations are relevant under either model (DBCT User Group, sub. no. 5: 190).

Authority's Analysis

Reviews of regulatory arrangements are justified in certain cases to allow the regulatory regime to adjust to changes in circumstances. However, in order to provide certainty for all stakeholders, these reviews should be limited to significant unscheduled events.

Consistent with the Authority's proposed pricing approach, it is appropriate that a change in both reference and non-reference tonnages should trigger a review of the reference tariff. Another review trigger event would be capital expenditure at the terminal. The Authority notes that capital expenditure may occur under a number of different scenarios: to increase terminal capacity; to replace worn out equipment; or to maintain capacity in the face of adverse changes to available capacity. The Authority considers that, in each of these instances of capital expenditure, it is appropriate that a reference tariff review is triggered. In the case of capital expenditure associated with an expansion, the review should occur once the expansion is complete, with interest during construction accruing at the normal WACC rate. For other capital expenditure, an annual change to reference tariffs is appropriate, with interest during construction at the WACC rate until the change is made.

The Authority considers that clauses 9.4(b) and (d) as currently worded are inconsistent with the QCA Act. In the event that a draft amending undertaking is submitted to the Authority, it will need to consider this at that time and accept or reject it in accordance with the relevant provisions of the QCA Act. The access undertaking cannot seek to override the QCA Act and set out other, different criteria the Authority must address when deciding whether to approve or refuse to approve a draft amending access undertaking. Nevertheless, it seems reasonable that

the pricing principles set out in Part 9 (Pricing Arrangements) are factors that the Authority also takes into account when assessing a draft amending access undertaking in relation to a reference tariff review. These clauses of the draft access undertaking should be amended to reflect this requirement.

In order for the undertaking to be approved, it must be amended so that:

- **reference tariff reviews are limited to the occurrence of significant unscheduled events;**
- **the reference tariff is reviewed on the occurrence of the following events: a change in reference tonnage; a change in non-reference tonnage, and capital expenditure at the terminal, with interest during construction accruing at the WACC rate on any capital expenditure until new tariffs are introduced; and**
- **clauses 9.4(b) and (d) state that the QCA may approve a draft amending access undertaking seeking to amend the reference tariff only if it considers it appropriate having regard to the pricing principles in the undertaking and Schedule C.**

8. THE ASSET BASE

Summary

The value of the regulated asset base is a key determinant of the annual revenue requirement and, as a consequence, the proposed reference tariff.

The terminal's assets were leased in 2001 following a competitive tender process. The Authority has sought to understand what the bid price implies for a terminal valuation. While the Authority has not relied on the bid price in arriving at its draft decision, the Authority's valuation is consistent with the value implied by the bid price.

The Authority has valued the terminal on the basis of a single stage DORC methodology 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. The terminal's land has been valued using a market value approach.

A number of DORC valuations were submitted to the Authority for consideration. DBCT Management proposed a single stage DORC value of \$1084 million while the DBCT User Group proposed a DORC value of \$462 million. In this Draft Decision, the Authority has adopted a DORC value of \$824 million.

In its estimation of the DORC, the Authority has optimised a number of terminal assets. These optimisations are valued at \$38 million. The Authority has also identified other valuation differences of \$26 million.

Although recommended by its independent adviser, the Authority has not sought to optimise the terminal's shiploaders on the basis that it is not convinced that an alternative machine would be fit for purpose given the location specific requirements at DBCT. To this end, and given the importance of the shiploaders to the coal supply chain, the Authority has adopted a conservative approach and accepted DBCT Management's valuation of the terminal's shiploaders.

The Authority has also determined on-cost allowances of 2.5% for contract variation and 3% for project risk for the mechanical and electrical assets and 15.2% for project risk and contract variation for the civil and off shore assets, including shiploaders.

The Authority has also provided \$97.6 million for interest during construction and up front financing, compared with \$177 million sought by DBCT Management, due to differences in the WACC rate used, differences in the ORC estimates and correction for an incorrect method of calculation used by DBCT Management.

The Authority considers that there should be no provision in the DORC valuation of the terminal for assets that do not currently exist in order to accommodate expected capacity requirements in the future - the so called "growth allowance" of \$89 million. At the same time, however, the Authority accepts that future capital expenditure will be needed to accommodate growth and that this expenditure may necessarily incorporate some excess capacity.

Finally, the Authority does not have any evidence to justify an adjustment to its valuation to recognise capital contributed by the DBCT users.

8.1 Background

As part of its regulatory determination, the Authority must reach a view on the value of DBCT Management's assets. The value assigned to the regulated asset base is one of the more significant issues to be addressed in assessing the proposed reference tariffs as it forms the basis of the return on capital and return of capital.

To assist the Authority in determining the appropriate opening asset value, the Authority commissioned Maunsell Australia (Maunsell), in association with Sedgman coal handling consultants and DTZ property valuers, to undertake a valuation of the terminal's assets using a DORC methodology.

A number of stakeholders made submissions in regard to the terminal's asset value. DBCT Management separately engaged two engineering firms to prepare a DORC valuation of the terminal, namely Rushton (Qld) Pty Ltd (Rushton) and Connell Hatch Pty Ltd (Connell Hatch). The DBCT User Group engaged engineering firm GHD Pty Ltd (GHD) to prepare its DORC valuation of the terminal. In addition, DBCT Management submitted a critique of the DBCT User Group valuation and, in response, the DBCT User Group submitted a critique of DBCT Management's valuation. Stakeholders also made submissions in response to the Authority's request for comments paper on the issue of shiploaders, stockyard optimisations and on-costs.

The purpose of this chapter is to outline the various parties' positions and the Authority's draft decision in relation to the asset value of the terminal. The chapter begins by briefly reviewing the various methods available to value an asset for regulatory purposes whilst outlining the various parties' views on how the terminal should be valued and the reasons for the Authority's preferred approach (8.2). The relevance of the Queensland Government's DBCT lease process is then explored (8.3), followed by an overview of the actual valuations of the terminal submitted to the Authority by DBCT Management and the DBCT User Group (8.4). The components of DORC are then outlined (8.5) with the following sections considering the issues associated with each of these components, namely replacement cost (8.6), optimisation (8.7) depreciation (8.8) and financing costs (8.9). Section 8.10 considers the value of land upon which the terminal is situated followed by an analysis of the issues of staging costs and an allowance for growth (8.11). Section 8.12 considers the issue of contributed assets. The Authority's proposed DORC valuation of the terminal is outlined at the end of the chapter (8.13).

8.2 Asset Valuation Methodology of the Terminal

There are a variety of methodologies available for valuing assets. However, in the context of regulatory valuations, asset valuation methods may be categorised under two main approaches, value-based and cost-based.¹⁵

Cost-based approaches relate the value of an asset to the cost of purchasing the asset or the service potential embodied in the asset, either at the original cost (historic cost) or the current cost (reproduction or replacement cost). The most commonly used cost-based asset valuation methods are:

- depreciated historical cost (DHC) — also known as depreciated actual cost (DAC); and
- depreciated optimised replacement cost (DORC).

¹⁵ For a detailed discussion of various asset valuation methodologies see the Authority's publication *Queensland Rail – Draft Undertaking Asset Valuation, Depreciation and Rate of Return 1999*.

DHC represents the original cost of acquiring the asset adjusted by the proportion of the asset service which has expired. A variant of DHC is depreciated inflated historical cost (DIHC) which adjusts the asset value for inflation.

DORC measures the current cost of replacing existing assets with a set of assets that are optimised and adjusted for depreciation, to provide equivalent services and capacity to the asset being valued. Optimisation ensures that any over-engineered, over designed or redundant assets in excess of current requirements are excluded from the asset base. Depreciation adjustments take account of the situation where the existing assets' remaining service lives are less than that which would be normally expected from a new asset.

Value-based approaches determine the economic value of an asset largely from its cash generating capacity. Value-based approaches comprise the net present value (ie the discounted cash flow) method and the net realisable (or fair market value) method. The former is defined as the present value of expected cash flows generated from the use of the asset, while the latter is defined as the current price that a seller of an asset would accept from a buyer of an asset, each having pertinent knowledge of the facts, in an arm's length transaction where both the buyer and seller are "willing but not anxious".

DBCT Management's Position

While DBCT Management submitted a valuation based on a DORC methodology, DBCT Management argues that, in selecting an asset valuation methodology, it is important to recognise that there is no single correct methodology as each valuation method has its own inherent advantages and disadvantages (DAU, Accompanying Submission: 9, 11).

Stakeholder Comments

The DBCT User Group supports the adoption of the DORC methodology for asset valuation purposes and in so doing considers that there is an important role for optimisation in the asset valuation process (DBCT User Group, sub. no. 5: 58). Similarly, the QRC accepts the DORC methodology as a valid approach. However, the QRC argues there is a need for transparent asset valuations and clear definitions of the processes involved (QRC, sub. no. 2: 4).

Authority's Analysis

In competitive markets, asset values are determined by the income earning potential of the assets. That is, market forces determine prices for goods and services, which in turn determine, at the market rate of return, the value of the assets which provide those goods and services.

In non-competitive or monopoly markets, there is the problem of circularity. That is, the price charged for a product or service will determine the economic value of the assets used to produce the product or service. However, the economic value of the assets is needed by the regulator to determine the price to be charged.

This circularity problem effectively rules out using value based approaches in valuing regulated assets. As a result, common regulatory practice is to set asset values independently of cash flows by using a cost-based approach. While there are a range of cost-based approaches available, debate centres on whether an *historical cost approach* (DHC) or a *replacement cost approach* (DORC) is more appropriate.

An historical cost approach such as DHC has a number of advantages in that it avoids the expenses and subjectivity associated with determining current asset values and is relatively easy to establish, provided data and detailed asset registers are available. However, given that historical cost valuations do not have any relation to market values or current replacement costs,

the Authority considers that they therefore do not provide the appropriate economic signals for future investment or consumption of services by users. Even when the DHC is adjusted to reflect inflation (ie DIHC), such an approach fails to capture the impacts of technological change or over-engineering.

The efficient use of resources requires pricing and investment decisions to be based on the real economic costs of usage in alternative activities (ie opportunity cost). In this regard, a current replacement cost valuation such as DORC is regarded as providing more relevant measures of value for the purposes of decision making than valuation based on historical cost.

The advantage of a replacement cost approach, such as DORC, is that it better approximates the actual cost of a new entrant into the market, thereby more closely replicating the outcomes that might be expected from a competitive market. It also allows for technological change so that assets can be valued in a way that reflects current technology. Moreover, it allows the firm's financial records to be expressed in current terms and makes the relationship between costs and revenues more meaningful. The disadvantages of DORC include its complexity and subjectivity involved surrounding replacement costs and optimisation.

The Authority notes that DORC is applied in most regulatory asset valuations in Australia and, while there is a degree of subjectivity associated with its application, it provides a conceptually sound basis for regulatory price setting. While DBCT Management submits that there is no single correct asset valuation method, the Authority notes that DBCT Management submitted a DORC-based asset valuation and the DBCT User Group supports the use of a DORC asset valuation method.

The Authority recognises the disadvantages of the DORC methodology and the QRC's concerns regarding the need for a transparent process. The Authority believes that the best way to overcome such disadvantages is to ensure that appropriate technical consultants are involved in the asset valuation process and the DORC asset valuation process is conducted in a transparent manner.

To this end, the Authority believes that a DORC approach to asset valuation should be adopted.

In developing an asset value for DBCT Management's asset base, the Authority has adopted a DORC methodology.

8.3 DBCT Lease Process and Lease Price

In December 2000, the Queensland Government began a two-stage competitive bid process for the lease of DBCT. The first stage (Dec 2000-Jan 2001) involved inviting interested parties to register an expression of interest in the lease of the terminal. The Government short listed applicants based on their expression of interest for inclusion in the next stage (January - March 2001) of the competitive bid process. The second stage involved a request for binding offers from short listed parties. The Government assessed bids against evaluation criteria issued to short listed parties at the commencement of the second stage.

During the competitive bid process, the Authority released a *Statement of Regulatory Principles (SRP)* in February 2001 which broadly outlined the principles the Authority intended to use in assessing the undertaking, including reference tariffs. The purpose of the SRP was to assist bidders in making an assessment of the likely impact of regulation.

The Queensland Government also prepared an Information Memorandum containing detailed information regarding the terminal for parties interested in bidding for the terminal. PCQ also

commissioned an independent DORC valuation for the purposes of providing the valuation to prospective bidders for the long term lease of DBCT (PCQ, sub. no. 10: 4).

The successful bidder for the terminal was the Babcock and Brown Consortium (BBC) which is publicly reported to have bid \$630 million to the Queensland Government for the lease (Prime Infrastructure Media Release: 14 January 2002).

DBCT Management's Position

DBCT Management submits that, although the figure of \$630 million has been widely quoted as the purchase price for the terminal lease, it is not the price DBCT Management paid for the terminal lease. DBCT Management also submit that the \$630 million figure does not include the value of certain liabilities ultimately assumed by Prime under the terms of the lease, nor the cost of the stage 6 expansion (DBCT Management, sub. no. 11: 1). In its submission to the Authority, DBCT Management has not relied on acquisition costs as a basis for setting the value of the DBCT assets. Rather, DBCT Management has proposed a value based on two DORC valuations.

DBCT User Group Position

The DBCT User Group, on the other hand, believes that there is some relevance in the tendered bids for the terminal lease. In particular, the DBCT User Group consider that the range of bids tendered may inform the Authority's decision making about the reasonableness of the original bid made by the BBC (DBCT User Group, sub. no. 5: 72). The DBCT User Group argues that, if the BBC's bid was materially higher than the other bids, the Authority may consider this is relevant.

The DBCT User Group also believes that, to the extent that any lease price is relevant to any regulatory decision making, a key consideration is the extent to which monopoly profits embedded in the existing User Agreements would have been brought to account and valued by bidders. The DBCT User Group states:

...that any consideration of the tendered price must take account of this monopoly profit component that has already been secured by DBCT Management and which would have been explicitly considered in the context of the bid by rational bidders (DBCT User Group, sub. no. 5: 72).

Further, the DBCT User Group also submits that, while not directly relevant to the Authority's determination of a DORC, the Information Memorandum provided to bidders at the time of the competitive bid process indicated the book value of the terminal assets which could be considered as a proxy for the DORC value of the terminal at that time (DBCT User Group, sub. no. 5: 77).

Authority's Analysis

The Authority and other Australian regulators have traditionally used a DORC approach to the valuation of assets.

The recent EPIC Energy (EPIC) case in Western Australia (WA) has focussed attention on the valuation of regulated assets. In its decision regarding EPIC's proposed access arrangement for the Dampier to Bunbury Natural Gas Pipeline (DBNGP), the WA Supreme Court determined that the WA regulator OffGar, had failed to take into account a number of matters relevant to establishing the initial capital base. The *National Third Party Access Code for Natural Gas Pipeline Systems* (the Gas Code) prescribes various matters that a regulator must take into account when approving a gas access arrangement.

In relation to asset valuation, the WA Supreme Court found that OffGar had erred in its interpretation of certain aspects of the Gas Code, such as:

- section 2.24 (a) — Epic’s “legitimate business interests and investment” in the DBNGP (the investment being the full purchase price of the DBNGP); and
- section 8.10 — the relevance of the price paid by EPIC for the DBNGP.

The WA Supreme Court found that EPIC’s “legitimate business interests and investment” in the DBNGP might properly extend to the recovery of the price paid for the DBNGP and an appropriate return on investment. Moreover, the Supreme Court found that the price paid by EPIC for DBNGP was a relevant consideration in establishing the initial capital base.

In the case of DBCT, there is no code which prescribes similar requirements to those of the Gas Code. However, the QCA Act 1997 requires that, in making its decision whether to approve, or refuse to approve, a draft access undertaking, the Authority must consider the following¹⁶:

- the legitimate business interests of the owner of the service;
- the public interest, including the public interest in having competition in markets (whether or not in Australia);
- 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 effected; and
- any other issues the Authority considers relevant.

In this context, a lease of the terminal’s assets was finalised in 2001 following a competitive tender process. This lease was subsequently transferred to Prime Infrastructure upon its listing on the ASX.

In considering “the legitimate business interests of the owner of the service“, the Authority has sought to understand what the bid price and Prime Infrastructure’s acquisition value might imply for a terminal valuation.

In this regard, the Authority found that assessing an asset value on the basis of the bid price is complicated by the fact that the DBCT lease process involved the lease of a set of assets that were encumbered by the following:

- the PSA — which imposed a range of rights and obligations upon DBCT Management;
- original user rebates — which DBCT Management subsequently bought out; and
- various costs associated with acquiring the terminal.

In addition, there is the value placed on the fact that the terminal was to be the foundation stone of a proposed infrastructure trust. Furthermore, account needs to be taken of any monopoly profits in the existing user charges which benefit DBCT Management until the charges are reviewed by the Authority.

The assessment is further complicated by the subsequent costs associated with the public float of Prime Infrastructure Trust and Prime Infrastructure. In addition, the terminal has

¹⁶ s.138(2) QCA Act.

subsequently been expanded from 45 Mtpa to 54.5 Mtpa via the stage 6 expansion program at a cost of \$115 million (Prime Infrastructure Media Release, 20 June 2003).

The Authority considers that it would be inappropriate to rely solely on the bid price or acquisition value as it ignores the circularity problem and runs the risk of entrenching an asset value that may include monopoly returns. In this context, at the time of the lease process, the Authority advised potential bidders that

“in its regulatory decisions to date, the Authority has adopted a DORC approach to assess asset values” (QCA Statement of Regulatory Pricing Principles, February 2001: 13).

This is consistent with the view of DBCT Management which stated that, notwithstanding that there is no correct valuation method, the preponderance of regulatory experience has favoured a DORC valuation approach.

Consequently, the Authority has not sought to value the terminal, and therefore the reference tariffs, on the basis of the lease’s bid price or acquisition value alone. Rather, the Authority has assessed the asset value of the terminal on a DORC basis. This approach is consistent with the Authority’s past practice and with the information bidders had at the time of the lease process. It also reflects the difficulty in assessing and valuing the various factors that influenced the bid price and acquisition value. Nevertheless, the Authority has sought to understand what the bid price and acquisition value implies for an asset value. In this regard, the Authority notes that its valuation is consistent with the value implied by the bid price.

The Authority considers it inappropriate to establish the terminal’s asset value based on the bid price for the terminal.

8.4 DORC Valuations

The purpose of the following section is to provide an overview of the various DORC valuations submitted by DBCT Management and the DBCT User Group and the terms upon which the Authority engaged its asset valuation consultant, Maunsell.

DBCT Management’s Position

Both Rushton and Connell Hatch developed DORC valuations assuming a single stage construction, that is, assumed that the terminal was to be built today in one stage (ie all at once).

DBCT Management subsequently made a number of upward adjustments to the Rushton and Connell Hatch valuations to reflect costs not included in the valuations. That is, DBCT Management added allowances for the unimproved value of the land, capitalised interest, upfront financing expenses and an allowance for growth. Based on these adjusted valuations, DBCT Management submitted a DORC value for the terminal of \$1,084.3 million as at 1 July 2004, which was an average of the Rushton and Connell Hatch adjusted valuations (see Table 8.1).

Table 8.1: DBCT Management Single Staged DORC Valuation (\$m)

<i>Valuation</i>	<i>Connell Hatch</i>	<i>Rushton</i>
Base DORC	840.0	794.5 ¹
<i>DBCT Management Adjustments</i>		
Interest During Construction (IDC) ²	166.1	156.7
Up-front Financing charges	15.7	15.7
Land	1.0	1.0
Growth Allowance	89.0	89.0
Total	1111.8	1056.9
DORC submitted	1084.3	

1. The Rushton base valuation was \$686 m. This excluded stage 6. Prime subsequently added the costs of stage 6 on and inflated and depreciated the Rushton DORC to arrive at a 1 July 2004 Rushton DORC value.

2. DBCT Management assumed a nominal post- tax WACC of 10.52% and a 4 year construction period.

DBCT User Group Position

In their submission to the Authority, the DBCT User Group state that GHD's single stage and multi-staged DORCs are \$553 million and \$618 million respectively (DBCT User Group, sub. 5: 74, 78). The DBCT User Group made a number of downward adjustments to the GHD DORC valuation which they believed were necessary to arrive at an accurate terminal valuation (see Table 8.2). These adjustments include a reduction for contributed capital claimed by the DBCT User Group, a reduction highlighting the potential gains from "off the shelf" designs (ie budget pricing), a stockpile adjustment reflecting the DBCT User Group claim that they have been operating on approximately 2.5% of stockpile capacity as opposed to 5% assumed by GHD, an adjustment to take account of refurbished assets and an adjustment for a 30 month construction period. While the DBCT User Group submitted a range of valuations for the terminal, they noted that their single staged adjusted DORC valuation was \$462 million (DBCT User Group, sub. no. 5: 76).

Table 8.2: DBCT User Group Single Stage DORC Valuation (\$m)

Valuation	GHD
GHD DORC (single stage)	553
<i>DBCT User Group Adjustments</i>	
less capital contributions	10
less budget pricing	18
less stockpile capacity adjustment	16
less refurbishment allowance	38
less 30 month construction period	9
Total	91
Submitted DORC (as at 1 July 2003)	462

Source: DBCT User Group Submission, sub no. 5: 74 and 76.

Authority's Position

The Authority commissioned Maunsell to undertake a single staged DORC valuation on a brownfields basis. That is, the existing assets would be replaced using fundamentally the same configuration as presently used with optimisations introduced to ensure that only assets relevant to providing the desired level of service provision were incorporated. This is in contrast to a greenfield's DORC valuation which assumes "a clean sheet" in that the terminal can be completely redesigned to develop whatever is believed to be currently necessary to deliver the required service. A greenfield's valuation approach is, in the Authority's view, inappropriate. The Authority also requested estimates based on the extra costs associated with constructing the facility in six stages and different depreciation profiles including historical depreciation.

Maunsell prepared a report for the Authority discussing its approach, method and valuation results as well as a review of the valuations provided by DBCT Management and the DBCT User Group, and their respective critique submissions. In terms of analysis, Maunsell's report focussed mainly on the Connell Hatch valuation for Prime, and the GHD valuation for the DBCT User Group as these valuations were the most recent and included Stage 6 of the terminal, whereas the Rushton DORC valuation for Prime excluded Stage 6 of the terminal and, in Maunsell's view, was not an engineering valuation (Maunsell: 25).

8.5 DORC Methodology

The application of the DORC valuation methodology involves the following steps:

- calculating the replacement cost of the terminal assets;
- optimising the assets; and
- calculating depreciation.

DORC estimates are therefore the minimum current cost of replacing the asset in its current (partly used) state with an efficiently designed asset with the same service potential. In essence, a DORC represents the maximum value that can be placed on the terminal's assets because any valuations higher than DORC would provide an incentive for a hypothetical competitor to duplicate the asset or some part of it. That is, a DORC valuation reflects the price that a firm with certain service requirements would pay for existing assets in preference to replicating the assets.

The following sections address the issues of replacement costs, optimisation and depreciation in the context of the submissions received and the Authority's position regarding the valuation of the terminal.

8.6 Replacement Costs

The replacement cost calculation as adopted under the DORC valuation methodology measures what it would cost today to replace the existing asset with an asset which can provide equivalent services and capacity to the asset being valued.

The replacement cost of an asset must include all costs associated with its replacement. Hence, various on-costs (also referred to as contract indirects) associated with preparing and readying an asset for productive use must be added to the base replacement cost (ie the total direct cost or contract cost of the asset) in order to obtain the replacement cost of the asset to the business.

There are a number of pertinent issues to be considered when determining replacement costs. These include:

- replacement cost standards; and
- calculation of base replacement costs and allowances for on-costs.

Replacement Cost Standards

DBCT Management's Position

Connell Hatch state that the application of the optimised replacement costs needs to take into account all of the effects of building a new hypothetical optimised replacement terminal such as modern equipment and material, any current innovations that reduce the cost of the facility and incorporates modern practices with regard to safety, maintenance access, environmental controls and operational flexibility. Connell Hatch state that:

...by adopting an approach of using the latest construction contract for pricing of the facility, most of these factors are inherently accounted for (DAU, Asset Valuation, Connell Hatch: 4).

Moreover, in their critique of the DBCT User Group's asset valuation, Connell Hatch acknowledges that many of the large machines at DBCT are now 20 years or more old, but state that:

...to say that the Connell Hatch DORC/ORC does not take their current condition compared to a new machine into account is not true. The Connell Hatch DORC/ORC has realistically valued (devalued) existing plant against that which could be assumed for a new machine (DBCT Management, sub. no. 17: 16).

DBCT User Group Position

The DBCT User Group submits that the attributes of the assets that currently comprise the terminal differ, in many respects, from those that would be established if the terminal were replaced today. The DBCT User Group argues this arises from changing design standards and upgraded construction standards. In other words, the DBCT User Group argue that the replacement costs of new assets that comply with today's design codes will tend to be higher than the replacement costs of at least some of the assets that actually comprise the existing terminal. As a result, the DBCT User Group argue that adjustments should be made to any replacement cost valuation to take account of these differences so that DBCT Management is not paid for an asset of a higher quality than actually exists. This point was reiterated in the DBCT User Group's subsequent critique of the DBCT Management asset value (DBCT User Group, sub. no. 5: 59; DBCT User Group, sub. no. 20: 6).

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Maunsell indicated it prepared its valuation based on modern equivalent assets ensuring that:

...the MEA replacement assets must not include value improvements required by legislative changes, or changes in standards imposed since the original asset was commissioned, if such improvements result in higher replacement costs and the existing asset has not been made to comply with the additional requirements (Maunsell: 20).

Maunsell add that DORC does not allow an over-estimation of the replacement value. That is, the DORC valuation is the lower of either the original cost of the asset plus any upgrade cost or the MEA replacement value. For example, if the original cost of the asset plus the upgrade cost is greater than the MEA, then the MEA value is adopted (Maunsell: 32).

Calculation of Base Replacement Costs and On-Cost Allowances

DBCT Management's Position

Rushton's DORC valuation for DBCT Management used actual historical PCQ records of infrastructure costs as the basis of the estimates for their replacement costs. However, the inclusions in these costs are not defined nor can be determined from the Rushton report. Adjustments appear to have been made to contract rates to account for on-costs such as project preliminaries and project indirects. However, on the basis of the information supplied it is not possible to exactly determine which asset replacement values were adjusted by what factors.

In addition, assets are assembled at a higher level than the Maunsell or Connell Hatch valuations and do not allow recognition of the components included in some assets, making replacement cost comparison difficult. The report moves directly from a "Reinstatement with New Value"¹⁷ to a "Depreciated Optimised Replacement Value". Rushton's replacement costs as at 31 December 2002 (excluding stage 6 capital expenditure in the order of \$115 million) are outlined in Table 8.3.

Table 8.3: Rushton's Replacement Costs (\$m)

<i>Area level</i>	<i>RC Values</i>
Rail Loop and Receival	30.8
Inloading	29.7
Stockyard	321.2
Outloading	401.3
Electrical	65.3
Buildings –Infrastructure	10.2
Non-Infrastructure Buildings and Site Improvements	8.2
Other Civil works	38.0
Contribution to External Services	0.0
Spares	10.3
Total	915.0

Source: Rushton 2002 Valuation

While Connell Hatch's valuation did not report replacement cost figures in their asset valuation report, their base replacement costs of the terminal's assets were calculated by adopting the actual tendered rates from the most recent DBCT construction contracts used to build and develop the current terminal's assets. These rates were then inflated to arrive at current day values. Connell Hatch state:

..the latest tendered prices for stage 6 or earlier stages...in our opinion.. are the best available prices for such an exercise as a number of contractors who tendered have had recent experience at the site and therefore are knowledgeable about the true cost of development at this site (DBCT Management, sub. no. 17: 51).

Connell Hatch then adjusted its base replacement costs to include a number of on-costs. Adjustments for on-costs were made by applying an average percentage for each asset. The percentage varied according to the type of asset class (DAU, Asset Valuation, Connell Hatch: 8). Connell Hatch state that it:

¹⁷ "Reinstatement with New Value" is the estimated cost of replacing an asset with a similar asset in new condition and with similar function, useful output or service potential. It is another term for replacement cost.

did not use an all inclusive contract figure, instead it stripped the contracts down to component parts, allowing a base figure (e.g. base machine costs) to be derived and then added back the legitimate “contract indirects” (DBCT Management, sub. no. 17: 20).

Connell Hatch allowed for the following on-costs:

- preliminaries and establishment;
- contractor’s drawings and manuals;
- testing and commissioning;
- overheads on supply contracts;
- software development;
- professional services associated with delivering the project;
- contract variation; and
- project risk.

Two of the more significant on-costs included by Connell Hatch were contract variation and project risk. Contract variation is an allowance to cover changes to the contractor’s scope during the terminal’s development. Such an allowance covers situations such as changes requested by the owner etc. Project risk is an allowance to cover unexpected events during facility development, for example, unanticipated industrial disputes.

Connell Hatch allowed 10% for contract variation and 10% for project risk which together add approximately \$139 million to Connell Hatch’s valuation. Connell Hatch state that these figures are derived from actual costs on the DBCT projects through the different stages in the development of the DBCT and are also widely used industry standards (DAU, Asset Valuation, Connell Hatch: 8, DBCT Management, sub. no. 17: 1-5). While not presenting actual costs in their earlier submissions, DBCT Management subsequently provided evidence on these allowances in their response to the Authority’s August 2004 asset valuation request for comments paper. DBCT Management's response indicates that actual contract variations and project risk together have averaged around 15.2% (see section titled Consultant’s Report for further detail).

As noted above, Connell Hatch did not provide a replacement cost, but did provide optimised replacement costs. Table 8.4 outlines Connell Hatch’s ORC valuations as at 1 July 2004.

Table 8.4: Connell Hatch ORC Valuations (\$m)

<i>Area level</i>	<i>ORC Values</i>
Rail Loop and Receival	39.0
Inloading	43.0
Stockyard	283.0
Outloading	595.0
Electrical	50.0
Buildings –Infrastructure	10.0
Other Civil works	46.0
Contribution to External Services	2.0
Spares	23.0
Total	1090.0

Source: Connell Hatch Valuation

DBCT User Group Position

In addition to providing two DORC valuations (i.e. single-stage and multi-staged DORC valuations), the DBCT User Group presented a replacement cost valuation of the existing terminal. In estimating their replacement cost of the terminal's assets, GHD state they did not have access to the detailed drawings of the terminal's assets. As a result, GHD calculated its replacement costs by using current unit rates against broad quantities and lump sum allowances based on construction costs for similar sized projects to DBCT, such as the Kooragang Island Coal Terminal. These values were then adjusted upwards to suit the valuation date and the central Queensland environment (DBCT User Group, sub. no. 6: 7).

The DBCT User Group argue that the various on-cost allowances adopted by Connell Hatch cascade and lead to a significant over-estimation of the optimised replacement cost of the terminal (DBCT User Group, sub. no. 5: 60, 61). For example, the DBCT User Group believes that the allowances for contractor drawings and manuals, commissioning and testing are generally calculated on a lump sum basis and included in the contractor's tender price, as opposed to being included on a percentage basis, as done by Connell Hatch.

The DBCT User Group also submit that the percentage allowances for project risk, contract variation, overheads, project preliminaries and EPCM values are excessive and do not reflect the economies of scale associated with purchasing and constructing large equipment associated with bulk handling facilities like the DBCT (DBCT User Group, sub. no. 5: 60-61). Table 8.5 outlines GHD's replacement costs of the terminal.

Table 8.5: GHD Replacement Costs (\$m)

<i>Area level</i>	<i>RC Value</i>
Rail Loop and Receival	35.2
Inloading	54.0
Stockyard	347.9
Outloading	340.3
Electrical	13.5
Buildings –Infrastructure	13.7
Non-Infrastructure Buildings and Site Improvements	2.8
Other Civil works	26.4
Contribution to External Services	0.0
Spares	8.2
Preproduction interest	85.1
Stage 6	115.0
Total	1042.1

Source: GHD Valuation

DBCT Management's Critique

In February 2004, DBCT Management submitted a critique of the DBCT User Group's valuation. In that submission, Connell Hatch reiterate the claim that the DBCT User Group's valuation failed to include an allowance for project risk and contract variation (DBCT Management, sub. no. 17: 1). Connell Hatch argues that the 10% allowances for project risk and contract variations are widely used industry standards (DBCT Management sub. no. 17: 2).

Further, Connell Hatch contend that, the DBCT User Group have defined project risk as only including industrial risk or unrest whereas in practice a project risk allowance covers many risks associated with a project of DBCT's size such as, accidents and litigation, environmental requirements and spills, exchange rate and supply issues, abnormal weather conditions and industrial relations claims (DBCT Management, sub. no. 17: 4).

Connell Hatch argues that, because the DBCT User Group's valuation was not based on the actual site plans and drawings of the terminal's assets, the DBCT User Group undervalued and omitted certain assets. In particular, Connell Hatch argues that the DBCT User Group undervalued costs associated with the terminal's outloading facility. Connell Hatch also believes that the DBCT User Group undervalued the excavation costs of the Mt Griffith Quarry Dam. Connell Hatch argues that these costs should be included as the excavation at Mt Griffith was the quarry site for the original works at DBCT. Further, Connell Hatch claims that GHD omitted some assets such as computer control systems, conveyor C1 and the industrial dam (DBCT Management, sub. no. 17: 5-6, 39, 41, 58).

DBCT User Group Critique

In March 2004, the DBCT User Group submitted a critique of the DBCT Management asset valuation. In that submission, they indicated that, despite their limited access to detailed background information of the DBCT assets, they believe they were able to develop an appropriate cost estimation methodology based on using prevailing unit rates against broad quantities and lump sum allowances based on facility requirements and costs expended on

similar projects to DBCT (DBCT User Group, sub. no. 19: 2; DBCT User Group, sub. no. 20: 2).

The DBCT User Group refutes Connell Hatch's claim that they undervalued the costs associated with the out loading facility, as the GHD valuation states that:

...(costs) were adjusted upwards to suit the valuation date and the Central Queensland environment (DBCT User Group, sub. no. 6: 7).

Further, the DBCT User Group argue that conveyor C1 has been included in the rail works section of the GHD valuation and appropriate allowances were made for computer control systems in GHD's contract costs. GHD acknowledge, however, that the amount for the industrial dam was omitted from its valuation (DBCT User Group, sub. no. 19: 5). However, the DBCT User Group excluded the excavation costs of the Mt Griffith Quarry Dam on the basis that excavation of rock from the dam was used for parts of the tug harbour construction (DBCT User Group, sub. no 19: 5).

The DBCT User Group reiterates their view that the 10% allowances for project risk and contract variation made by Connell Hatch are unreasonable and contradictory. For example, the DBCT User Group argue that the Connell Hatch asset valuation report cites a history of smooth contract performance on site for the works to date but yet still allow for a 10% margin for future industrial unrest. The DBCT User Group considers this contradictory and claim that, in any event, industrial risk is the responsibility of the contractor who has to absorb this cost (DBCT User Group, sub. no. 20: 2).

More specifically, in regard to the issue of contract variation, the DBCT User Group distinguishes between estimation for the purposes of feasibility studies for future projects and an estimation for regulatory purposes. In a feasibility study, the DBCT User Group argues there is a clear case for allowances for variations to be made. However, they submit that this is not appropriate in a valuation for regulatory purposes. In a regulatory setting, the valuation is of an asset as it exists, on the basis that the reasonable construction costs will be recognised. Under this approach, the DBCT User Group argues there is no basis for increasing the replacement cost of the assets to allow for contract variations (DBCT User Group, sub. no. 20: 2).

In relation to project risk, the DBCT User Group state that they:

...are not aware of any valuation of a regulated business's asset base which allows for a 10% margin for project risk. This is because the matters referred to in the Connell Hatch report are essentially risks which are normally borne by the contractor and hence are already embedded in the base contract prices (DBCT User Group, sub. no. 20: 2-3).

Further, GHD state that many of the project risks referred to by Connell Hatch, such as industrial relations, latent conditions, accidents and litigation, supply issues etc are being placed upon the contractor and being reflected in the contract rates. As a result, the DBCT User Group believes Connell Hatch should not be adding allowances for such project risks to the base contract prices (DBCT User Group, sub. no. 19: 3-4).

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Maunsell's Approach

In valuing the terminal's assets, Maunsell indicated it relied on the definition of replacement cost as commonly accepted under the DORC valuation method, that is:

...the minimum it would cost, in the normal course of business, to replace the existing asset with a technologically modern equivalent new asset (MEA) with the same economic benefits, allowing for any differences in the quantity and quality of output and in operating costs (Maunsell: 19).

In seeking to calculate the replacement costs of the terminal's assets that best reflect this definition, Maunsell characterised their valuation approach in terms of a Turnkey approach to managing the construction of the terminal. Maunsell believe that such an approach would achieve a minimalist replacement cost while at the same time delivering an asset which is fit for purpose and provides the same service potential as the existing assets on site.

Under a Turnkey approach, only a reference design and functional specification is issued to contractors (as opposed to a detailed design). The approach involves the Principal (i.e. the owner) appointing an engineer to develop a reference design and "functional" specification for the facility, which is then given to experienced contractors who, in conjunction with other suitable engineers, tender for the design and construction (or Turnkey construction) of the asset or complete facility (Maunsell: 25).

In contrast, Maunsell argue Connell Hatch calculated their replacement costs of the terminal's assets by using the historical (actual) tender values of the many contract packages of the terminal's assets and escalated these to current day values (referred to by Connell Hatch as "today's costs"). These contract packages were prepared under a traditional estimation approach. Maunsell argues that such an approach for the terminal's mechanical and electrical assets does not take sufficient account of the readily observed occurrence of improved technology reducing the real cost of many items in the construction industry. These different methods to estimating the terminal's replacement costs are also reflected in differences in the way project on-costs are accounted for. This issue is discussed in the next section (see also Table 8.7).

Calculation of Base Replacement Costs and On-cost Allowances

In terms of the debate between DBCT Management and the DBCT User Group regarding the omitted and undervalued assets, Maunsell has included the industrial dam in its valuation as it considered it to be necessary for fire control and other water management services. Associated with the industrial dam is the Mt Griffith quarry dam which Maunsell have included and valued as a water storage asset.

In relation to the computer control systems, Maunsell considers these to be a vital part of the assets required to deliver the services of the facility. Consequently, Maunsell has costed the computer control systems as part of the asset being delivered and has not separately identified these items. Conveyor C1 is an operating component of the site and Maunsell has valued it accordingly. Maunsell considered that spares should not, in general, be depreciated as they are un-used and rejects a contention that these assets might deteriorate while being stored. Maunsell considers that their value is at a point in time and consequently an optimal set of spares has been costed and not subsequently depreciated (Maunsell: 100).

In general, Maunsell calculated the base replacement costs for mechanical and electrical assets using current market prices where:

- market quotations were obtained for design and construction contracts for major items such as stackers, reclaimers and shiploaders;
- material quantities were derived from the actual DBCT asset drawings and existing plant design for onshore mechanical and electrical works and current market quotations obtained; and
- installation costs were derived using current labour rates, with allowance for management and on-costs using the Maunsell team's data base.

However, for the off-shore and civil assets (i.e. wharf, dredging, piling and onshore civil works but not shiploaders), Maunsell's approach was much more consistent with the Connell Hatch approach as Maunsell calculated the replacement costs by adopting the historical tendered quantities and rates supplied by Connell Hatch.

Given that offshore dredging, piling and wharf construction and on-shore civil work are generally dependent on local site conditions to a greater extent than for mechanical and electrical items, Maunsell considers that adopting the actual tendered rates for these assets would produce a much more reliable estimate. In particular, Maunsell argued that this approach would result in a value for a terminal that was consistent with the local site conditions and requirements. In addition, Maunsell checked the suitability of tendered rates (e.g. the approach jetty and some civil works such as the rail receipt) against current unit costs for labour, materials and equipment. Where the Maunsell check resulted in higher rates than those derived from the escalated tender rates, the higher rates were adopted (Maunsell: 27, 28).

Maunsell then adjusted its base replacement costs by allowing for the following on-costs:

- project management;
- turnkey preliminaries;
- contract variations;
- project risk;
- owner costs;
- first-fill consumables; and
- pre-development costs.

Table 8.6 outlines Maunsell's replacement cost of the facility.

Table 8.6: Maunsell Replacement Costs (\$m)

<i>Area level</i>	<i>RC Value</i>
Rail Loop and Receiving	28.7
Inloading	39.3
Stockyard	280.2
Outloading	512.4
Electrical	32.6
Buildings –Infrastructure	5.0
Non-Infrastructure Buildings and Site Improvements	8.2
Other Civil works	50.3
Contribution to External Services	2.5
Spares	22.3
Total	981.6

Source: Maunsell Valuation.

Table 8.7 compares the treatment of on-cost factors between Maunsell, the DBCT User Group and DBCT Management.

It indicates that there are considerable differences in the level of on-costs applied by Maunsell, GHD and Connell Hatch. The key differences between the Maunsell and Connell Hatch treatment of on-costs is that Maunsell have not included a separate allowance in on-costs for drawings and manuals, testing and commissioning, overheads on supply contracts, and software development. Maunsell considers that such on-costs are already in the base replacement or contract cost of the asset. That is, such costs are absorbed by the contractors and included in the contract price and, as such, Maunsell has included these on-costs within its base replacement cost (Maunsell: 32-35).

Maunsell considers that the 10% allowances made by Connell Hatch for contract variation and project risk are excessive. Maunsell argues that the application of these two 10% on-costs assume a cost allowance for an unknown situation such as building a new asset. This is in contrast to a DORC methodology which aims to calculate a replacement cost for an asset that already exists with proven technology. In other words, given that the DORC approach involves replacing an existing asset as built, with a modern equivalent, the site specifics are known to a high degree and, given the replacement technology has been proven, Maunsell considers a lower allowance for contract variations and project risks can be assumed. To this end, Maunsell initially suggested 2.5% for contract variation and 3% for project risk across all asset classes (Maunsell: 6, 7, 73-75).

In relation to the mechanical and electrical assets, Maunsell valued these items on the basis of final market contract prices as opposed to tender prices. Based on its experience of installing such assets in many different locations, Maunsell believes an allowance of 2.5% for contract variations and 3% for project risk for the mechanical and electrical items is appropriate. In relation to the civil and off-shore assets, Maunsell acknowledged that, given it had valued these assets on the basis of tender quantities and prices, and not the final “as built” contract prices, it would revise its allowance for these items if it could be demonstrated that the allowance for contract variation and project risk was higher than 2.5% and 3% respectively (Maunsell: 73-75).

Table 8.7: Comparison of On-Cost Factors

<i>On-cost Factor</i>	<i>Maunsell Treatment</i>	<i>GHD Treatment (DBCT User Group)</i>	<i>Connell Hatch Treatment (DBCT Management)</i>
Project Management	When applied, rate varies from 13% to 20% depending on asset type (avg. 14.1%)	10% to 12%	10% to 15% (avg. 13.6%)
Project Preliminaries	Turnkey preliminaries - when applied, rate varies from 5% to 39% depending on asset type (avg. 4.9% over all assets)	Included in Project Management	Contractor preliminaries - 5% to 25% (avg. 11.0%)
Drawings & Manuals	Included in contract costs	Included in contract costs	0.1% to 10%
Testing & Commissioning	Included in contract costs	In Project Management	5%
Overheads on Supply Contracts	Included in supply prices	Part of owner costs	5%
Software Development	Included in contract costs	Assume part of contract cost	3%
Contract Variations	2.5% on mechanical & electrical and 15.2% on civil and offshore	Part of contract cost	10%
Project Risk	3% on mechanical & electrical and 0% on civil and offshore – as risk included in the 15.2% for contract variation	Part of contract cost	10%
First-Fill Consumables	0.15% for equipment	0.1% for equipment	Not separated from contract
Pre-Development Costs	1.5%	1.5% to 2%	In Project Preliminaries
Owner Costs	1.5%	1.5% to 3%	Not separately identified

In effect, Maunsell acknowledged that the risks and variations for civil and off-shore works are inherently greater because these works are site specific and less well known at the tender stage. Conversely, mechanical and electrical assets are less subject to variation as their installation tends to be on already pre-prepared locations whether that is in a stockyard after the civil works are completed or on an already constructed jetty or berth.

In response to the Authority's August 2004 DBCT asset valuation request for comments paper, DBCT Management presented, after further investigation, evidence that actual contract variations and project risk have together averaged around 15.2% (DBCT Management, sub. no. 40: 7, 19, 21). Consequently, in its final report to the Authority, Maunsell revised its contract variation allowance to 15.2% for the offshore and civil assets.

Authority's Analysis

In terms of Maunsell's approach to valuing the terminal, the Authority is satisfied that Maunsell has adopted an appropriate method to calculate the replacement costs of the terminal's assets. The Authority takes comfort from the fact that Maunsell derived its estimates from the actual "as constructed" drawings and site plans of the existing terminal's assets to establish an efficient set of modern equivalent assets to achieve the required level of service and standards.

With regard to the terminal's civil works and off shore assets, the Authority accepts that these assets are more dependent on geographic site conditions than the mechanical and electrical assets and, as such, accepts Maunsell's view that the historical tendered rates for these assets represent an appropriate basis for determining replacement cost for these assets. Further, the Authority accepts DBCT Management's evidence that the actual contract variation and project risk allowances for the terminal have averaged around 15.2% and, therefore, accepts Maunsell's use of this figure as an on-cost allowance for the offshore and civil assets.

The Authority is also satisfied with Maunsell's approach of sourcing current market prices for the terminal's mechanical and electrical assets. The Authority also accepts Maunsell's allowance of 2.5% for contract variation and 3% for project risk for the mechanical and electrical assets, on the basis that this accords with Maunsell's experience for such assets and its advice that such assets will not experience the level of contract price risk that is applicable to the civil works and the offshore assets.

8.7 Optimisation

Optimisation is about identifying the most efficient set of assets to produce a specified level of service. The optimisation process ensures that any redundant, over-capacity, over-designed or over-engineered assets unnecessary for the delivery of terminal services are excluded from the asset base and therefore not paid for by customers.

In general, optimisation may be undertaken from two perspectives, greenfields or brownfields.

A brownfields, or incremental optimisation approach, is based on the premise that the existing assets would be replaced using fundamentally the same configurations as presently used, with adjustments introduced to ensure that only assets relevant to providing the desired level of service provision are incorporated. That is, an incremental approach seeks to optimise out any over-capacity in assets, over-designed assets, and redundant or abandoned, but listed, assets.

Conversely, a greenfields, or zero based approach, to optimisation assumes 'a clean slate'. That is, the terminal can be completely redesigned to develop whatever is believed to be currently necessary to deliver the coal outputs required.

DBCT Management's Position

While DBCT Management did not explicitly state that it adopted an incremental approach to optimisation, Connell Hatch indicated that they reviewed the terminal and, where assets were found to be redundant or inefficient, these were discounted in the DORC valuation (DBCT Management, sub. no. 17: 49).

Connell Hatch states that:

...the methodology for the ORC estimate is to use the most recent costing data for a similar asset. This approach inherently takes optimisation and replacement into account (DAU, Asset Valuation, Connell Hatch: 5).

DBCT Management note that the regulated asset base is typically optimised to remove gold plating and redundant assets, on the grounds that in a competitive market an owner would be

unable to earn a return on over-specified or redundant assets. DBCT Management accepts this view. However they argue that the more pertinent issue is whether an asset owner, who has followed an efficient investment path and added appropriate increments in capacity over time, should have the value of their asset base reduced to match a hypothetical replacement value as determined under a DORC (DAU, Accompanying Submission: 10). Connell Hatch's ORC values are presented in Table 8.8. The Rushton valuation prepared for DBCT Management did not present an ORC value of the terminal.

Table 8.8: Connell Hatch ORC (\$m)

<i>Area level</i>	<i>ORC Values</i>
Rail Loop and Receiving	39.0
In loading	43.0
Stockyard	283.0
Outloading	595.0
Electrical	50.0
Buildings –Infrastructure	10.0
Other Civil works	46.0
Contribution to External Services	2.0
Spares	23.0
Total	1090.0

Source: Connell Hatch Valuation

DBCT User Group Comments

The DBCT User Group acknowledges that optimisation potentially involves a spectrum of possible outcomes. However, for the purposes of its valuation, GHD adopted a zero based optimisation approach on the basis that they believe the current combination of infrastructure at the terminal is highly inefficient for the current purpose. In conducting their terminal optimisation, GHD applied a number of constraints which included maintaining the fixed existing supply points of the site receiving (rail in-load) and discharge points (shipping berths) (DBCT User Group, sub. no. 6: 6).

GHD submits it opted not to adopt an incremental approach to optimisation arguing that such an approach effectively legitimises an inefficient terminal design (DBCT User Group, sub. no. 6: 6). GHD submit that their optimal design has been supported by simulation modelling to confirm that the layout would cater for the required throughput.

Table 8.9: GHD ORC Values (\$m)

<i>Area level</i>	<i>ORC Values</i>
Rail Loop and Receival	34.1
Inloading	34.6
Stockyard	259.3
Outloading	317.1
Electrical	7.0
Buildings –Infrastructure	9.5
Non-Infrastructure Buildings and Site Improvements	3.1
Other Civil works	27.7
Spares	6.1
Pre-production Interest	70.5
Total	769.0

Source: GHD Valuation

The key differences between the current terminal configuration and GHD’s optimised configuration are as follows:

- GHD’s optimised stockyard requires less machine bunds, conveyors and stackers and reclaimer machines; and
- GHD’s optimised outloading design requires one less shiploader than the existing facility.

Table 8.10 compares the current terminal and proposed GHD configuration of the terminal.

Table 8.10: GHD Optimised Terminal

<i>Current Terminal Configuration</i>	<i>GHD Optimised Terminal</i>
2 x rail receival systems	2 x rail receival systems
2 x in loading stream	2 x in loading stream
6 x stockyard pads	4 x stockyard pads
5 x bunds equipped	3 x bunds
8 yard machines	5 yard machines
<ul style="list-style-type: none"> • 2 stackers • 5 stacker/reclaimers • 1 reclaimer 	<ul style="list-style-type: none"> • 1 stacker • 4 stacker/reclaimers
2 outloading streams to berth	2 outloading streams to berth
3 x berths	3 x berths
<ul style="list-style-type: none"> • 3 shiploaders 	<ul style="list-style-type: none"> • 2 shiploaders
Associated conveyors works	Associated conveyors works

DBCT Management Critique

Connell Hatch argues that GHD do not provide any analysis as to why the current terminal configuration is inefficient and that the GHD theoretically optimised terminal configuration is based on an unrealistic footprint without considering the topological and geotechnical conditions of the existing site. Connell Hatch contends that the model used by GHD can only provide an overview of the operation and, without using real time data, this theoretical model cannot be accurately verified (DBCT Management, sub. no. 17: 60). Connell Hatch further states:

...the simplistic modelling carried out by GHD is not accurate or sensitive enough to take into account all of the operating parameters and influences which control the final throughput tonnage (DBCT Management, sub. no. 17: 27).

In terms of the terminal development, Connell Hatch notes that the current terminal has been developed in accordance with customer and market needs and explains that:

...the incremental approach is a fact of reality based on the growth of the terminal to match the market needs. Similarly, no one in this day and age can fund a “super style” coal export facility from day one with only a fraction of the coal available for export on day one. Hence, all coal terminals around the world have been developed on the incremental approach (DBCT Management, sub. no. 17: 49).

In terms of the specific DBCT User Group optimisations, Connell Hatch argues that:

- GHD’s proposed optimised stockyard machinery would result in higher utilisation and will attract higher wear and tear rates, reduced availability, resulting in reduced capacity;
- the existing stockyard has higher inherent capacity in reclaiming conveyors and surge bins to meet future expansion; and
- the existing terminal is able to continue operating with a minimal loss of throughput capacity while one shiploader is shut down for maintenance. This benefit would be lost under the GHD proposal. The optimising out of a shiploader is not appropriate, given that the loss of this shiploader would have a detrimental effect on terminal capacity (DBCT Management, sub. no. 17: 27).

DBCT User Group Critique

The DBCT User Group argues that their reconfiguration of the DBCT terminal is consistent with the principle of a DORC valuation; that is, an asset value that is consistent with prices that reflect cost structures of an efficient new entrant. Given that the Queensland coal mines compete with other coal suppliers around the world, the DBCT User Group argues that the terminal needs to be competitive with prices of other coal terminals around the world. GHD argue:

...when Connell Hatch claim GHD’s level of optimisation is too aggressive, they need to realise that terminals exist, such as Kaltim Prima Coal’s Pinjang Coal Terminal in East Kalimantan Indonesia, that are optimised much further and the users of DBCT need to compete with the users of such terminals (DBCT User Group, sub. no. 19: 9).

Further, the DBCT User Group argues the large difference between the estimated replacement cost of the existing terminal compared with the proposed optimised terminal demonstrates the need for optimisation. The DBCT User Group states:

...if someone was going to develop DBCT today, it is unlikely they would rebuild the terminal as it currently stands (DBCT User Group, sub. no. 19: 9).

GHD rejects Connell Hatch’s assertions that its model cannot be accurately verified. GHD argues its model is considered to be accurate to plus or minus 2 Mtpa and that the model takes into account many parameters such as efficiency factors, breakdown allowances and weather delays that would normally be experienced in real time operations (DBCT User Group, sub. no. 19: 10, 11).

In response to Connell Hatch’s comments regarding the third shiploader, the DBCT User Group argue the acquisition of shiploader 3 was driven by historical and irreversible factors arising from the inefficiency of the original berth layout, which created a very high risk of moving the shiploader. GHD point out that such redundant shiploading capacity is an expensive mechanism to secure spare capacity at the terminal (DBCT User Group, sub. no. 20: 8).

Consultant’s Report

In conducting its optimisations of the terminal, Maunsell adopted, as directed by the Authority, an incremental or brownfield’s approach. This approach is consistent with the past practice of the Authority. Moreover, Maunsell state that an incremental approach to optimisation is the general approach used by other Australian regulators when conducting asset valuations of regulated assets.

The incremental optimisation approach is premised on the existing assets being replaced using fundamentally the same configuration as the existing terminal but with optimisations introduced to ensure that only assets relevant to providing the desired level of service provision are incorporated. In conducting its optimisations, Maunsell assumed the rail receival points and coal ship loading points fixed.

Maunsell’s optimisation process produces an ORC of the terminal of \$864.3 million (see Table 8.11).

Table 8.11: Maunsell ORC Values (\$m)

<i>Area level</i>	<i>ORC Values</i>
Rail Loop and Receival	21.6
Inloading	37.1
Stockyard	251.1
Outloading	438.8
Electrical	32.6
Buildings –Infrastructure	5.0
Non-Infrastructure Buildings and Site Improvements	8.2
Other Civil works	48.3
Contribution to External Services	2.5
Spares	19.0
Total	864.3

Source: Maunsell Valuation

Maunsell sought to compare its optimisations with the other valuations. Maunsell’s attempt to do so was hampered by a number of factors, including the different methods of valuing assets, differences in the asset registers and limited detailed information on some of the valuations. As

a result, Maunsell concentrated on comparing its ORC with the Connell Hatch ORC. However, even in this case, Maunsell was hampered in making detailed assessments given the different approaches used by Maunsell and Connell Hatch to derive estimates of the replacement costs.

Nevertheless, to facilitate a better understanding of its ORC valuations, Maunsell sought to categorise and value its optimisations as well as the differences between its valuation and the Connell Hatch valuation as follows:

- Optimisations:
 - over-designed assets — assets currently on site that have been designed beyond what is needed to satisfy the capacity requirements of the terminal;
 - redundant assets — assets that are no longer used in operating the terminal;
 - sub-optimal design decisions — decisions that, at the time they were made, were inappropriate; and
 - items valued in excess of their current capability — items valued by Connell Hatch that do not reflect the asset currently existing on the site.
- Valuation Differences:
 - apparent Connell Hatch oversights — items in the Connell Hatch valuation that appear to have been incorrectly included.

Maunsell also noted the possible impact of differences in on-cost allowances, given the difficulty in accurately determining the level of allowances made by Connell Hatch as a result of its different approach to valuation.

These differences are discussed in more detail below.

Optimisations

The major optimisations undertaken by Maunsell relate to:

- the outloading area — in particular, the surge bins and shiploaders;
- the stockyard area — namely, the yard machines and conveyors; and
- the rail receipt area — the dust extraction system and hoppers.

Outloading Optimisations – Surge Bins and Shiploaders

In relation to the outloading area, Maunsell note that the surge bins were significantly different in design and layout. The “as built” drawings indicate that surge bin 2 has double the structural steel quantities as surge bin 1. However, Maunsell considers that the design of surge bin 1 provides the same operational functionality as surge bin 2. As a result, Maunsell optimised surge bin 2 down to the value of surge bin 1. On the basis of Maunsell’s estimates, this optimisation is valued at \$5.6 million (Maunsell: 69, 85).

In relation to the shiploaders, Maunsell believes that the existing shiploaders at the terminal are over-designed. Maunsell saw no reason to design the machines from the ground up and then put them out to tender, when it would have been possible to acquire machines from reputable specialist industrial machine builders which could incorporate any necessary modifications required because of site specific factors (Maunsell: 41, 44).

To ensure that appropriate MEA values were obtained for each shiploader, Maunsell obtained from Connell Hatch the design specifications for the most recently installed shiploader (SL 3) at DBCT. The key design and functional specifications were reviewed as to their functionality and summarised to produce an appropriate duty specification for each machine. Based on this specification, Maunsell approached six reputable industrial machine suppliers for quotes. Responses were received from four companies. These quotes ranged from between \$9 million to \$14 million per shiploader.

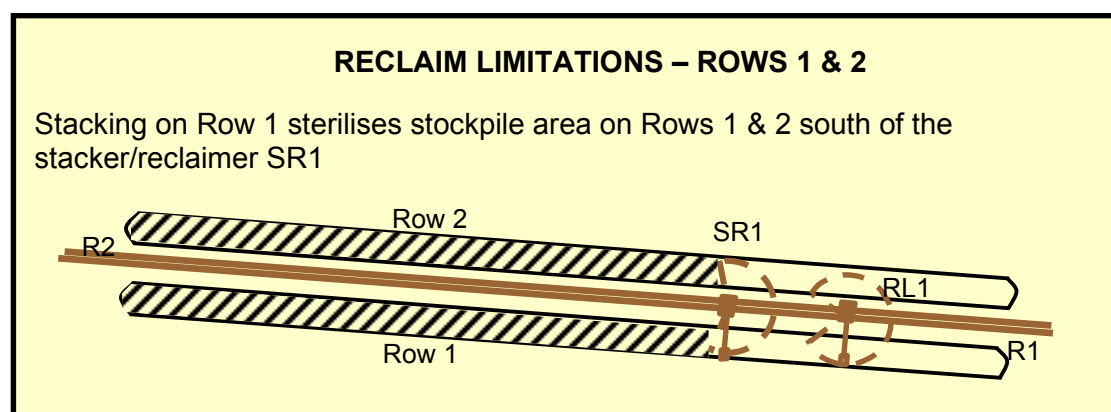
After considering the responses to the Authority's request for comments paper discussing, inter alia, the shiploaders, Maunsell issued a revised specification to the machine suppliers. Based on supplier responses, Maunsell determined a shiploader value of \$14.7 million (i.e. a base cost of \$13.4 million plus a 10% allowance for site specific requirements) (Maunsell: 44, 45). Maunsell also considered but ultimately chose not to optimise out the third shiploader. Maunsell considered that the requirement for three shiploaders was justified on the basis of the existing terminal layout, the design and location of the third berth and the risks associated with the options for relocating the original shiploader. Including on-costs, the Maunsell's optimisation of the three shiploaders amounts to \$57.2 million.

Stockyard Optimisations — Yard Machines and Conveyors

Maunsell believes that, in the early years of the terminal's development, a less than optimum yard machine selection was made. In particular, the yard machine selection of Reclaimer RL1 in Stage 1 placed a number of constraints on the DBCT operation.

Maunsell noted that the constraint of the original machine selection, Reclaimer RL1, is highlighted when coal is placed on Row 1. The stockpile management on Rows 1 and 2 is limited by the single stacking capability to Row 1 provided by Stacker/Reclaimer SR1. By utilising the only machine capable of stacking on Row 1, namely Stacker/Reclaimer SR1, the stockpile areas to the left of SR1 became unavailable for outloading (see Figure 8.1 below). In other words, the stockpile areas shaded cannot be accessed by any of the reclaimers. Thus, RL1 became isolated for certain periods. As a result, the choice of yard machine in stage 1 (i.e. RL1) unnecessarily restricted the operation of the plant and complicated the stockpile management of the facility and the Operator's ability to manage the stockpiles (Maunsell: 39-41, 83).

Figure 8.1: Sub-Optimal Machine Selection



Source: Maunsell DBCT Asset Valuation, 2004

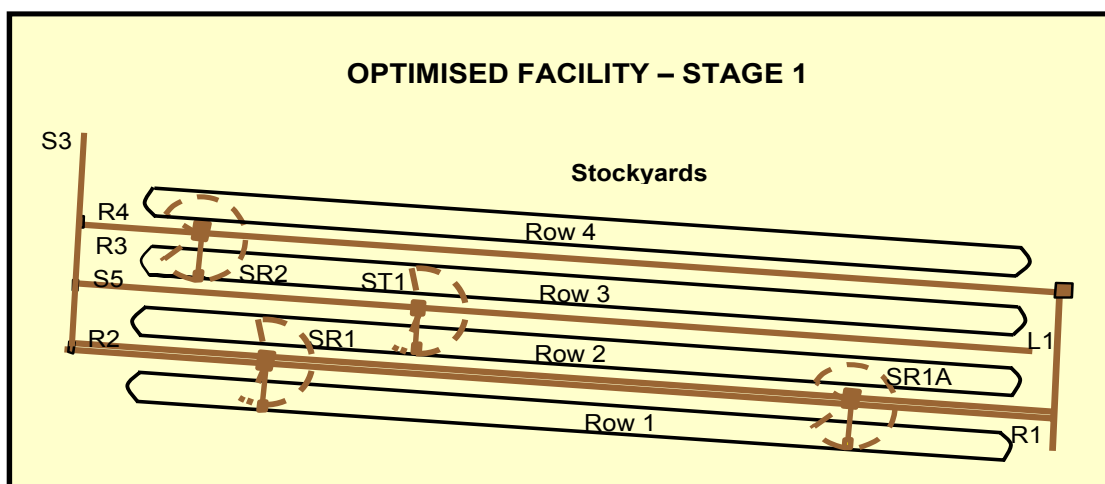
Maunsell argue that providing two stacking functions from the outset would have provided flexibility in the management of Rows 1 and 2. As a result, Maunsell optimised out RL1 and replaced it with a second stacker/reclaimer identified as SR1A (see figure 8.2). Maunsell's recommended configuration therefore includes two stacker/reclaimers on bund 2. By providing SR1A, Maunsell believes both greater flexibility and increased plant capacity would be achieved. This optimisation also necessitated the extension of the tail end of conveyor R1 and an increase in the transfer station size.

Maunsell consider that the limitations on future operations would have been evident at the time the initial machine selection was made and, as such, they are not basing their decision on the benefit of hindsight, although subsequent growth in the terminal has highlighted the effect of the initial decision.

In this regard, Maunsell indicates that, although it should have been evident from the outset, the impact of the initial poor machine selection is more obvious in the later stages. In particular, Stacker ST2 and the associated feeds system were primarily installed in Stage 5 to alleviate stockpile management issues created by the RL1 machine selection. However, with the selection of SR1A, other equipment becomes redundant such as conveyors S6A (\$1.3 million), Transfer Station S6A to S6 (\$0.9 million), Conveyors S6 (\$5.3 million), Stacker ST2 and RL1 (\$15 million), stockyard electrical items (\$1.1 million), bulk earthworks for stages 3 and 5 (\$1.4 million) and Stage 5 drainage (\$2.4 million). As a result, Maunsell optimises these assets on the basis of a sub-optimal design decision that should have been evident at the time the decision was made. Maunsell values these optimisations at \$27.5 million.

Maunsell do, however, note that their optimisations of the stockyard have not been subjected to simulation modelling as they did not have access to real time data from the terminal.

Figure 8.2: Optimised Stockyard



Source: Maunsell DBCT Asset Valuation, 2004.

Rail Receival Optimisations – Dust Extraction and Hoppers

Maunsell noted that Connell Hatch used the Rail Receival Pit 2 (RRP2) dust extraction costs for RRP1. However, Maunsell assessed the dust extraction system for RRP1 as unused and subsequently considered it redundant and optimised it out of the asset base. Excluding the RRP1 system from the Connell Hatch ORC reduces their valuation by \$1.9 million.

The two rail receival pits (RRP) numbers 1 and 2, although configured differently, perform the same function. RRP1 accommodates nine reclaim hoppers, while RRP2 accommodates only six

reclaim hoppers. As a result, Maunsell adopted the RRP2 design for both RRP1 and RRP2, thereby optimising out the redundant hoppers.

Other Optimisations

In a number of instances, Connell Hatch valued items at the terminal on the basis of later designs for similar items. However, the functionality of these later items was in excess of that of the earlier items. Maunsell considers that it is not appropriate to value items at in excess of the current capability under a brownfields optimisation. Items that fall into this category include:

- Connell Hatch valued surge bin 1 on the basis of the larger surge bin 2's value. Based on Maunsell's replacement cost estimates, Maunsell values this optimisation at \$5.5 million;
- Conveyors S1 to S4 — Connell Hatch has used Conveyor S6A elevated gallery costs for these four inloading conveyors. Conveyor S6A galleries are of a different style of construction and more expensive than the actual galleries for these conveyors. These optimisations are valued at \$3.8 million;
- Stockyard Bund Fitout — Connell Hatch applied the most recent rail design to each bund. That is, Bund 5 design was applied to Bunds 2, 4, and 5. Bund 1 design was applied to Bunds 1 and 3. These later designs are substantially heavier. These optimisations are valued at \$8.4 million; and
- Stockyard Conveyors R1 to R4 — Connell Hatch applied the latest conveyor design (R5/R6) to these conveyors. R5/R6 conveyor is 1120kW for 5,500tph, while R1 is 650kW for 3,800tph, R2 is 750kW for 4,250 tph, R3 is 750kW for 3,800tph and R4 is 800kW for 4,250tph. These optimisations are valued at \$1.8 million on the basis of Maunsell's replacement cost estimates (Maunsell: 69-71).

Other Variations

Maunsell also identified a number of other differences between its ORC and that of Connell Hatch.

- Computer systems — Maunsell valued the terminal's computer systems at \$3.7 million, while Connell Hatch valued them at \$21.9 million, resulting in a difference of \$18.2 million at the ORC level. Connell Hatch's \$21.9 million is made up of \$2 million in hardware and \$19.9 million in software:

With regard to hardware, Connell Hatch's \$2 million allowance for hardware includes 200 PC's (\$0.8 million) and 15 servers (\$1.0 million). Maunsell have allowed \$0.8 million. Maunsell are unsure whether there is a need for such a large number of PC's and suggests that they may be for purposes other than for plant operation. In addition, Connell Hatch provided for a \$0.1 million allowance for miscellaneous hardware and \$0.1 million allowance for un-interrupted power supply which Maunsell included in the general electrical estimate applied to each area (i.e. inloading, stockyard, out loading electrics, etc).

With regard to software, of Connell Hatch's \$19.9 million, \$8.6 million relates to software development (\$6.0m) and control system software (\$2.6m). Whereas Maunsell has provided \$2.8 million for programming, Maunsell considers that Connell Hatch's allowance of \$6.0 million for software development is excessive and/or would be included in their machine cost estimates. Connell Hatch's remaining \$11.3 million is made up of ERP coal tracking software (\$7.7 million), other custom software (\$2.6m) and

software associated with the 200 desktop computers (\$0.8m) and 15 servers (\$0.2m). Consistent with its uncertainty for the need for the hardware, Maunsell is unsure of the need for this associated software. However, Maunsell indicated that \$7.7 million for the ERP coal tracking software was very large compared to current systems which cost around \$1 million - \$2 million.

- Rail Loop and Receiving (RRP1 and RRP2) — In their calculation of RRP1 and RRP2 values, Connell Hatch have duplicated water services, contractor preliminaries, conveyor footings and substation buildings, which Maunsell believes leads to an overestimation of their ORC value by \$4.3 million (Maunsell: 70);
- Supply and installation of sample plant — Connell Hatch have included in their cost of both surge bins, the supply and installation of the sample plant which Maunsell believes increases their valuation by \$4.5 million (Maunsell: 71);
- Berth 3 Dredging — Maunsell identified that Connell Hatch have included extra preliminary expenses in their cost for the berth 3 dredging. Maunsell believes these extra preliminaries are unnecessary and amount to \$2.7 million (Maunsell: 71).

In addition, Maunsell notes a substantial difference in the area of on-costs for project risk and contract variation. In this regard, Connell Hatch uniformly added a total of 20% for these risks. In contrast, Maunsell has indicated that 2.5% for contract variation and 3% for project risk for electrical and mechanical works is reasonable given its experience in installing such equipment in other coal handling facilities. Also, based on DBCT Management's advice of actual variations at the terminal, Maunsell have provided 15.2% for contract variation and project risk for civil and offshore works.

Response to August 2004 Request for Comments

In August 2004, the Authority sought stakeholder feedback on Maunsell's preliminary views on the terminal shiploaders and the stockyard via the release of a request for comments paper *DBCT Asset Valuation: Request for Comments Paper (August 2004)*.

In response to the paper, the DBCT User Group considered the approach suggested by Maunsell to the valuation of shiploaders and stockyard optimisations was not unreasonable (DBCT User Group, sub. no. 39: 2).

However, both PCQ and DBCT Management considered that the Maunsell proposed shiploader was inconsistent with the specifications of the existing shiploader at DBCT and would be unsuitable for operation at the DBCT location. Further, DBCT Management questioned whether the shiploader was adequately specified to suppliers. DBCT Management emphasised that anything other than a completely site specific designed machine would be totally unsuitable for the DBCT environment and operating regime (DBCT Management, sub. no. 40: 3, 4, 11, 12).

With regard to Maunsell's proposed optimisations of the stockyard, DBCT Management stated that it was unreasonable to expect that the decision makers at the time the decision to select RL1 was made would have, or should have, foreseen the expansion of DBCT. Moreover, DBCT Management considered that it would have been unreasonable for decision makers at the time to have made a decision to invest in a higher cost alternative at stage 1 to realise benefits at stage 5 which was constructed over twenty years after the original decision to purchase RL1 was made (DBCT Management sub. no. 40: 6). DBCT Management further contends that the terminal has developed over a time period of more than twenty years and has evolved over a number of stages with different demands and considerations existing at the time various expansion decisions were being made. As a result, DBCT Management stated that it was quite

inappropriate to consider the development of the terminal from the perspective of hindsight without reference to the demands which existed at the time the original decisions were made and the operating parameters required by the DBCT Users and the Operator (DBCT Management, sub. no. 40: 7).

PCQ argued that caution should be exercised in optimising out stockyard machines in circumstances where benchmarking studies indicate the terminal is operating in an efficient manner by world standards (PCQ, sub. no. 41: 2).

In commenting on the responses to the Authority's asset valuation request for comments paper, Maunsell indicated that it had reviewed the costs of its optimised system but did not change its view on its recommended stockyard optimisation. Maunsell believes that, if two stacker reclaimers had been provided on Bund 2 from the outset, the operating inadequacies of the original plant would not have been experienced (Maunsell: 40).

On the issue of the shiploaders, Maunsell are still of the view that it would have been eminently feasible, and substantially more cost effective, to have had an appropriate machine supplied by an industrial machine supplier, which would have met all of the terminal's site specific requirements. Based on supplier responses to their revised specification, Maunsell concluded that a Man Takraff machine was suitable for the task. The price for the Man Takraff machine with 7200 tph capability and a boom with sufficient length to service a 49 metre beam was \$13.4 million. Maunsell acknowledged that, while its specification was detailed, it did not necessarily take into account all the throughput or operational requirements at DBCT. Some site specific requirements such as painting and lighting standards may be missing. It was Maunsell's view, therefore, that an allowance of 10% should be added to account for any site specific requirements omitted from the functional design specification supplied by Connell Hatch. This resulted in a Maunsell shiploader valuation of \$14.7 million and, once on-costs are included, an ORC value of \$18.9 million.

Maunsell did not believe a higher throughput allowance than 7200 tph was required for all machines. However, Maunsell did make an allowance for a greater boom length for shiploader 2 to allow it to load vessels with a 55 metre beam so as to provide the terminal with greater flexibility to handle changing shipping trends. However, Maunsell saw no reason to make this allowance across all shiploaders. Consequently, Maunsell valued shiploader 2 at \$16.5m and an ORC of \$21.3 million. In summary, Maunsell valued three shiploaders at 7200 tph with two having a 49 metre beam (SL 1 and SL 3) at ORC value of \$18.9 million each and, SL 2 with a 55 metre beam at an ORC value of \$21.3 million (Maunsell: 44-48).

Authority's Analysis

The Authority considers that Maunsell has undertaken an appropriate brownfields valuation of the terminal. Nevertheless, the Authority has not accepted Maunsell's recommendations in every respect.

Maunsell identified a number of assets that had been counted twice in the Connell Hatch valuation. DBCT Management has confirmed this error with the Authority. The assets that are involved are associated with the following facilities:

- Rail Receival Pits 1 and 2 (RRP1 & RRP2) — DBCT Management acknowledged that Connell Hatch had erroneously duplicated water services and preliminaries, conveyor footings and amenities buildings in RRP1 and RRP 2. Connell Hatch values these errors at \$4 million.

- Sample Plant, Surge Bins 1 & 2 — DBCT Management acknowledged that the cost of the sample plant was erroneously counted twice in the Connell Hatch valuation of Surge Bins 1 & 2. Connell Hatch values this error at \$3.6 million.
- Berth 3 Dredging — DBCT Management acknowledged that preliminaries were erroneously included twice in the Connell Hatch valuation, at a cost of \$8.4 million.

Maunsell argues that, as the RRP1 dust extraction system is unused, it should be optimised out as redundant. DBCT Management have confirmed to the Authority that the RRP1 dust extraction system is currently unused, but argue that it should not be optimised, as a dust extraction system would be required for any new in-loading facility and because it is considering replacing and/or retrofitting the existing unused system. The Authority has accepted Maunsell's proposed optimisation of the RRP1 dust extraction system on the basis that it is currently redundant. The Authority will, of course, consider any future capital expenditure undertaken to replace or retrofit the existing unused system.

The Authority accepts Maunsell's adoption of the RRP2 design for both rail receipt pits at the terminal and therefore the need for only six reclaim hoppers for each pit. The Authority notes that DBCT Management undertook a similar optimisation of the hoppers.

The Authority also accepts Maunsell's assessment that a number of assets have all been valued at a standard in excess of their current capability, namely: surge bin 1; conveyors S1 to S4 and R1 to R4; and the stockyard bund fit out. While DBCT Management acknowledged this valuation issue, it argued that engineering standards and environmental requirements have changed since the assets in question were installed. DBCT Management valued the existing assets on the basis that they would meet the revised standards and requirements even though they have not been upgraded.

The Authority agrees with Maunsell's assessment that items should not be valued in excess of their installed capability. DORC principles provide that the Modern Equivalent Asset (MEA) should not reflect a higher replacement cost in the circumstance where an existing asset has not been upgraded to meet legislative changes since the asset was first built or installed.¹⁸ On this basis, and because DBCT Management has not upgraded the assets in question to meet environmental and/or current standards, the Authority accepts Maunsell's valuation of these assets.

With regard to surge bin 2, Maunsell optimised surge bin 2's value down to surge bin 1 on the basis that surge bin 1 provides the same functionality and service as surge bin 2. However, DBCT Management has argued that surge bin 2 has been built to a higher standard than surge bin 1 in order to comply with current environmental standards (i.e. has thicker steel to minimise noise and environmental controls for dust and coal spillage). On this basis, the Authority has decided not to adopt Maunsell's optimisation of surge bin 2.

Two issues emerged with regard to the Maunsell's stockyard optimisations: first, the degree of hindsight that was relied upon in making the optimisation; and second, whether the optimisation would adversely affect terminal capacity.

In past decisions, the Authority has been reluctant to optimise assets in circumstances where a hindsight judgement is made in respect of whether the assets were needed or appropriate.

¹⁸ These principles are outlined in the following DORC guidelines: Handbook of Optimised Deprival Valuation of System Fixed Assets of Electricity Line Businesses, issued by the Ministry of Commerce, New Zealand, April 1999 and updated 2000; Accounting Policy, Valuation of Physical Non-Current assets at Fair Value, Office of Financial Management, NSW Treasury, May 2003; National Electricity Code of Practice, National Electricity Code Administrator Ltd, May 2003.

Maunsell argued that the stockyard was inappropriately designed from the outset and that the resulting problems were evident very early on in the terminal's development creating a number of inefficiencies and constraints. Maunsell therefore, proposed an alternative, optimised layout. In contrast, DBCT Management argued that the stockyard problems only became evident with the subsequent expansion of the terminal and that this expansion could not have been anticipated at the time the terminal was originally designed and constructed. The Authority accepts Maunsell's advice that the problems that eventuated should have been anticipated when the stockyard was designed and that they were evident early in the terminal's life. Accordingly, the Authority does not consider that the proposed optimisation is based on hindsight.

At the same time, while the Authority accepts Maunsell's assessment that the revised layout is unlikely to affect terminal capacity, the Authority notes Maunsell's caveat that its proposed layout has not been subjected to simulation modelling to determine its ability to deliver an equivalent service at the terminal. Accordingly, if it could be demonstrated that the Maunsell stockyard optimisations would adversely impact terminal capability in a meaningful way, the Authority would review its position on the Maunsell optimisations of the stockyard.

In relation to the terminal's computer systems, Maunsell valued these at \$3.7 million compared to Connell Hatch's \$21.9 million. The \$18.2 million difference largely comprised ERP coal tracking software (\$7.7 million) and software development (\$6.0 million).

Connell Hatch initially valued the ERP software at \$7.7 million. However, DBCT Management subsequently advised that the cost of the ERP coal tracking software should be in the order of \$1.7 million. This \$1.7 million equates to an ORC value of \$2.2 million. While Maunsell excluded the ERP software in its valuation (on the basis of uncertainty as to value), the Authority believes the ERP software should be included in the Authority's valuation. This brings the value of the terminal's computer systems to \$5.8 million at the ORC level.

The Authority sought clarification from DBCT Management on the 200 PCs and 15 servers and associated software Maunsell identified but DBCT Management did not respond on these items. The Authority would be willing to consider revising its valuation of the computer systems if DBCT Management can demonstrate the need for such hardware and software.

Probably the most significant difference between the various valuations relates to the shiploaders. DBCT Management have proposed a value of all three shiploaders based on the cost of the third shiploader (i.e. \$29.6m base cost). The DBCT User Group, and the Authority's own adviser, have both argued that the shiploaders could have been designed and installed more cost effectively. Furthermore, the DBCT User Group considers that only two shiploaders are required as the third shiploader was only acquired because initial design decisions surrounding the wharf meant that it was too risky to relocate the second shiploader to berth 3 when it was built.

Maunsell twice went to the market seeking estimates of shiploaders. Maunsell remains of the view that an appropriate machine could be acquired for the order of \$18 to \$21 million, including on-costs. In examining this matter, the Authority understands that much of the difference in the value of the shiploaders is likely to be related to their comparative weights.

A key issue in this matter is whether Maunsell's specification had fully detailed all of the requirements necessary for a shiploader located at the terminal. For instance, in comparison with the two other central Queensland coal ports at Gladstone and Abbot Point, the DBCT terminal is located off-shore in an exposed location and with a higher tidal range. These factors will impact on the weight of a machine as well as the installation costs. For example, the wind forces associated with an off-shore elevated machine will impact on the structural design requirements. The six metre tidal variations will impact on the design requirements of the telescopic chute which will add weight to the chute and, to maintain the structural integrity, it

will add weight to the remainder of the machine as well. The off-shore location will also mean that the shiploader cannot be erected from a shore based crane; rather, a heavy lift vessel will have to be used. This adds to the costs of installing the shiploader.

In addition to the location specific requirements, the design requirements of the shiploaders are also subject to some contention. Rather than the 49 metre beam and 7200 tph requirements originally specified by Maunsell, DBCT Management maintain that the terminal's shiploaders have design requirements for a 55 metre beam and a 8650 tph loading capacity. Both of these requirements will add weight to a shiploader's arm, resulting in extra weight to the overall structure of the machine and ultimately to the cost of the machine.

This issue highlights the difficulty in ensuring that the assets being valued are fit for purpose and are not over designed. For example, the existing machines exhibit excess capacity. These machines are currently rated at 7200 tph but have been designed to operate at 8650 tph with fairly simple modifications to achieve the higher rating. Currently, the existing out loading systems also have a capacity of 7200 tph, so these systems would also have to be upgraded to allow the shiploaders to achieve their design capabilities. However, the Authority understands there are serious reservations about terminal expansions relying on upgrades to these out loading systems and, therefore, there is a reasonable prospect that the potential of the shiploaders will not be fully realised. Similarly, the Authority accepts that there can be reasonable arguments made on whether or not the shiploaders should be valued on the basis that they possess the capability of handling ships of up to 250 000 dwt (55 metre beam), when the recent trend at the terminal has been towards smaller vessels that could reasonably be loaded by a machine with a 49 metre beam.

These are the types of complexities and uncertainties which must be addressed when the operator of an infrastructure facility, such as the DBCT, is seeking to invest in new infrastructure. That is, when designing and procuring a machine with a long anticipated life, is it reasonable to take into account the many uncertainties associated with the future operation of the terminal, knowing that to do so at that stage may be relatively inexpensive even though some or all of those features of the machine may not be fully utilised.

These complexities and uncertainties also exist when seeking to value that machinery at a later date. Moreover, many of the features of the terminal's shiploaders have also been included to meet the specific environmental requirements of the site and to ensure that they are relatively easy and safe to operate and maintain.

The Authority understands why an operator of such a facility may take a particularly conservative view in designing and installing shiploaders. The shiploaders are the final piece of equipment in a long and expensive coal supply chain. Failure of, or unreliability in, a shiploader has the potential to temporarily strand significant assets whether elsewhere in the terminal, in the rail network or in the mines themselves. In addition, the Authority does not believe that equipment reliability is something that can be taken for granted. The recent failures of RL1 at DBCT in 2004 and of two shiploaders at the Roberts Bank terminal in Vancouver in 2003 indicate that equipment failures can occur.

To this extent, the Authority is not convinced that the Maunsell proposed shiploader will meet the conditions and required demands at the DBCT location. Given the importance of the shiploaders for the terminal's serviceability and overall coal supply chain, the Authority has decided to give the benefit of the doubt to DBCT Management and not optimise the DBCT shiploaders. Accordingly, the Authority accepts the Connell Hatch valuation of the terminal's shiploaders. In addition, the Authority has applied 15.2% for project risk and contract variation which is the average cost variation on tender prices advised by Connell Hatch.

The Authority also decided not to optimise out the third shiploader on the basis that it provides additional functionality and flexibility in port operations.

As outlined in Section 8.6, the Authority accepts DBCT Management’s evidence that the actual contract variation and project risk allowances for the terminal have averaged around 15.2% and, therefore, accepts Maunsell’s use of this figure in its on-cost allowance for the off shore and civil assets. The Authority also accepts Maunsell’s allowance of 2.5% for contract variation and 3% for project risk for the mechanical and electrical assets, on the basis that this accords with Maunsell’s experience for such assets, acknowledging that such assets will not experience the level of contract price risk that is applicable to civil works and the offshore assets. However, the Authority notes that, given this is a draft determination, further submissions may be made in relation to the quantum of on-costs to apply in valuing the terminal.

On the basis of Maunsell’s replacement costs and the optimisations adopted by the Authority, the Authority’s ORC valuation of the terminal is \$942.8 million as at 1 July 2004. This value compares with the Connell Hatch ORC of \$1090.0 million (1 July 2004), the GHD ORC of \$718.9 million (adjusted to 1 July 2004) and the Maunsell ORC of \$864.3 (1 July 2004).

The Authority’s ORC of \$942.8 million differs from the Maunsell ORC of \$864.3 million due to the Authority’s decision not to optimise the shiploaders or surge bin 2, and the Authority’s inclusion of ERP coal tracking software. Table 8.12 compares the Maunsell and Authority ORCs.

Table 8.12: Comparison of Maunsell and Authority’s ORCs (\$m)

Maunsell ORC	864.3
Plus	
Shiploaders not optimised	70.5
Surge bin 2 not optimised	5.7
Inclusion of ERP coal tracking software	2.3
Authority ORC	942.8

Table 8.13 highlights the optimisations and valuation differences between the Authority’s ORC and Connell Hatch’s ORC valuation. Of the \$147.2 million difference between the two ORC valuations, approximately \$82.5 million can be directly attributed to optimisations and other identified variations. The remaining difference is \$64.7 million. Such a difference is understandable given the differences in valuation approach adopted by DBCT Management and the Authority’s independent consultant and the judgement, and therefore uncertainties, that DORC valuations inevitably entail. These uncertainties and judgement differences are clearly illustrated by the significant variation in the various terminal valuations presented to the Authority.

The Authority has therefore adopted a conservative approach to its asset valuation and added one-half of the unexplained difference of \$65 million to its ORC valuation. This is the same approach adopted by DBCT Management in reconciling the \$68 million difference between its two ORC valuations. It is on this basis that the Authority has assessed the ORC of the terminal at \$975.2 million.

Table 8.13: Authority Optimisations and Valuation Differences between Connell Hatch and Authority ORC Valuations (\$m)

	<i>ORC Value Differences</i>	<i>Connell Hatch ORC Valuation</i>
		1,090.0
Optimisation of Over-Designed Items		
Outloading – Surge Bin 2	0.0 ^a	
Outloading – Shiploaders	0.0 ^a	
Total Over-Designed Items	0.0	
Optimisation of Redundant Items		
Rail Loop & Receiving – Dust extraction system in RRP1	1.9	
Total Redundant Items	1.9	
Optimisation of Sub-Optimal Design Decisions		
Stockyard – Conveyor S6A	1.3	
Stockyard – S6/S6A Transfer Station	0.9	
Stockyard – Conveyor S6	5.3	
Stockyard – Stacker/Reclaimer SR1A replacing Stacker ST2 and Reclaimer RL1	15.0	
Stockyard – Electrical	1.1	
Stockyard – Bulk Earthworks – Stage 5	1.4	
Stockyard – Stage 5 Drainage	2.4	
Total Design Decision	27.5	
Items Valued in Excess of Their Current Capability		
Outloading – Surge Bin 1	5.5	
Inloading – S1 Conveyor	0.9	
Inloading – S2 Conveyor	0.9	
Inloading – S3 Conveyor	0.9	
Inloading – S4 Conveyor	0.9	
Stockyard – Bund Fitout	8.4	
Stockyard – Conveyor R1	0.5	
Stockyard – Conveyor R2	0.5	
Stockyard – Conveyor R3	0.5	
Stockyard – Conveyor R4	0.5	
Total Items Valued in Excess of Their Current Capability	19.4	
Other Adjustments		
Electrical – Computer Systems	16.1	
Rail Loop & Receiving – CH have duplicated water services in RRP1 and RRP2	0.8 ^b	
Rail Loop & Receiving – CH have duplicated preliminaries, conveyor footings and substation buildings in RRP1 and RRP2	3.2 ^b	
Outloading – CH have included supply and installation of sample plant in Surge Bins 1 and 2	3.6 ^b	
Outloading – CH have included berth 3 dredging preliminary expenses	8.4 ^b	
Total Other Adjustments	32.1	
Total Other Adjustments	1.6	
Differences		82.5
Total Explained Differences		64.7
Authority's Base ORC Valuation		942.8
Authority's ORC Valuation plus half the Unexplained Difference		975.2

^a These values differ to the values reported in the Maunsell asset valuation report as the Authority rejected Maunsell's optimisation of these items.

^b These numbers differ to the values in the Maunsell asset valuation report because the Authority has included DBCT Management's values for these items in this table.

8.8 Depreciation

While the optimised replacement cost provides a value for an efficient set of modern equivalent assets needed to provide equivalent service and capacity to the asset being valued, depreciation measures the decline in the service potential of an asset as a result of usage, ageing and/or obsolescence.

General Approach

DBCT Management's Position

DBCT Management believes that a correct application of DORC principles requires replicating the (second-hand) value of the assets that would prevail in a hypothetical competitive market. In this context, asset depreciation involves writing-down an existing asset's optimised replacement cost to reflect its loss in service potential relative to new assets. In other words, depreciation in a DORC context should not simply write-down the value of an asset to reflect its age, but it should reflect the discount for the loss in serviceability of the second-hand assets (DAU, Accompanying Submission: 12).

DBCT Management supports using straight-line depreciation for determining the written-down value of the terminal assets (DAU, Accompanying Submission: 36). As a result, Connell Hatch makes an engineering assessment of the assets' current condition in order to determine the useful and residual lives of the assets. These assets are then depreciated on a straight-line basis, with Connell Hatch assigning a scrap value of 5% for those assets, eg mechanical, with a residual value at the end of their useful lives (DAU, Asset Valuation, Connell Hatch: 10).

Connell Hatch submits that, since spares are unused and thereby retain their full service potential, they should not be depreciated (DBCT Management sub. no. 17: 33).

Stakeholder Comments

The DBCT User Group submits that depreciation for the terminal should reflect the expected life of the asset at the time it was installed, due to the high level of maintenance at the terminal extending asset lives. Therefore, the DBCT User Group submits that original (nameplate) life is the more appropriate basis for determining asset lives for regulatory purposes. As a consequence, GHD assesses the useful and residual lives of the terminal assets based on an engineering assessment, but without regard to their current condition (DBCT User Group, sub. no. 5: 57, 68, 79).

The DBCT User Group also supports using straight-line depreciation. The DBCT User Group further notes that the straight-line approach would enable the Authority to alter the depreciation profile of the terminal in future regulatory reviews should an asset stranding risk arise (DBCT User Group, sub. no. 5: 68). GHD does not assign a scrap value to assets (Maunsell: 91).

GHD considers that the zero depreciation applied to spares by Connell Hatch is inappropriate for two reasons. First, spares are subject to deterioration without being used, eg 'bearings commonly suffer long-term creep.' Second, the economic lives of spares can be limited, given changes in plant and equipment (DBCT User Group, sub. no 19: 7).

Consultant's Report

Maunsell observes that, in the context of a DORC valuation, depreciation should reflect the loss of an asset's service potential over the relevant period (Maunsell: 22). Consequently, Maunsell

assesses the useful and residual lives of the assets based on an engineering assessment with reference to the present condition of the assets (Maunsell: 58-59).

Maunsell also supports applying the straight-line method to the terminal assets (Maunsell: 58). Maunsell considers that an allowance of 2.5% for scrap value is appropriate for the coal-handling assets, based on engineering judgement and expected scrap value of the steel at the end of the asset's life (Maunsell: 58).

Maunsell's view is that spares should remain undepreciated because they are considered to be held and used as new (Maunsell: 57).

Authority's Analysis

In addressing the DBCT User Group's concern about 'paying twice' for the assets, the Authority requested that Maunsell, for comparative purposes, determine a DORC for the assets with reference to the historic depreciation profile of the terminal. For this exercise, the Authority requested information from DBCT Management relating to the historic depreciation of the terminal assets and, more specifically, to the depreciation component of DBCT Management's DIHC valuation. DBCT Management advised the Authority that it was unable to provide that information, as it did not receive a detailed asset register or the actual depreciation profile of the terminal upon its acquisition of the DBCT lease. Moreover, it noted that DBCT Management's DIHC valuation was not based on the actual, historic depreciation of the terminal. Rather, it was based on a number of assumptions and, as a result, the DIHC valuation likely overestimates historic depreciation. DBCT Management indicated that it provided the DIHC valuation simply in broad support of the reasonableness of its proposed DORC valuation.

Given the lack of robustness in estimates of past depreciation, the Authority accepts the approach proposed by Maunsell. At the same time, the Authority considers that Maunsell's treatment of asset refurbishments is likely to address many of the DBCT User Group's concerns on this matter (discussed below).

The Authority accepts the straight-line method proposed by all parties for determining the depreciation profile of the terminal, in conjunction with a scrap value of 2.5% for relevant assets.

The Authority accepts Maunsell's treatment of spares.

Maintenance and Refurbishments

DBCT Management's Position

Connell Hatch recognises asset refurbishment by adjusting asset lives and assigning a revised value to the relevant assets. Specifically, in the absence of refurbishment, the (original) useful life and installation date of the asset are used. For an asset that has been refurbished, Connell Hatch applies an adjusted residual life from the refurbishment date and reassesses the asset value at that time at either 80% or 95% of original value, depending on the asset (DAU, Asset Valuation, Connell Hatch: 10).

Stakeholder Comments

The DBCT User Group expresses a general concern that historically high levels of maintenance expenditure at the terminal may extend the nameplate lives of some assets beyond their useful lives, resulting in users paying twice — once for maintenance and again for the higher capital

value generated by that maintenance. The DBCT User Group also submits that depreciating the assets in a manner inconsistent with the original nameplate lives creates an incentive for users to encourage the Operator to invest in maintenance less than would otherwise occur.

For these reasons, the DBCT User Group contends that for assets whose useful lives exceed their original nameplate lives, the latter should be applied for regulatory purposes (DBCT User Group, sub. no. 5: 68). GHD, therefore, uses the original installed date as the starting point for depreciation and does not change the useful life from the initially assigned life, even if refurbishment or renewal occurs (DBCT User Group, sub. no. 6: 10-11).

Consultant's Report

Maunsell submits that its assessment of asset lives takes into account reasonable maintenance practices at the site (Maunsell: 113).

Similar to Connell Hatch, Maunsell recognises the refurbishment of assets by adjusting asset lives and assigning a revised value to the assets. However, Maunsell disallows some of the refurbishments. Maunsell's view is that regulatory principles of depreciation should recognise refurbishment as a capital investment, where it extends the life of assets. In undertaking its assessment, Maunsell has, therefore, allowed refurbishments only when they have actually extended the life of the asset. Maunsell recognises these expenditures by restoring the assets to 80% of their value. In contrast, if the refurbishment only assists the asset in reaching its original life, which is consistent in principle with maintenance, Maunsell has not included the refurbishment in its asset value. This issue arises primarily in the context of mechanical equipment, where some mid-life investments were required for certain assets to achieve an original, intended life (Maunsell: 58-59, 90).

Authority's Analysis

The DBCT User Group raises a concern that the traditionally high levels of maintenance (funded by users) at the terminal may have led to assets with useful lives extending beyond nameplate lives. The DBCT User Group does not believe that it should effectively pay a second time through a higher asset value as a result of this maintenance.

On the basis of the information presented by the DBCT User Group and Maunsell's analysis, it is unclear whether maintenance practices at the terminal have led to an increase in the asset lives. The Authority does not accept that, to the extent that this may have occurred, it will create a disincentive for effective maintenance of the terminal in the future. The Authority believes that future maintenance practices at the terminal will be much more likely to be driven by the common desire of both the users and DBCT Management to maintain the reliability of the terminal and to avoid unplanned disruptions to coal-handling activities. The Authority also believes that the DBCT User Group's concerns in this regard are likely to be tempered by Maunsell's approach to refurbishments, where expenditure that results in assets only reaching their original, useful lives is not recognised in the regulatory asset base.

Economic Constraints

DBCT Management's Position

DBCT Management submits that the remaining life of coal mining in the Bowen Basin places a constraint on the economic life of the terminal. In support of applying such a constraint, DBCT Management refers to the Authority's draft decision on QR's access undertaking, in which the Authority notes that no consensus among stakeholders emerged regarding the remaining economic life of Queensland coal mines. DBCT Management also notes that Barlow and

Jonker had predicted continued coal output growth from the Goonyella System up until 2035 (DAU, Accompanying Submission: 35).

DBCT Management also believes that a number of additional factors impact the economic life of the terminal and, therefore, should be considered when determining an appropriate period for depreciating the terminal assets. These factors include the life of existing contracts, the risk of reduced coal demand and foreign exchange risk (DAU, Accompanying Submission: 35-36).

Finally, DBCT Management also submits that the expectations of both private sector investors and debt providers should be considered when determining the appropriate period over which capital is returned to them through the depreciation charge. DBCT Management submits that private investors typically seek a return over 20-30 years, while debt providers seek a return over 15-25 years (DAU, Accompanying Submission: 36).

For these reasons, Connell Hatch assumes that the life of the terminal is 50 years. Given this constraint:

- an asset whose condition is such that it will still be in continued use beyond 50 years is assigned a residual life of 50 years; and
- an asset whose useful life is assessed at less than 50 years is assigned a residual life equal to its useful life less its age (DAU, Asset Valuation, Connell Hatch: 10).

DBCT Management submits that applying this approach as of 1 July 2004, gives a weighted, remaining economic life of the terminal assets of 33 years (DAU, Accompanying Submission: 36).

Stakeholder Comments

The DBCT User Group submits that the proposed economic constraint of 50 years effectively operates as an accelerated depreciation arrangement, resulting in higher charges for users. This effect arises because the constraint shortens an asset life from the outset of regulation and increases the amount of depreciation for that asset during the regulatory period (DBCT User Group, sub. no. 5: 67-68).

The DBCT User Group notes that, previously, the Authority considered there to be no economic constraint on the life of the Goonyella System and, therefore, no basis for accelerated depreciation. The DBCT User Group submits, however, that accelerated depreciation represents a reasonable approach to address asset stranding risk should such a risk arise in the future (DBCT User Group, sub. no. 5: 68).

GHD, therefore, assesses the remaining physical, not economic, lives of the terminal assets.

Consultant's Report

Maunsell does not apply an economic constraint to the lives of the terminal assets (Maunsell: 60-61).

Authority's Analysis

DBCT Management and Connell Hatch submit that a 50-year limit should apply to the lives of the terminal assets due to the potential for various factors, such as demand shocks and/or a weakening in the competitive position of Australian coal exports, to strand the assets.

The Authority considers that, in order for an economic constraint to be placed on the life of the terminal site, it must be demonstrated that such limitation is reasonably likely to arise during the period in question (ie 50 years). At this time, evidence presented does not support the likelihood of such a limitation. Energy Economics, for example, has forecast a relatively high rate of future growth for coal exports from DBCT. Further, the very low cost structure of Bowen Basin coal production makes it highly competitive in world coal markets. The Bowen Basin coal reserves are also very substantial. As for DBCT Management’s concern regarding investors’ expectations of receiving a return of capital over a particular period, the Authority is not in a position to assess the length of time over which shareholders and debt providers reasonably require a return of capital.

The Authority, therefore, has not applied an economic constraint to the lives of the terminal assets for valuation purposes. This view is consistent with the Authority’s conclusion in its decision on QR’s draft access undertaking. Given that this is a draft decision, however, the Authority is willing to consider further arguments and evidence in relation to this issue.

The Authority, however, concurs with the User Group that, if an asset stranding risk arises in the future, the current regulatory framework could readily accommodate an adjustment, eg through policies such as accelerated depreciation.

Implications of the Methods

The depreciation approaches applied by Connell Hatch, GHD and Maunsell (whose approach is accepted by the Authority) result in depreciation factors, ie accumulated depreciation as a proportion of ORC, of about 23%, 32% and 26% respectively. The Maunsell and Connell Hatch depreciation factors diverge for two principal reasons: differences in optimisations undertaken and differences in depreciation methodologies.

In this regard, the optimisations of assets will affect the overall depreciation factor. For instance, to the extent that the Authority’s optimisations remove assets that are less depreciated relative to the remaining assets, this results in a higher depreciation factor than in the absence of optimisations. Given that the Authority’s optimisations are not immaterial, this issue is relevant and, in fact, explains approximately half of the difference between Connell Hatch’s and the Authority’s depreciation factors.

The remaining difference in the depreciation factors is attributable to differences in the depreciation approaches adopted by Maunsell and Connell Hatch. This includes the different treatment of refurbishments, the different residual value assumptions and the different approaches to constraining technical lives by economic factors.

The Authority’s view is that Maunsell’s approach to depreciation is appropriate.

8.9 Financing Costs

Financing costs are incurred by asset owners in accessing capital for developing an asset. These costs typically include two principal elements:

- interest during construction (IDC); and¹⁹
- up-front financing costs — costs associated with raising debt and equity finance.

¹⁹ In its submission, DBCT Management refers to interest during construction as ‘capitalised interest’.

Of the two components, IDC is significantly more important, given its relatively greater magnitude. Up-front financing costs are the costs paid to raise the debt and/or equity capital required to finance the project. Typical debt financing costs include arrangement fees, advisory fees and syndication costs, while typical equity financing costs include payments for structuring the issue, preparing and distributing information and undertaking presentations to prospective investors. Many of these debt and equity financing costs are assessed as a percentage of the debt or equity finance required for the project.

DBCT Management's Position

DBCT Management submits that the regulatory asset base should include interest during construction and the up-front financing costs associated with raising the debt and equity to construct such a facility. In estimating both IDC and up-front financing costs, DBCT Management assumes that debt and equity are utilised at the same time, in proportions equal to the proposed regulatory gearing, and raised progressively as required (DAU, Accompanying Submission: 15-16).

For IDC, DBCT Management submitted an estimate of \$161.4m, based on an ORC asset value of \$1,056m, a nominal, post-tax WACC of 10.52%, the Connell Hatch S-curve with a four year (48 month) construction period and a depreciation factor of 77.06%. The IDC allowance also included an up-front debt financing cost.

Although DBCT Management submitted an indicative range of equity-raising costs, they ultimately rely on actual costs of \$15.7m, incurred by the prospectus raising of \$285m for the Prime Infrastructure float, to proxy financing costs for the construction of the terminal. This estimate for equity-raising costs includes an allowance for debt due diligence costs. Since the \$15.7m figure is less than the 'low' estimate in the indicative range provided by them, DBCT Management submits that an allowance of \$15.7m is, in fact, a conservative estimate for such costs.

Stakeholder Comments

Both the DBCT User Group and the QRC accept that IDC should form part of the asset value and that it should be assessed on the basis of applying the regulatory determined WACC and a realistic construction period (DBCT User Group, sub. no. 5: 60; QRC, sub. no. 2: 4). However, the DBCT User Group adds that DBCT Management's allowance for IDC is excessive, due to both the proposed construction period and cost of capital.

The DBCT User Group considers that:

...the four year construction period for the terminal suggested by Connell Hatch to be excessive. This is in contrast to, for example, the QCA decision on QR, where it was found that an average construction period for each of the corridors was 30 months. GHD has indicated a construction period of 36 months, which the User Group considers conservative when compared with the QR construction period of 30 months (DBCT User Group, sub. no. 5: 60).

While the DBCT User Group believes that WACC represents an appropriate basis for capitalisation of IDC, they believe the appropriate WACC for the terminal is materially lower than the 10.52% WACC submitted by DBCT Management (DBCT User Group, sub. no. 5: 60).

The DBCT User Group also makes several points with respect to up-front financing costs. It rejects any costs related to the acquisition of the terminal and/or the creation of Prime Infrastructure on the basis that the Babcock & Brown Consortium's acquisition of the terminal was a step in its wider commercial strategy to develop a successful infrastructure fund. The

DBCT User Group further submits that the *Statement of Regulatory Principles* provides no indication that transaction costs associated with the acquisition would be allowed.

The DBCT User Group also submits that, if the Authority allows DBCT Management any equity-raising costs, then users should not meet the full costs of the float of Prime because substantial benefits have already accrued to Babcock & Brown from the successful float of Prime. Further, the DBCT User Group submits that the ACCC's GasNet decision, in which 0.224% of regulated equity was allowed to be recovered as an annual, non-capital cash flow, provides an upper limit on reasonable equity-raising costs for DBCT Management (DBCT User Group, sub. no. 24: 7-8).

Finally, PCQ argues that, if establishment and financing costs are acceptable for a privately owned terminal, PCQ would expect to be able to claim such "costs" in its provision of similar port access (PCQ, sub. no. 10: 5).

DBCT Management's Critique

DBCT Management argues that the DBCT User Group's assumption of a 30-month construction period, based on the Authority's Queensland Rail (QR) regulatory determination, is irrelevant and is not at all comparable to an offshore coal terminal, as they are completely different assets (DBCT Management, sub. no. 17: 9).

While DBCT Management agrees that the actual on-site construction period would be 36 months as suggested by GHD, it argues that, in the year prior, a significant amount of expenditure takes place, such as detailed design, geotechnical and bathymetric surveys, land-clearing installation of essential services, etc, which would extend the construction period (DBCT Management, sub. no. 17: 9).

DBCT User Group's Critique

The DBCT User Group accepts that rail infrastructure and coal terminals are different assets for the purposes of comparing construction periods. However, they argue that the reliance on the QR construction period simply reflects the absence of any regulatory precedent on the construction times for major bulk commodity terminals and that this was the most relevant precedent for parties involved in bidding for the DBCT lease (DBCT User Group, sub. no. 20: 6).

The DBCT User Group also submits that its assumed construction period of 30 months highlights that major infrastructure projects are able to be completed reasonably expeditiously, noting that the Carrington Terminal in Newcastle began operations 18 months after construction commenced, even though the terminal took 27 months to complete (DBCT User Group, sub. no. 20: 6-7).

Consultants' Reports

As part of its determination of an asset value for DBCT, Maunsell provided indicative IDC estimates, based on several example WACCs. As a separate matter, the Authority engaged the Allen Consulting Group (ACG) to assess DBCT Management's claim for IDC and up-front financing costs.

Interest During Construction

Maunsell argues that the assumed construction period to build the terminal needs to include a development period that covers the planning, design, construction and commissioning periods

of the terminal. As a result, Maunsell indicates that 48 months is a reasonable period to construct the terminal in a single stage. Maunsell believes this time period is consistent with sound development and construction practice and reflects the time limitations expected, especially with the provision of some assets that are built off-site and/or imported and the preliminary project phase where feasibility and planning are undertaken (Maunsell: 103-104).

Maunsell believes it is not appropriate to use the QR corridor development project as a timing estimate for the DBCT site, as the project fundamentals are different. For example, there is a large amount of assembled machinery in the DBCT project, requiring construction off-site, delivery and installation. These asset types require extensive planning, forward purchase and site readiness to allow installation, the time for which is largely outside the supplier's control (Maunsell: 103-104).

Maunsell's capital expenditure S-curves cover all periods of construction of the terminal, for both the single stage and the multi-stage approaches. These curves are based on the experience of the estimators for the valuation (Maunsell, 104).

While agreeing with DBCT Management's general approach to determining IDC, the ACG notes that DBCT Management's approach to calculating IDC appears to adjust for inflation twice, by applying a nominal, post-tax WACC to monthly construction costs that are already 'grossed-up' to future values by the relevant inflation rate. Specifically, ACG notes that Connell Hatch indexes the estimated optimised replacement cost forward to 1 July 2004, and the engineering S-curve is then applied to allocate a percentage of this ORC value to each month of the construction period. As a consequence, each month's allocated construction cost is a value prevailing at the end of the four year construction period, which already includes inflation. DBCT Management then multiplies each monthly construction cost by a nominal post-tax WACC that also includes inflation.

Up-front Financing Costs

With respect to equity-raising costs, the ACG considers that whether \$15.7m is an appropriate allowance depends on the total capitalised value of the asset and the gearing of the asset. Given this basis for assessment, the ACG's view is that up-front equity-raising costs are best proxied by float costs since these are the most transparent data source available. In this respect, the ACG believes that the ACCC's estimated average prospectus equity financing cost of 3.55%, based on equity financings of five infrastructure companies, is a reasonable estimate of the cost of up-front equity finance for DBCT.²⁰ The ACG, therefore, recommends that the Authority assesses the total capitalised value of the asset, apply the regulatory gearing assumption to determine the equity component, apply the ACCC benchmark of 3.55% and depreciate the result in line with the terminal assets.

The ACG also concludes that allowances for up-front debt financing costs and for debt due diligence costs are reasonable in the context of financing a project such as DBCT. The ACG recommends a 100 basis points allowance for up-front debt financing costs and accepts DBCT Management's proposed allowance for debt due diligence costs. The ACG recommends that the Authority account for these allowances using the same methodology as the equity-raising costs.

²⁰ The companies are United Energy, Macquarie Communications Infrastructure Group, Australian Pipeline Trust, Envestra and GasNet.

Authority's Analysis

The Authority considers that interest during construction is a legitimate cost incurred by the asset developer, as it represents the opportunity cost of funds employed in developing the replacement asset.

In determining an appropriate allowance for IDC, the Authority agrees with DBCT Management and the DBCT User Group that the WACC is an appropriate discount rate, rather than a debt interest charge. The Authority also accepts Maunsell's proposed S-curve profile of construction costs over a four year period.

In response to the possible double counting of inflation, DBCT Management argued that the 1 July 2004 replacement cost represents the price that an investor would pay to replace DBCT in its entirety on an efficient basis as if the investor signed a design/build contract on that date. To the extent that additional costs result from the inflation over the subsequent 48-month period of capital 'draw-down', the application of a nominal WACC compensates for such cost increases. DBCT Management submits that this approach ensures that the entire DORC is forward-looking, consistent with a proxy market value for the assets.

The Authority disagrees with this view on the basis that the Authority's estimated replacement cost for the terminal (ie total DORC) reflects both the capital required to construct the facility and an allowance for the opportunity cost of employing that capital over the (hypothetical) four year construction period, in 1 July 2004 terms. Even if DBCT Management's 'logic' were to be accepted, the forward looking interest during construction would have to be brought back to 1 July 2004 terms, as this is the date from when reference tariffs are to apply. Using inflation to do this brings the allowance back to a real terms calculation of interest during construction.

Accordingly, the Authority concurs with the ACG that DBCT Management has double-counted inflation in its IDC calculation and agrees that the correct approach is to apply a real, after-tax WACC to each month's construction cost. Adjusting for this results in a reduction of \$43.6 million in the IDC claimed by DBCT Management, from \$161.4 million to \$117.8m.

Using the asset values and WACC determined by the Authority, together with the Maunsell S-curve, results in an allowance of \$78.8m for IDC. The difference between this allowance and the \$117.8 million outlined above is accounted for by differences in the relevant values for the asset base, WACC and depreciation.

The Authority agrees that up-front financing costs associated with the construction of the terminal are legitimate costs incurred in developing an equivalent asset and that a reasonable allowance for them should be included as part of the DORC.

The DBCT User Group, however, raises a concern that DBCT Management may receive compensation for either the acquisition of the terminal and/or the float of Prime. In response to the DBCT User Group's concern, the Authority notes that the debt and equity financing cost allowances are project financing costs, ie costs of major capital raisings for the (hypothetical) construction of a replacement terminal, consistent with DORC principles. As a consequence, these costs are not related to either the Babcock & Brown Consortium's acquisition of the terminal or to the float of Prime.

Although the Authority views the DBCT Management submission of \$15.7m for equity-raising costs as informative, the Authority agrees with the ACG that the appropriate allowance depends on the total capitalised value of the asset and the assumed gearing of the asset. The Authority also accepts the ACG recommendation that the ACCC's benchmark for such costs (3.55%) is appropriate. On the basis of the Authority's ORC of \$975.2m, financing costs and the regulatory gearing of 60%, equity-raising costs amount to \$15.7 million at the ORC level. In

the same manner, debt-raising costs of \$9.6m are derived on the basis of the total capitalised value of the asset, regulatory gearing of 60% and the recommended allowance of 100 basis points applied to total debt in the capital structure. The total up-front financing costs, therefore, are \$25.3m. Applying the Authority's depreciation factor gives a depreciated, ie DORC-equivalent, allowance of \$18.8m.

The Authority considers that DBCT Management should be compensated for both interest during construction and up-front financing costs. The Authority's view is that appropriate allowances for these costs are \$78.8m and \$18.8m respectively.

8.10 Land Value

DBCT Management is ultimately the sub-lessee of the relevant assets and land.

DBCT Management's Position

The Connell Hatch and Rushton valuations did not include allowances for the unimproved value of the land. DBCT Management therefore added the value of land to its DORC valuation. While DBCT Management's submission did not indicate on what basis the land was valued, a value of \$1 million dollars was adopted (DAU, Accompanying Submission: 15, 17).

DBCT User Group

The DBCT User Group notes the Authority has adopted a range of approaches for the valuation of land for regulatory purposes. A major complexity associated with the value of land relates to the fact that the land is leased rather than owned by DBCT Management – that is, the land will retain its value over the life of the lease and will be returned to Government at the end of the lease (DBCT User Group, sub. no. 5: 71 – 72).

Given the absence of alternative uses for the land, the DBCT User Group submits that the terminal's land should be valued on the basis of the indexed historical cost approach.

Consultant's Report

DTZ Australia International Property Advisors were engaged by Maunsell to undertake a valuation of the land and non-infrastructure buildings and site improvements of the terminal.

DTZ have used the fair value (market value) method to value the terminal's land and non-infrastructure buildings and site improvements. DTZ argue that a fair value method is consistent with a DORC valuation method. The rationale for using a fair value approach for land is that it provides a better indication of the opportunity costs to the owner of the assets and is more consistent with the actual overall asset value which would be faced by a new operator entering the market.

DTZ argues that the perpetual or long term leaseholds DBCT Management holds over the land, given their length of tenure and therefore certainty of occupation, is comparable to a freehold ownership of the land. As a result, DTZ believe that it is reasonable to assess the value of the land for the purposes of the regulated asset base as a freehold ownership site.

In terms of easements, DTZ noted that QR has an easement for a rail line through the industrial dam on the eastern edge of the site but assessed that it was extremely unlikely QR would ever require that land. In any event, DTZ argue such a necessity would render DBCT inoperable. Thus, the easement was ignored for valuation purposes.

Using a fair value approach, DTZ has valued the land and non-infrastructure buildings and site improvements at DBCT at \$7.2 million, comprising \$2.3 million of land and \$4.9 million in non-infrastructure assets.

Authority's Analysis

Given the long term nature of the lease, the Authority does not believe that leasehold title as against freehold title should have any impact on the Authority's approach to valuing the land. That the land will be returned to the Queensland Government at the end of the lease should also not have any impact on the Authority's approach to valuing the land. Consistent with general regulatory and accounting practice, the land should not be depreciated. However, because the land has an alternative use, it does have a value and that prices should reflect a reasonable return on the value of the land asset.

To this end, the Authority accepts DTZ's approach to valuing the land at the terminal as it is consistent with the DORC approach used to value the remainder of the terminal.

The Authority has valued the terminal land and non infrastructure building and site improvements according to market value.

8.11 Staging Costs and Growth Allowance

The issue of staged development relates to whether the asset valuation should recognise the additional costs attributable to the past incremental development (i.e staged) of the infrastructure which will be more expensive than the 'all-at-once' (single stage) replacement of an asset.

The replacement cost of an asset measures what it would cost today to provide an asset to deliver the same service potential as the asset being valued. Where a terminal has developed incrementally, it is possible that staging costs may have been incurred. Similarly, if the terminal were replaced today, the person replacing the terminal could take advantage of all available economies of scale and scope in construction, even though this does not reflect the historical development of the network.

The issue of a growth allowance refers to the allowance of some degree of excess capacity inherent in *existing assets*. That is, some regulators determine that excess capacity inherent in current assets should not be optimised out where that excess capacity is in excess of current need.

Staging Costs

DBCT Management's Position

DBCT Management's DORC valuations did not include an amount relating to staging costs. Rather, DBCT Management assumed a single stage construction but with an allowance for growth added. DBCT Management argues that, if the terminal was to be built today, it would be built in a single stage but would include an amount for reasonably anticipated growth. On the otherhand, DBCT Management submit that an alternative valuation method would be to recognise that the DBCT asset had been built over a number of stages following an efficient investment path, therefore staging costs should be included but not an allowance for growth (DBCT Management sub. no. 17: 25)

Stakeholder Comments

The DBCT User Group believes that the valuation of the terminal should not include an allowance for staging costs for the following reasons:

- the Authority did not commit to any position on staging in its *Statement of Regulatory Principles* but foreshadowed one possible approach being the drawing of a “line in the sand” at a point in time. The DBCT User Group submits stages 1 to 5 should be considered for the purposes of the lease as a single integrated structure and any allowances for staging in subsequent regulatory processes would confer upon DBCT Management a windfall gain;
- the lease process has provided a clean slate for the valuation question. As a result, DBCT Management would have been aware of the possibility that staging costs might not be allowed, arguing this would have been an important consideration in their bidding processes and would have been manifested in the bids themselves; and
- the returns the Government secured during the time it controlled the terminal were sufficient to compensate for both its investment and the staging costs it incurred during that time. Moreover, large profits were earned by the Queensland Government through levying of special harbour dues between 1983 and 2001. The lease process together with past monopoly returns secured by the Government provided a sufficient return to justify ignoring staging costs through the current regulatory process.

The DBCT User Group reiterated this point in its critique of DBCT Management’s asset value (DBCT User Group, sub. no. 20: 3).

The DBCT User Group acknowledge however that:

...irrespective of the QCA decision on DBCT Management’s first undertaking, future staging costs are likely to be included in DBCT Management’s regulatory asset base (DBCT User Group, sub. no. 5: 64).

The QRC also argue that an allowance for staging costs should not be included in the valuation of the terminal on the basis of the historical charging regime and the structure of the recent tender for the long term lease (QRC, sub. no. 2: 5).

Consultant’s Report

Maunsell notes that, if a new entrant to the business was to develop a facility of the same capacity as that delivered by the current facility, then they would invest on the basis of a single stage and outlay costs on that basis (Maunsell: 52). Maunsell also considers that a multi-stage development is not consistent with DORC valuation principles.

Authority’s Analysis

The Authority accepts that DORC is a forward looking assessment of an asset’s value based on the replacement of an existing asset in the most efficient way possible. However, the Authority is also of the view that facility owners should be recompensed for costs that are reasonably and efficiently incurred. In this instance, however, the Authority agrees with the DBCT User Group that it is relevant to take account of past Government pricing practices and the fact that the facility was purchased in its fully developed state. Accordingly, the Authority supports valuation on a single stage basis.

Growth Allowance

DBCT Management's Position

DBCT Management believes that it is reasonable that any valuation developed under the DORC method should include a reasonable allowance for growth (DAU, Accompanying Submission: 14).

DBCT Management submits that regulators typically allow for 3-5 years growth as a reasonable basis for determining the capital cost to be included in the regulated asset base. In their June 2003 submission, DBCT Management argued that demand for capacity could increase by as much as 19 mtpa above the current DBCT nameplate capacity of 54.5 mtpa in the five years following approval of the undertaking. DBCT Management acknowledges that to allow the full 35% of potential growth (54.5 mtpa to 74 mtpa) in the asset base is unlikely to be consistent with a competitive market outcome (DAU, Accompanying Submission: 14).

At that time, DBCT Management consider a more reasonable allowance for growth would be that which equates to stage 7A of the Master Plan 2002 which provides for an additional 6.5 mtpa of capacity or about one third the potential increase in forecast throughput over the next five years or about 12% of existing nameplate capacity. The estimated cost of the stage 7A expansion included in the Master Plan 2002 is \$89 million (before capitalised interest) (DAU, Accompanying Submission: 14, 15).

DBCT Management believes that the DBCT User Group's argument against DBCT Management's claim for a growth allowance is inconsistent with their argument against an allowance for staging costs. Connell Hatch considers that either staging costs or an allowance for growth should be included. Connell Hatch state that to deny both staging costs and a growth allowance would be denying the infrastructure investor a reasonable return and provide the users with a windfall gain (DBCT Management, sub. no. 17: 25).

Stakeholder Comments

The DBCT User Group believes there is no basis upon which DBCT Management can sensibly claim assets being included in the regulatory asset base when they do not physically exist and have not been committed to let alone commissioned. The DBCT User Group believes that:

...the DBCT Management proposal is unusual – it is seeking a return on an asset that does not currently exist and indeed may not exist during the next regulatory period (DBCT User Group, sub. no. 5: 65).

The DBCT User Group cites the Authority's *Statement of Regulatory Principles* which makes reference to a possible allowance for growth in the optimisation process. However, the DBCT User Group understood at the time of the sale, and continues to understand, that this reference refers to excess installed capacity not being optimised out where it represents capacity that may be required to accommodate future growth. The DBCT User Group argues that this is a very different interpretation and approach to a growth allowance proposed by DBCT Management which includes an uplift of the regulatory asset base for non-existent assets. Accordingly, the DBCT User Group submits that such an approach would be unprecedented (DBCT User Group, sub. no. 20: 3).

The DBCT User Group acknowledges that there is the prospect of continued growth in the coal mines serviced by the Goonyella rail system which may create a future capital expenditure requirement. However, the DBCT User Group believes any such capital expenditure should be recognised in the regulatory asset base where it is consistent with underlying assumptions as to volumes (DBCT User Group, sub. no. 5: 65).

Similarly, the QRC believe the growth allowance as proposed by DBCT Management cannot be justified, arguing that a simple and transparent asset valuation model should incorporate any capital investment for capacity expansion as it is put in place (QRC, sub. no. 2: 5).

Consultant's Report

Maunsell has adopted the current agreed nameplate capacity requirements of the site as the upper limit for optimised capacity that is, Stage 6 (54.5 mtpa). In terms of a growth allowance, Maunsell states that any growth allowance existing in current assets (the capacity beyond current nameplate capacity) can only be retained if it is most efficient or economic to provide that capacity now.

In the case of the terminal's assets, Maunsell argues there is little excess capacity evident. Maunsell accepts that any excess capacity that does exist is due to efficiency in development arrangements (Maunsell: 106 and Appendix G).

Maunsell argues that there is no provision in a DORC valuation to assign values to assets yet to be built in order to accommodate expected capacity requirements in the future. As a result, Maunsell has not recognised any growth allowance in its valuations (Maunsell: 106).

Maunsell does, however, accept that future capital investment will be required, and there needs to be some recognised mechanism for recovery of that investment at the time it is made.

Authority's Analysis

In regulatory determinations, a growth allowance usually refers to an allowance existing in current assets, that is, capacity beyond current nameplate capacity that can be retained if it is deemed efficient or economic to do so. However, Maunsell has determined that there is currently little excess capacity evident within the existing terminal's assets and the Authority accepts this.

Moreover, the Authority accepts Maunsell's view that there should be no provision in a DORC valuation to assign values to assets that do not exist in order to accommodate expected capacity requirements in the future. At the same time, the Authority accepts that future capital expenditure will be needed to accommodate growth and that this expenditure may incorporate some excess capacity.

The Authority notes that since the lodgement of DBCT Management's submission, DBCT Management's expected capacity forecasts for coal throughput have been revised upwards. As a result, the Authority believes a better approach would be to have DBCT Management submit a forecast capital expenditure profile to account for future demand growth, for the Authority's assessment.

The Authority determines that DBCT Management should not receive any allowance for staging costs or growth in the DORC value.

8.12 Contributed Assets

Contributed assets are those assets that are funded or otherwise provided by a terminal user or a group of terminal users for their own benefit or the collective benefit of users associated with the provision of terminal services.

Recognition of past capital contributions for pricing is often proposed by users on the basis of equity as contributors of assets should not be required to pay a price for services that includes a return on capital for assets that they have provided.

In terms of the terminal, the issue of contributed capital arises in relation to two issues:

- DBCT User Group funded maintenance of the terminal; and
- DBCT User Group payment of “minor capital” as required under existing user agreements.

As indicated in earlier chapters, DBCT Management subcontracts the maintenance of the terminal to DBCT P/L (the terminal operator – which is owned by six of the mine users at the terminal) under the terms of an Operations and Maintenance Contract (OMC).

The terminal’s operating and maintenance costs are ultimately recovered from the users via a pass through model. That is, in the first instance, operating costs are initially incurred by the terminal operator who in turn recovers these costs plus a margin of 10% from DBCT Management. In turn, DBCT Management recovers these costs from users via the existing Customer Agreements.

The existing Customer Agreements also require users to contribute to “minor capital”. The minor capital charge is paid by all users, up to a maximum of \$3 million per financial year and is expressed as a charge per tonne of annual contract tonnage of all customers.

DBCT Management’s Position

DBCT Management does not allow for any user funded minor capital or maintenance in its valuation.

DBCT User Group

The DBCT User Group submits that issues of user funded maintenance of the terminal and minor capital payments are fundamental to the issue of contributed capital.

The DBCT User Group argues that, through user funded maintenance expenditure, the terminal operator has maintained the terminal assets to a very high standard and, as a result, the actual lives of assets have been prolonged by these past maintenance practices. The DBCT User Group argues that if they are forced to pay a higher price for a service because an asset’s value for regulatory purposes has been increased as a direct result of user funded maintenance expenditure, then it could result in users paying twice – once for maintenance and again for the enhanced capital value that the maintenance generates (DBCT User Group submission, sub. no. 5: 68).

Under existing user agreements, the fixed handling charge contains a minor capital component which all users must pay. The minor capital provision is an annual minor capital expenditure for the terminal up to a maximum of \$3 million per financial year. The DBCT User Group states that they are:

...contractually required to pay DBCT Management for minor capital that, once installed, forms part of the terminal assets, and potentially part of the regulatory asset base (DBCT User Group, sub. no. 5: 70)

The DBCT User Group states that they are not aware of the precise quantum of these payments to date, but have assumed the amount to be in the order of \$10 to \$15 million. The DBCT User

Group believes that these payments should be recognised as contributed capital and should be deducted from the asset base (DBCT User Group sub. no. 5: 71).

DBCT Management's Critique

DBCT Management state that the Connell Hatch valuation does not include the value of any minor capital expenditure funded by the users as only tendered prices on major expansion projects were used (DBCT Management, sub. no. 17: 6).

DBCT Management also argue it is not clear whether GHD itself included any value for minor capital in its estimate and, as such, the users may be attempting to reduce their own valuer's valuation by deducting an amount that is not even included in that valuation (DBCT Management, sub. no. 17: 6, 31).

Further, Connell Hatch argues that minor capital contributions at the terminal more readily fit the bill of operation and maintenance costs. However, for taxation purposes, they are classified as "minor capital" and, generally, do not increase the regulatory asset base or the capacity of the terminal. In other words, Connell Hatch argues minor capital may enhance existing terminal operations but generally does not increase the terminal's asset base. For example, Connell Hatch argue the replacement of a grid mesh floor in a transfer tower with a concrete floor to assist with spillage control would be considered "minor capital" for taxation purposes only (i.e. not replacing like with like). Connell Hatch argue a floor is a floor and it would not change the asset base (DBCT Management, sub. no. 17: 32).

Finally, Connell Hatch state "a lot of minor capital is for vehicles, non fixed assets, office machines and equipment which doesn't affect the asset base of the terminal" (DBCT Management, sub. no. 17: 7).

DBCT Management argues that the DBCT User Group's view that they have already paid a premium due to the high maintenance standards is not a valid argument because of the following reasons:

- maintaining the equipment at a high level improves the utilisation of the existing facility creating a cheaper cost per tonne of throughput for the users;
- it is not conceivable that the Users would support a much lower level of serviceability and greater demurrage costs in order to save an immaterial amount in operating costs and forego a well maintained terminal; and
- the operator (DBCT P/L) is owned by the users and it is likely that the optimum least (overall) cost approach to maintenance would be followed. In other words, the users would adopt an approach that is in their own best interests.

DBCT User Group Critique

The DBCT User Group argue their comments regarding the high levels of maintenance at the terminal simply reflects the fact that they do not consider that the assumed life for the terminal's assets should extend beyond the nameplate life of those assets (DBCT User Group, sub. no. 20: 5).

In their critique, the DBCT User Group argues the requirement that the user's contribution to minor capital arose from negotiations with PCQ in relation to the current user agreements. The DBCT User Group understands PCQ's motivation for insisting on the minor capital contributions was simply for administrative convenience (DBCT User Group, sub. no. 20: 4).

The DBCT User Group rejects Connell Hatch's claim that the minor capital issue can be ignored just because Connell Hatch's analysis focussed exclusively on tendered prices of major capital. The DBCT User Group argues that the constitution of the terminal is a function of the historical investment in the terminal comprising both major expansions and minor capital. To the extent that minor capital has affected the terminal as it presents today, the DBCT User Group argue, those payments by definition must have influenced the DORC valuations that have been undertaken (DBCT User Group, sub. no. 20: 5).

While the DBCT User Group does not consider that the minor capital issue affects the assessment process of the DORC of the terminal, they do believe that an adjustment should be made to the DORC to take account of the full value (i.e. capitalised at the weighted average cost of capital) for those payments properly characterised as capital contributions (DBCT User Group, sub. no. 20: 4).

The DBCT User Group rejects DBCT Management's claim that minor capital payments are an operations and maintenance issue because it is a specific contractual requirement that the minor capital payments relate to capital items. The DBCT User Group argues operations and maintenance costs are separately addressed through the terminal operator's (DBCT P/L's) budget (DBCT User Group, sub. no. 20: 4).

Consultant's Report

Maunsell investigated the issue of contributed capital, however were provided with no evidence that it extended the life of assets. Maunsell were advised by Connell Hatch that any minor capital investments were expended on minor plant and equipment and did not extend the life of the assets nor impact on the current written down value of the assets. Maunsell were unable to ascertain if minor investments were applied to upgrade components of infrastructure assets. As a result, Maunsell did not recognise any minor capital expenditure in the asset valuation (Maunsell: 100, Appendix G).

Authority's Analysis

The DBCT User Group claimed that the terminal's asset value should not include assets funded by the users in the form of the minor capital expenditure charge. In this regard, the Authority notes that Maunsell's treatment of refurbishments is that the asset value will be unaffected if the capital works do not extend the life of the assets. Information presented to Maunsell indicates that works undertaken and funded under the minor capital expenditure arrangements have not extended asset lives. As a result, the Authority accepts Maunsell's conclusion that their terminal valuation does not include capital contributed by the users.

In the absence of further documentary evidence, the Authority does not believe there is sufficient justification to adjust the terminal valuation to recognise capital contributed by the users.

The Authority has made no allowance for past minor capital contributions in its asset valuation.

8.13 Authority's DORC valuation of the DBCT

The Authority proposed DORC value for the terminal as at 1 July 2004 is \$823.7 million. Table 8.14 highlights the breakdown of the value into its component parts.

Table 8.14: The Authority's DORC Valuation of DBCT (\$m)

<i>Valuation</i>	<i>QCA</i>	<i>DBCT Management</i>	
		<i>Connell Hatch</i>	<i>Rushton</i>
Single Stage Base DORC	723.7	840.0	794.5 ¹
Interest During Construction	78.8 ²	166.1	156.7
Up-front Financing Costs	18.8	15.7	15.7
Land Value	2.3	1.0	1.0
Growth Allowance	0.0	89.0	89.0
Sub total		1111.8	1056.9
DORC	823.7	1084.3	

1. The Rushton base valuation was \$686 m. This excluded stage 6. Prime subsequently added the costs of stage 6 on and inflated and depreciated the Rushton DORC to arrive at a 1 July 2004 Rushton DORC value.

2. DBCT Management assumed a nominal post-tax WACC of 10.52% and a 4 year construction period.

While the Authority's asset value of \$824 million appears significantly lower than that proposed by DBCT Management, it should be noted that, when account is made for asset valuation and interest during construction errors made by DBCT Management, an inappropriately high WACC for interest during construction purposes and the growth allowance that was inappropriate and, consequently, not allowed, the asset valuation submitted by DBCT Management reduces to around \$888 million. Of the \$64 million difference to the Authority's valuation, optimisations account for \$40 million with the balance of the difference (\$24 million) resulting from different valuation approaches and judgements.

It should also be noted that the asset valuation used to determine the current user charges, adjusted for capital expenditure since the charges were set, is approximately \$730m in July 2004 terms.

The Authority proposes a DORC value of the terminal as at 1 July 2004 of \$823.7 million.

9. COST OF CAPITAL

Summary

DBCT Management and the DBCT User Group proposed nominal, post-tax WACCs of 10.52% and 7.29% respectively. The Authority has assessed an allowed WACC of 8.20%, based on the following parameters:

- *risk-free rate of 5.84%;*
- *debt margin of 130 basis points;*
- *capital structure of 60% debt and 40% equity;*
- *market risk premium of 6%; and*
- *equity beta of 0.66.*

The Authority believes that this estimate is conservative and provides DBCT Management a reasonable return on investment that is commensurate with both the business risks of the terminal and the specific regulatory environment in which it operates.

9.1 Introduction

The Authority's approach to determining the weighted average cost of capital for regulated entities has remained largely unchanged since it was established in 2000/01. Since then, new research has emerged and, in some recent regulatory decisions, stakeholders have raised concerns about certain aspects of the Authority's approach. In addition, the Authority is aware that recent research on cost of capital matters, such as the appropriate term for the risk-free rate and the value of dividend imputation credits (ie 'gamma'), has stimulated significant interest and debate at the national level over the past several years among regulators, regulated businesses and customer groups.

In light of these factors, the Authority considered it appropriate to review its methodology for determining the cost of capital. In the context of reviewing Prime Infrastructure's Draft Access Undertaking (DAU) for the Dalrymple Bay Coal Terminal, the Authority engaged Dr Martin Lally to undertake an independent and comprehensive technical review of the Authority's current cost of capital methodology, including appropriate recommendations for change.

On 5 March 2004, the Authority released a draft of Lally's report for public consultation with stakeholders and other interested parties in order to assist the Authority in coming to a view about cost of capital issues. In response to Lally's report, the Authority received submissions from a range of interested parties, including the primary stakeholders (DBCT Management and the DBCT User Group), government departments, regulated businesses, and academics. Dr Lally finalised his report after reviewing the submissions from interested parties. Dr Lally's report, which has been revised to address stakeholder comments, is on the Authority's web site.

In order to provide context for this review, section 9.2 of this chapter summarises the Authority's approach to date for determining the cost of capital. Section 9.3 then provides a summary of Dr Lally's five principal recommendations for change and the Authority's final position on these issues. Please refer to Attachment 1 for the complete technical review, including stakeholder submissions and Dr Lally's response to those submissions. With the Authority's position on these issues established, section 9.4 then applies the resulting methodology to determine the cost of capital for DBCT Management.

9.2 Overview of the Authority’s Current Approach

The Authority currently employs the Officer (1994) version 3 weighted average cost of capital (WACC) formulation, which defines firm cash flows in nominal, company post-tax terms and modifies the cash flows, as opposed to the discount rate, for the tax effects of both debt and dividend imputation.²¹ With regard to the latter, the Authority currently employs a value of 0.50 for gamma.²² Allowing for the cash flow adjustments described, the discount rate WACC is:

$$(1) \quad WACC = \hat{k}_e(1 - L) + k_d L,$$

where L is firm leverage (debt to total value), \hat{k}_e is the cost of equity with dividends defined to include imputation credits to the extent that they are usable, and k_d is the cost of debt.

Cost of Equity

Similarly, the Authority employs the Officer version of the Capital Asset Pricing Model (CAPM) to determine the cost of equity. In the Officer CAPM, returns are defined to include imputation credits to the extent that they are usable, ie,

$$(2) \quad \hat{k}_e = R_f + (\hat{k}_m - R_f)\beta_e,$$

where:

R_f risk-free rate

\hat{k}_m expected rate of return on the Australian market portfolio (inclusive of imputation credits to the extent that they are usable)

β_e equity beta (defined relative to the Australian market index)

The equity beta is related to the asset beta (β_a), the debt beta (β_d) and leverage (L) via the Brealey-Myers levering formula:

$$(3) \quad \beta_e = \beta_a \left[1 + \frac{L}{1 - L} \right] - \beta_d \frac{L}{1 - L}.$$

The debt beta in (3) is determined as the ratio of the debt margin to the market risk premium, ie:

$$(4) \quad \beta_d = \frac{\rho}{\hat{k}_m - R_f},$$

where ρ is the appropriate debt margin.

²¹ Officer (1994) presents four versions of the model that vary according to the definition of company post-tax net cash flows.

²² The tax parameter, ‘gamma’, is the product of the utilisation rate (U) and the ratio of imputation credits to tax paid (IC/Tax). The Authority has adopted estimates for these two parameters of .625 and 0.80 respectively, giving an estimate of 0.50 for gamma.

Cost of Debt

The cost of debt (ie the promised yield) is the sum of the risk-free rate and the debt margin:

$$(5) \quad k_d = R_f + \rho .$$

Capital Structure

In relation to the relative proportions of debt and equity finance, the Authority determines an ‘optimal’ capital structure by either examining the average level of leverage in an industry (or set of related industries) or by using simulation techniques.

9.3 Lally’s Recommendations

Dr Lally’s technical review produced five principal recommendations for change:

- modifying the Authority’s cost of capital model to recognise the differential treatment of ordinary income and capital gains in the current Australian tax environment;
- employing an estimate of ‘gamma’ near (or equal to) one, consistent with a domestic CAPM;
- using a risk-free rate with a maturity that matches the regulatory cycle;
- setting the debt beta to zero; and
- changing the beta levering formula to be internally consistent with the assumed values of gamma and the debt beta.

Choice of CAPM Version

The Officer CAPM assumes that capital gains and interest income are equally taxed. Lally submits that the Officer CAPM’s exclusion of the differential taxation of capital gains and interest income is unrealistic given the current tax environment in Australia. As a consequence, Lally submits that the Officer CAPM’s failure to recognise the differential treatment of capital gains results in a systematic bias in estimating the cost of equity capital for regulated businesses. Lally argues that, in general, this bias is likely to understate the cost of equity capital by up to one percentage point.

To address this failing, Lally proposes that the Officer CAPM be set aside and replaced with one of two alternatives, namely: the Lally-van Zijl CAPM; or the Brennan-Lally CAPM. Of the two, Lally recommends the Brennan-Lally CAPM because it is considerably less complex to implement.

The Authority received a wide range of comments from stakeholders in relation to Lally’s proposal to replace the Officer CAPM with the Brennan-Lally CAPM for regulatory decision-making. The vast majority of stakeholders reject adopting either Lally CAPM, primarily on the basis of technical considerations, lack of empirical support, parameter estimation difficulties and practical considerations.

In summary, the Authority’s view is that the Lally models are theoretically superior to the Officer CAPM because they model the capital gains aspect of the Australian tax environment. However, a key consideration is whether addressing the capital gains issue actually adds explanatory power to the models with respect to required investor returns. The Authority’s

view on the empirical evidence is that the verdict is still out on whether the Lally CAPMs are better than the alternatives in explaining required investor returns.

Therefore, the Authority does not believe there is a sufficiently robust case to move away from its current methodology at this time. This is particularly the case given the support for the Officer CAPM by both DBCT Management and the DBCT User Group. Accordingly, the Authority proposes to retain the Officer CAPM version.

The Authority will continue using the Officer CAPM in determining the cost of equity capital.

Value of Gamma

The primary tax parameter that arises in the Officer Model is ‘gamma (γ),’ which is the value of dividend imputation credits to shareholders to the extent that they are usable. Formally, gamma is defined as the product of two elements, the utilisation rate of imputation credits (U) and the ratio of imputation credits to company tax paid (IC/Tax). The value of gamma ranges between zero and one (inclusive) and can be recognised in the cost of capital model through either an adjustment to the regulated firm’s cash flows or to the discount rate. There is an inverse relationship between the gamma parameter value and regulated prices; that is, the closer gamma is to one the lower is the regulated price.

To date, the Authority has employed a gamma of 0.50, which comprises a value of 0.625 for the utilisation rate and 0.80 for the imputation credits to tax paid ratio. The Authority models the impact of gamma in the firm’s cash flows.

Stakeholders advanced a number of arguments for the utilisation rate to be set to zero. While these arguments are detailed, they can be pared down to two points. First, that imputation credits are largely worthless to the marginal investor, which is likely to be the foreign investor. Second, recent empirical research indicates that the value of imputation credits is, on average, substantially less than the commonly adopted 0.50 by regulators.

Lally refutes the proposition that value of imputation credits is determined by a marginal, foreign investor for two reasons. First, the idea that a single marginal investor determines the value of imputation credits is inconsistent with the technical underpinnings of the Officer CAPM. Lally rejects the empirical work on a similar basis. Second, introducing the concept of a foreign investor is inconsistent with a domestic CAPM model. Further, an international CAPM model, where the concept of a foreign investor is consistent, would result in a lower price which is the opposite of that sought by stakeholders. Lally concludes that, in the context of a domestic CAPM, the value of gamma should be one.

The Authority considers that Lally makes a strong case that the value of the utilisation rate in the context of the Officer CAPM should be one, for consistency with the domestic framework of the model. However, the Authority acknowledges that, in regulatory practice to date, values of about 0.60 have been employed, in part, based on an *ad hoc* recognition of foreign investors and on the basis of achieving compromise over a controversial issue.

The Authority considers that employing a value of one for the utilisation rate to achieve consistency in the current context would only be appropriate if the CAPM version also recognises the differential taxation of capital gains, which generally has the opposite impact on allowed revenues for regulated firms.

In terms of the other component of gamma, the ratio of imputation credits to company tax paid, the Authority acknowledges that its value is likely to be closer to one than to the current value of 0.80, depending on the relevant industry. However, increasing the value of this ratio would increase the value of gamma, resulting in a decrease in the revenues of the regulated firm, all else being equal. As stated previously, the Authority considers that such a change is not appropriate at this time in view of the failure of the Officer model to recognise capital gains, which would, in general, increase the revenues of regulated firms.

In summary, given that the Authority has decided to retain the Officer CAPM, the Authority considers that no change in the value of gamma is warranted at this time.

The Authority will retain a value of gamma of 0.50 in the context of the Officer WACC3 model.

Risk-free Rate

The risk-free rate is the rate of return on an asset with zero default risk. In setting the risk-free rate, there are three important issues to consider: choice of the proxy instrument; measurement period; and the term of the risk-free rate. To date, the Authority has benchmarked the risk-free rate with reference to Commonwealth government bonds, averaged the rate over the twenty trading days preceding the start of the regulatory cycle, and determined the rate with reference to the yield on a 10-year maturity bond.

Stakeholders do not object to the use of a Commonwealth government bond to proxy the risk-free rate. Consequently, the Authority believes that a Commonwealth government bond remains an appropriate instrument for proxying a risk-free asset due to its very low risk.

In general, stakeholders also support the use of a 20-day averaging period because it represents a balance between using the most current information available and minimising the potential for a freak transaction affecting the rate. However, QTC and Treasury raise several concerns with this approach, primarily relating to risks arising from refinancing over a narrow window, such as: lender market power; yield spikes; and counterparty credit risks from employing derivatives. To manage these risks, QTC and Treasury propose the risk-free rate be set on a rolling, eg 5-year, average.

The Authority rejects the QTC/Treasury proposal as it appears designed solely to overcome difficulties which arise from QTC's high level of regulated industry debt and the manner in which regulated industries choose to manage risk. These are not matters which the Authority should take into consideration.

The QTC/Treasury proposal fails to recognise that the determination of a cost of capital is necessary solely because the Authority chooses to use a building block approach to the determination of an appropriate revenue requirement for regulated industries. Were the Authority to adopt a pure price cap approach to regulation, with the use of external benchmarks such as total factor productivity to vary prices over time, the Authority would not need to make any conclusions about the cost of capital.

The concerns raised by QTC/Treasury regarding the narrow refinancing window, etc would then not exist, at least not because of anything the Authority had done. This is because regulated industries would not be able to minimise interest rate risk by mimicking the Authority's cost of capital calculations by resetting their interest rates on the same basis and at the same time that the Authority does for cost of capital calculation purposes. They would be forced to manage their risks in a more usual commercial manner.

As such, therefore, the concerns raised by QTC/Treasury are caused by the manner in which regulated industries seek to manage risk in the regulated environment, which gives them an opportunity to minimise risk which is not available in non-regulated industries. This issue is exacerbated by the fact that QTC is the sole supplier of regulated industry debt. Were the debt more widely spread, it is likely that the issues raised by QTC/Treasury regarding the narrow refinancing window etc would no longer be of serious concern.

In terms of the specific refinancing risks, the Authority's view is that, in general, derivative instruments are the natural solution for addressing risks associated with movements in interest rates. QTC and Treasury acknowledge the potential for derivatives to address these risks but express concern about the associated costs and the potential for derivatives creating counterparty credit risks. The Authority considers that costs arising from using derivatives could be treated in the same manner as debt-issuing costs, provided it can be shown that such costs have not been accounted for elsewhere and that the costs have not arisen solely because of the actions of the regulated industry and/or QTC.

On the basis that it contains the most recent information on prices, balanced by a mechanism that removes short term spikes, the Authority therefore supports the continued use of a 20-day averaging period.

Stakeholders also support a term benchmarked to the yield on the 10-year bond, primarily because it reflects standard commercial practice, is consistent with the basis for estimating the market risk premium and best reflects the relevant investor horizon.

Lally, however, recommends using a bond with a term equal to the length of the regulatory cycle. He argues that this term is the only one that satisfies the basic regulatory principle that the net present value of the expected future cash flows should equal the initial investment of the regulated firm. Lally submits that matching the term of the bond to the regulatory cycle is robust to cost and demand shocks and to risks arising from asset valuation methodologies.

In general, the Authority accepts the merit in Lally's arguments. However, despite the theoretical appeal of estimating the risk-free rate with reference to the length of the regulatory period, the Authority does not propose to alter its current approach to determining the risk-free rate with reference to the 10-year bond. Relevant factors in the Authority's consideration of this are that no stakeholders definitively supported a move away from a 10-year bond, this term of bond is consistent with commercial practice and that, since the ACT's decision on GasNet, all Australian regulators currently set the risk-free rate on the basis of a 10-year bond.

The Authority will determine the risk-free rate with reference to the yield on a 10-year Commonwealth government bond and average the rate over a 20-day period.

Debt Beta

The debt beta represents the share of an asset's systematic risk that is borne by debt providers. Its function in the application of the CAPM in the current context is as an input into the beta de-levering/re-levering process.

If the expected return on debt is known then the debt beta can be estimated by 'reverse-engineering' the CAPM:

$$(6) \quad R_d = R_f + \beta_d (R_m - R_f) \Rightarrow \beta_d = \frac{R_d - R_f}{R_m - R_f},$$

where: R_d is the expected return on debt; R_f is the risk-free rate; R_m is the expected return on the market portfolio; and β_d is the debt beta. The expression for the debt beta is equal to the expected return on debt less the risk-free rate divided by the market risk premium, where the latter is $(R_m - R_f)$. To date, the Authority has estimated the debt beta with this approach, using the promised yield on debt as a proxy for the expected return on debt, R_d .

SFG Consulting (SFGC) and Lally both observe that equating the promised yield on debt to the expected return on debt is not appropriate because the promised yield exceeds the expected return by, amongst other things, an amount equal to the default premium on corporate debt. Since the default element does not reflect systematic risk, SFGC submits that the Authority's approach generates an estimate of the debt beta that is not only greater than its true value but is at its upper bound. SFGC recommends the Authority draw on recent empirical research to estimate the default risk premium, enabling the debt beta to be estimated excluding this premium. SFGC notes that this empirical approach is more correct relative to the Authority's current approach and is likely to reduce the potential for under- or over-estimating the WACC.

Lally observes that the promised yield also embeds an allowance for the inferior liquidity of corporate bonds relative to government bonds. Lally concludes that it is difficult to obtain accurate estimates for both the premium for expected default losses and the premium for inferior liquidity. As a result, an accurate estimate of the debt beta is difficult to derive. In the face of these difficulties and that, in his view, the debt beta is likely to be close to zero, Lally argues that the effect on the cost of capital from omitting the debt beta completely will be slight and, if anything, will be positive. Consequently, Lally recommends simply setting the debt beta to zero.

In general, stakeholders disputed Lally's approach, noting that a debt beta of zero is only likely to increase the cost of equity capital for the case in which the comparator firm has a lower level of leverage than the firm of interest. Some stakeholders recommended alternatives to estimating the debt beta, such as the empirical approach using estimates of default premia or a midpoint approach that uses the midpoint between zero and the upper bound.

The Authority's view is that its current approach is likely to overstate the value of the debt beta. The Authority's view is that the Lally approach (ie setting the value to zero) will generally result in less error than the Authority's current approach, given the typical relationship between the leverage of regulated firms and their comparators. Therefore, the Authority concludes that its current approach to estimating the debt beta should be changed.

In choosing among alternative estimation approaches, the Authority considers that the preferred approach should be the one that leads to estimating the debt beta with the least error. In analysing the merits of the approaches, the Authority concurs with Lally that the suggested empirical approach suffers from the problem that it ignores the liquidity premium, which may be significant. Given the remaining approaches, the Lally approach and the midpoint approach, the Authority considers that, at this point in time, empirical limitations prevent determining which approach results in less error. In light of this indeterminacy, and since the Authority's view is that the debt beta is positive, the Authority's view is that the midpoint approach is preferable and will lead to less error than its current approach.

The Authority will use the midpoint approach to determining the debt beta.

Levering Formula

Beta levering formulas adjust betas for the effects of financial leverage. The choice of a particular levering formula depends upon several factors, including: the firm's debt policy,

relevant tax environment, the systematic risk of debt and the sources of financing for the firm of interest. To date, the Authority has employed the Brealey-Myers formula:

$$(7) \quad \beta_e = \beta_a \left[1 + \frac{L}{1-L} \right] - \beta_d \frac{L}{1-L},$$

where: β_e is the equity beta; β_a is the asset beta; β_d is the debt beta; and L is leverage (debt to total value).

In a previous submission to the Authority, SFG Consulting (SFGC) submitted that the Conine formula correctly relates the equity beta to the asset beta and debt beta and that the Brealey-Myers formula is a special case of the Conine formula that ignores taxes. Consequently, SFGC submits that the Conine formula more accurately reflects the relationship among the betas than the Brealey-Myers formula, given Australia's corporate taxes.

Further, SFGC argues that whether corporate taxes are reflected by an adjustment to the WACC equation or included in the firm's cash flows has no bearing on the choice of levering formula. For example, although the Officer Model (version 3) models corporate taxes in the firm's cash flows (as opposed to discount rate), SFGC submits that the correct levering formula is still eq. (8) because this formula depends on the tax environment, not the discount rate (SFG Consulting: 42-43).

Lally concurs with this view and adds that the levering formula must reflect the relevant tax environment in Australia, ie the fact that the corporate tax rate (T_c) is effectively lower than the statutory rate due to dividend imputation. As a consequence, the Conine formula, with the imputation-adjusted tax rate, $T_e = T_c(1-\gamma)$, is:

$$(8) \quad \beta_e = \beta_a \left[1 + (1-T_e) \frac{L}{1-L} \right] - \beta_d (1-T_e) \frac{L}{1-L}.$$

The Authority accepts the argument of SFGC and Lally, and will employ the Conine formula in future regulatory determinations, with the corporate tax rate displaced by the imputation-adjusted tax rate. The latter is consistent with the corporate tax environment in Australia. The Authority notes that this formula is sufficiently general such that it accommodates any assumptions that the Authority makes on the value of gamma and/or the debt beta.

For methodological consistency, the Authority will employ the Conine levering formula, replacing the corporate tax rate with the imputation-adjusted tax rate in this formula.

9.4 Cost of Capital for DBCT

The adopted changes to the Authority's cost of capital methodology are now applied in the context of determining the cost of capital for DBCT Management.

Risk-free Rate

The risk-free rate is the rate of return on an asset with zero default risk.

Both DBCT Management and the DBCT User Group accept the Authority's approach to date of assessing the risk-free rate with reference to the yield on a 10-year bond and averaging the rate over twenty trading days prior to the regulatory decision. In their submissions to the Authority, they propose values of 5.35% and 5.49% respectively, based on a 20-day average of bond rates

prevailing at that time. The DBCT User Group notes that the effect of averaging the rate should be recognised since it provides DBCT Management an opportunity to hedge its interest rate risk cost effectively.

As discussed earlier, the Authority's approach to determining the risk-free rate is with reference to a 10-year Commonwealth government bond and averaging the rate over a 20-day period. The relevant reset date for the existing price agreements is 1 July 2004. Applying this methodology, the average yield on the 10-year Commonwealth government bond over the twenty trading days preceding 1 July 2004 is 5.84%.

The Authority considers that the risk-free rate for DBCT Management should be 5.84%, based on a 20-day average of the yield on a 10-year Commonwealth government bond.

Market Risk Premium

DBCT Management's Position

DBCT Management proposes a market risk premium of 7% on the basis that recent changes in share market conditions justify a move from the current regulatory precedent of 6% to a long-term historical average of 7%. In support of this position, DBCT Management advances several observations by Network Economics Consulting Group (NECG) in its review of the cost of capital for the Office of the Rail Access Regulator (April 2003). Two key NECG conclusions from this review are that:

- although regulatory practice invokes a market risk premium of 6%, the most recent data suggest that the market risk premium has been increasing over the past year (in ex post terms); and
- the historical range favoured by finance professionals is 6-8%, with benchmarking approaches supporting the midpoint of this range. These findings are consistent with a long-term estimate of 7% by Dimson, Marsh and Staunton.

On this basis, DBCT Management submits that 7% is appropriate. (DAU, Accompanying Submission: 23-24)

Stakeholder Comments

In contrast, the DBCT User Group submits that the market risk premium should be no greater than 6% and that this figure is consistent with:

- regulatory precedent in Australia;
- survey data on the market risk premium; and
- United Kingdom regulatory practice.

The DBCT User Group notes the Authority has previously considered that a range of 5-7% is appropriate, applying an estimate of 6%. This position is consistent with other regulators, such as the Essential Services Commission (ESC), Essential Services Commission of South Australia (ESCOSA), Office of the Tasmanian Energy Regulator (OTTER) and Office of the Rail Access Regulator (ORAR). The DBCT User Group also reviews several Australia and U.S. based

surveys on the market risk premium and notes that the results suggest a value of 5.5% may be appropriate. Finally, they observe that UK regulators have adopted a value for the market risk premium in the range of 3-5%. The DBCT User Group submits that, while this range applies to a different market, it is unlikely that differences in the relative risk profiles of the UK and Australian markets require a premium of 1.0-2.5% over the risk-free rate for Australian investors (DBCT User Group, sub. no. 5: 84-87).

Authority's Analysis

The Authority notes that DBCT Management's position on the market risk premium relies heavily on a single empirical study based on historical averaging and references to market practice. In contrast, the Authority notes that other similar studies that seek to estimate the market risk premium vary, with some yielding estimates in the order of 5.5%. In addition, the Authority notes that empirical research by Dr Lally indicates that there has been a downward long-term trend in volatility, implying estimates based on historical averaging are too high, rather than too low.

The DBCT User Group relies on regulatory precedent, surveys and UK regulatory practice in drawing its conclusions for a market risk premium no higher than 6%. The Authority considers that survey data suffers from a number of methodological weaknesses, eg the tendency for respondents to take a short-term view of the survey subject matter, and the DBCT User Group acknowledges difficulties relying on survey data. The Authority considers that caution is warranted in drawing conclusions based on the relativities of market risk premia across countries, given the potential for macroeconomic differences among countries to impact required investor returns.

All of these considerations point to examining estimates from a range of approaches. The Authority has used a market risk premium of 6% in previous decisions, and the results from the available estimation methodologies suggest that this figure is reasonable. The Authority, therefore, considers that 6% is an appropriate estimate for the market risk premium.

The Authority considers that the market risk premium for DBCT Management should be 6.00%.

Asset and Equity Betas

DBCT Management's View

DBCT Management has proposed an equity beta of 0.99, based on an underlying asset beta of 0.60, leverage of 50% and a debt beta of 0.21. In determining an asset beta for the terminal, DBCT Management sources betas for comparator firms from the Victorian Office of the Regulator General's (ORG) study of companies engaged in port-related activities in Australia and New Zealand. In its study, the ORG notes that most of the asset betas are in the 0.50 to 0.70 range and suggests a value of 0.60 for the Melbourne Ports Corporation. DBCT Management has adopted this value as well and observes that the resulting equity beta is comparable to the equity betas for other regulated businesses in the gas, electricity and rail sectors (DAU, Accompanying Submission: 25-26).

DBCT Management submits that, in the context of the Authority's previous regulatory decisions, the closest comparator to DBCT is QR's below rail coal network, with an asset beta of 0.45. DBCT Management submits that the asset beta for DBCT is likely to be significantly higher for a number of reasons:

- the potential for inter-port competition, which is not a prospect for QR;
- QR benefits from greater counter-party diversification by servicing a greater number of mines over a wider geographical area;
- QR's below rail operations constitute a larger entity than DBCT operations, and the Authority has previously argued that there is an inverse relationship between market capitalisation and systematic risk;
- the degree to which the regulatory framework serves to protect DBCT's cash flows has not been established, in contrast to QR at the time of its draft and final decisions;
- competitive developments since the QR decision raise serious doubts as to whether Queensland mines will retain their competitive supply position; and
- recent evidence suggests that the asset beta for QR's chief comparator, Centennial Coal, may have increased since the QR decision.

DBCT Management notes that, although the terminal is currently in a strong competitive position, possible inter-port competition, eg Gladstone and (potentially) Abbott Point, is a significant issue for DBCT. The transport considerations of new mines, which are not bound by previous contractual arrangements, will be influenced by a port's relative competitive advantage. DBCT Management notes that such an advantage is also relevant to current DBCT users given the short-term nature of their rolling contracts (DBCT Management, sub. no. 30: 9-10).

Stakeholder Comments

The DBCT User Group argues that DBCT Management's proposed asset beta of 0.60 is too high on the basis that the systematic risk associated with the terminal is extremely low. The DBCT User Group submits that this low risk environment is attributable to: immaterial demand risk; low credit risk; low exposure to movements in the domestic economy; and no exposure to operating cost risk. In addition, the DBCT User Group notes that the form of regulation impacts the allocation of risk and submits that users are in a better position than DBCT Management to manage terminal volume risk. The DBCT User Group, therefore, suggests that users should bear this risk instead of DBCT Management and, for this purpose, it proposes a revenue cap approach as an alternative to the current pricing structure. The DBCT User Group observes that a fundamental aspect of this approach is that the discount rate should reflect the allocation of risk, thereby implying a lower asset beta under a revenue cap approach.

Given these factors, the DBCT User Group concludes that DBCT Management's protection from revenue and operating cost risk is relatively greater than for any other business regulated by the Authority or for other infrastructure operators in Australia and New Zealand. The DBCT User Group submits that these factors suggest an asset beta in the range of 0.20 to 0.30 and that a value of 0.30 is the highest reasonable value to adopt. Using an asset beta of 0.30, leverage of 60% and a debt beta of 0.22, the DBCT User Group proposes an equity beta of 0.42 (DBCT User Group, sub. no. 5: 87-101).

Consultant's Report

In light of the significant divergence in submitted betas for DBCT (eg equity betas ranging from 0.42 to 0.99), the Authority engaged the Allen Consulting Group (ACG) to undertake an independent study to determine an appropriate asset beta for the regulatory cost of capital for DBCT. In undertaking this study, the ACG identified several problems with the stakeholder

analyses underlying their proposed beta values. First, DBCT Management relies exclusively on the analysis undertaken by the ORG for Victorian ports. The ACG questions the degree of relevance of the ORG group of comparators given that, in general, the trade through the Victorian ports is significantly more correlated to movements in the domestic economy relative to trade through DBCT. In addition, DBCT Management ignores estimates for port or other comparators since 2000 and does not address actual market evidence on the beta for DBCT. Second, while the ACG was less critical of the DBCT User Group's analysis, it did nevertheless identify a number of technical concerns with the analysis.

The ACG assessed the asset beta for DBCT by analysing available market data for Prime Infrastructure and by undertaking a 'first principles' analysis. First, the available market data on Prime's share performance over the past few years indicates that there is minimal correlation between the returns to DBCT Management and the returns to the market. While this evidence suggests a low asset beta for DBCT, ACG advises caution in drawing conclusions from this analysis, given the very limited data available (ie two years).

Second, the ACG also undertook a rigorous, 'first principles' analysis of DBCT's business characteristics to identify the underlying explanatory factors for beta. This analysis suggests that DBCT has several unique business characteristics that set it apart from most other regulated firms in Australia. First, its customer base consists of countries importing Queensland coal that is exported via the port, and this customer base is diversifying over time. The implication is that DBCT's revenue is unlikely to be correlated with domestic economic conditions. Second, DBCT has 5-year take or pay contracts in place for almost all throughput capacity, which require users to pay up to 50% of their contracted amount, even in the absence of coal not being shipped. Therefore, DBCT's revenue will be relatively less responsive to demand shifts than otherwise. Third, DBCT has very low operating cost risk. Since terminal operating and maintenance costs are a pass-through to users, a given change in output will have a relatively modest impact on DBCT Management's earnings.

ACG, in summary, identified the most important explanatory factors for DBCT's asset beta as the nature of the product and customer base, pricing structure, and duration of contracts. Consequently, the ACG concluded that this implies that DBCT's revenue is highly invariant to the state of the domestic economy. Along with a low operating cost structure, these factors jointly imply low systematic risk for DBCT. Therefore, the characteristics identified suggest that appropriate comparators are likely to be other listed ports that solely export raw materials and do not bear the majority of operating costs, or infrastructure companies with an internationally diversified revenue stream and low operating costs.

On the basis of these characteristics, the ACG examined 38 listed businesses from the energy, coal, transportation and property trust sectors to assess their comparability to DBCT. The ACG identified three comparators that have both a revenue stream that is relatively insensitive to the domestic economy and a low operating cost structure that makes earnings relatively invariant to changes in output:

- Port of Tauranga (POT): approximately 50% of the port's revenue is derived from raw material exports, and it has the lowest operating cost ratio of New Zealand ports;
- Macquarie Infrastructure Group (MIG): approximately 65% of revenues are sourced from toll roads in the UK and Canada, and it has relatively low operating costs; and
- Macquarie Office Trust (MOT): all revenue is sourced from leasing buildings from a number of Australian Commonwealth and State governments; therefore, its revenue base is not income elastic, and it also has relatively low operating costs.

For the 2001-03 period, asset betas for these comparators are 0.28, 0.24 and 0.18 respectively (based on the Conine levering formula and a midpoint debt beta of 0.10). Importantly, the ACG's view is that these asset betas are likely to be below their long-term averages and will, therefore, likely settle at higher levels than DBCT's asset beta. For this reason, the ACG adjusted its estimated range upward for this expectation.

Based on beta estimates of selected comparators, available market evidence on Prime's asset beta and reference to other benchmarks, the ACG recommends a range of 0.30 to 0.40 for the asset beta for DBCT. Assuming leverage of 60% and applying the Authority's revised approach to the debt beta and levering formula, the ACG recommends adopting an equity beta in the range of 0.56 and 0.78 (with the midpoint estimate being 0.67), given the current set of arrangements.

ACG also assessed the effect of adopting the DBCT User Group's proposed revenue cap on the asset beta for DBCT. In principle, a revenue cap, all else equal, would be expected to reduce beta. The ACG, however, concludes that the impact in the context of DBCT is not likely to be material, as DBCT Management's earnings are already highly invariant to throughput due to the take or pay arrangements in place. That is, the existing pricing arrangements at DBCT are a hybrid price and revenue cap, and a move to a pure revenue cap is unlikely to result in a material impact on the risk profile of the terminal.

Authority's Analysis

DBCT Management proposes an asset beta of 0.60, primarily based on an ORG study of companies engaged in ports-related activities in Australia and New Zealand. The Authority considers that the 'average port' comparator from this study is not appropriate for DBCT because there is high variability in port operations of the benchmarked companies, including the orientation (import/export) and type of trade. In addition, DBCT has several other unique features, such as a low operating cost structure, that distinguish it from these companies.

DBCT Management also suggests that DBCT's asset beta is likely to be significantly higher than the asset beta of 0.45 for QR's below rail coal network for a number of reasons. The Authority notes that the asset beta for QR's below rail network is based primarily on the beta for Centennial Coal. The ACG rejected Centennial Coal as an appropriate comparator for DBCT due to its exposure to world coal prices and high operating costs. In comparing QR's below rail network and DBCT directly, while they effectively ship the same product, QR has a higher operating cost structure than DBCT. The Authority is currently in the process of reviewing the QR WACC as part of its assessment of the QR 2005 draft access undertaking.

DBCT Management also submits that potential inter-port competition is a significant issue in assessing its asset beta. The Authority notes that inter-port competition is driven by the relative cost structure of ports and observes that DBCT is in a highly competitive position in this respect. The combination of this competitive position with the stable and growing demand for coal (relative to available export capacity) suggests that this issue is unlikely to be material for DBCT.

The Authority's view is that the ACG makes a compelling case that DBCT's systematic risk is relatively low and, on this basis, accepts the ACG's recommended range of 0.30 to 0.40 for the asset beta for DBCT, given the current arrangements. The Authority, however, has adopted the DBCT User Group's proposal for a revenue cap, which potentially has implications for DBCT Management's revenue and risk profile relative to the current arrangements. The Authority, however, concurs with ACG that the impact of a revenue cap on the asset beta for DBCT is not likely to be material.

Taking these factors into account, the Authority finds no reason to deviate from the ACG's recommended range of 0.30 to 0.40 and considers that the midpoint of 0.35 is reasonable for the asset beta of DBCT. Based on leverage of 60% (see discussion below), and employing the Authority's proposed approaches to the levering formula and debt beta, the resulting equity beta is 0.66.

The Authority considers that an appropriate asset beta for DBCT Management is 0.35.

Capital Structure

DBCT Management applies a capital structure of 50% debt/50% equity, on the basis that the leverage for a port is likely to be lower than for an energy utility due to greater volatility in revenue and that this level is consistent with regulatory precedent.

The DBCT User Group submits that the low systematic risk and revenue stability would enable DBCT Management to sustain a higher level of leverage, with 60% debt. However, the DBCT User Group regards 60% as conservative and considers that a higher level of leverage (ie up to 70%) is feasible for the terminal on a stand-alone basis.

Consultant's Report

The Authority engaged ACG to assess the optimal capital structure and associated credit rating of DBCT on a stand-alone basis. In undertaking cash flow modelling in the context of the Standard & Poor's rating methodology, the ACG advised the Authority that:

- cash flow fundamentals and contracting arrangements underpinning DBCT's current and prospective throughput are robust and provide significant debt capacity for DBCT;
- financial modelling of a 'medium' revenue scenario with assumed reductions in throughput and increases in administrative costs demonstrates significant stability; and
- Prime's actual leverage at the time of the float and subsequently, has been about 60%.

ACG concludes that a gearing between 60% and 70% for DBCT would be appropriate for regulatory purposes. ACG recommends leverage of 60% (leverage relative to regulatory asset base) is reasonable for DBCT as a stand-alone entity. Given a gearing of 60%, ACG recommends a credit rating of BBB+ on the basis of cash flow and ratio sensitivity analysis and comparisons with rated comparables.

Authority's Analysis

The Authority considers that DBCT cash flow volatility is consistently more stable than the cash flows associated with a typical port, whose imports are correlated with movements in the domestic economy.

ACG has determined a capital structure and associated credit rating for DBCT on the basis of cash flow modelling and interest ratio analysis in the context of a stand-alone regulated business. The Authority accepts the recommended capital structure of 60% debt, and associated credit rating of BBB+, and notes that the results suggest DBCT could likely sustain a higher level of leverage.

The Authority considers that an appropriate capital structure for DBCT Management is 60% debt and 40% equity, with an associated credit rating of BBB+.

Cost of Debt

In practice, the cost of debt is observed or estimated from the promised yield on debt and consists of the risk-free rate plus a debt margin. The Authority has estimated the risk-free rate at 5.84%. The remainder of this section focuses on the debt margin. The size of the debt margin depends on the relative risk of the debt. Higher risk debt, such as BBB-rated debt will require a higher premium than lower risk debt, such as A-rated debt.

DBCT Management's Position

DBCT Management notes that it is expecting to receive a credit rating in the range of BBB- to BBB+. Based on recent regulatory decisions for debt margins associated with a BBB+ rating, DBCT Management suggests a debt margin of 150 basis points (DAU, Accompanying Submission: 24-25). DBCT Management also notes that debt-issuing costs are a legitimate cost of debt and should be taken into account (DBCT Management sub. no. 30: 11).

Stakeholder Comments

Noting DBCT Management's view that it is likely to receive a credit rating between BBB- and BBB+, the DBCT User Group suggests a BBB rating for purposes of benchmarking the debt margin. Based on CBA Spectrum data and regulatory precedent for a BBB credit rating, the DBCT User Group recommends a debt margin of 130 basis points (DBCT User Group sub. no. 5: 102). The DBCT User Group believes that an appropriate allowance for debt-issuing costs should be about 12.5 basis points, reflected through a cash flow adjustment (DBCT User Group sub. no. 24: 8).

Consultant's Report

The Authority engaged the ACG to undertake an analysis of DBCT Management's cost of debt, based on the previously determined optimal capital structure and credit rating.

The ACG examined evidence for determining current yields on BBB+ rated entities from these sources:

- recent BBB+ and BBB rated bond issues;
- CBASpectrum and Bloomberg estimates; and
- other bond-issuing options.

ACG observes that there is presently only one BBB+ rated bond in the Australian market with a (near) 10-year maturity, and its current yield is about 122 basis points above the 10-year government bond rate. As a consequence, direct market evidence for 10-year, BBB+ rated debt in Australian markets is very thin and, therefore, somewhat uncertain.

Estimates from CBASpectrum and Bloomberg services are derived from optimisation models that estimate a 'fair market' yield curve for various maturities and ratings for Australian corporate bonds. ACG observes that these models also rely on available market data as an input. As a result, the uncertainty surrounding the market data also affects their estimates.

Nevertheless, CBASpectrum data suggests a yield of 106 basis points and Bloomberg suggests a yield of around 119 basis points above the 10-year government bond rate.

ACG observes that highly leveraged infrastructure utilities typically take advantage of major debt-raising options, such as ‘credit wrapping’, where a financial organisation provides a non-revocable financial guarantee to the bondholder to make good the principal and interest that was not paid by the issuer. These organizations, known as ‘monolines’, are rated AAA and provide their own credit rating to the issue for an annual fee. Indirect evidence of 10-year credit wrapped bonds issued in the Australian market by both energy and transport infrastructure companies over the past two years suggests that credit wrapping may enable Australian infrastructure companies to issue at debt margins that are lower than the CBASpectrum and Bloomberg 10-year bond rate estimates. Further, many such Australian firms are currently seek funding for long-term debt in extremely competitive U.S. private placement markets, and evidence from these markets also suggests that firms can likely obtain 10-year debt at a margin that is substantially below the CBASpectrum and Bloomberg estimates.

Given the lack of direct evidence on the above matters, the ACG recommends continued use of the CBASpectrum and Bloomberg benchmarks. Using an average over the 20 days preceding 1 July 2004, the range is 106-119 basis points for the debt margin, exclusive of debt-issuing costs.

The typical range that regulators provide for debt-issuing costs is 10-15 basis points. The ACCC established an allowance of 12.5 basis points, on the basis of advice from Westpac and detailed analysis of its own. The 12.5 basis points allowance has since been revised upward to 25 basis points by the Australian Competition Tribunal (ACT) in the GasNet and EAPL appeals, but based on little empirical support. The ACG recommends a 12.5 basis points allowance in the WACC for debt-issuing costs on the basis that the ACCC’s study represents the best available, empirical evidence on this issue.

In summary, the ACG recommends a range of 106-119 basis points for the debt margin. Including the proposed allowance of 12.5 basis points for debt-issuing costs results in a range of about 120-130 basis points for the total margin above the risk-free rate.

Authority’s Analysis

The Authority has sought to estimate the cost of debt for DBCT Management based on: the risk-free rate derived from the yield on the 10-year Commonwealth government bond; an optimal capital structure of 60%; and a credit rating of BBB+. Both DBCT Management and the DBCT User Group base their debt margin claims on estimates from CBASpectrum. While this is consistent with the Authority’s past regulatory practice, the Authority considers that it is appropriate to consider a range of evidence for determining current yields on BBB+ rated entities.

Evidence from CBASpectrum and Bloomberg services suggests that the margin is lower than the single market observation for 10-year BBB+ rated debt. Although the CBASpectrum and the Bloomberg estimates are below the market observation, as there is only one market observation, it is uncertain how much reliance can be placed on it. Other market evidence, based on bond-issuing options, indicates it is likely that infrastructure firms are able to secure debt financing at a margin that is lower than both the Bloomberg and CBASpectrum estimates. The Authority also notes that regulators’ use of CBASpectrum estimates provides firms an incentive to seek innovative financing. Taking all of these factors into account, the Authority accepts ACG’s recommended range of 120-130 basis points. Given that there is some inherent uncertainty in determining a firm’s efficient cost of debt, the Authority’s view is that an allowance of 130 basis points for the cost of debt, including debt-issuing costs, is appropriate.

This allowance gives DBCT Management a cost of debt of 7.14%.

The Authority considers that an appropriate cost of debt for DBCT Management is 7.14%, based on a risk-free rate of 5.84% and a total margin of 130 basis points above the risk-free rate.

Gamma

In the context of the Officer Model (version 3), the Authority treats dividend imputation in the cash flows. Both DBCT Management and the DBCT User Group are supportive of a gamma of 0.50. (DAU Accompanying Submission: 27-28; DBCT User Group, sub. no. 5: 103-104)

The Authority notes that gamma is not a company-specific parameter and, therefore, the identity of the marginal investor in the context of Prime Infrastructure is irrelevant. As discussed earlier, the Authority will retain a value of gamma of 0.50 at this time.

Asymmetric Risk

DBCT Management's Position

DBCT Management submits that it is exposed to asymmetric, or project-specific, risk due to contractual arrangements, potential for asset stranding and coal market specific risks.

For example, DBCT Management notes that its take or pay arrangements under existing price agreements do not fully insulate it from volume reductions arising from a variety of possible causes, such as mine production problems, interruptions to shipping, competition from new low cost producers, and/or significant declines in coal demand. In addition, DBCT Management submits that the potential for asset stranding exists, primarily on the basis of the limited (ie 5-year) contract life of existing price agreements, increased inter-port competition, eg HPS and Gladstone's RG Tanna facility, and ex post regulatory optimisation. Finally, DBCT Management notes its exposure to coal market specific risk, arising from the possibility of changes in coal suppliers' competitive conditions.

To address these concerns, DBCT Management proposes a truncation premium, on the basis that potential investors in an equivalent, unregulated business would naturally factor such risks into their expected rates of return. DBCT Management submits that an allowance for asymmetric risk through an adjustment to the discount rate is the less complex approach but notes that adequate compensation in the cash flows would be an acceptable alternative. Using previous regulatory decisions in other jurisdictions as a guide, DBCT Management proposes that a truncation premium of 10% would not be unreasonable. This premium would augment its proposed WACC from 9.57% to 10.52% (DAU, Accompanying Submission: 28-34).

Stakeholder Comments

In contrast, the DBCT User Group submits that the terminal is not exposed to any material asset stranding risk. With respect to DBCT Management's concern about the nature of its contractual arrangements, the DBCT User Group submits that the history and prospects for the growth of terminal throughput suggest no likelihood of volume risk based on demand and/or supply disruptions. Nevertheless, the DBCT User Group notes that the current hybrid price cap, or its proposed revenue cap will, to a greater or lesser extent, insulate DBCT Management from these potential risks. In addressing DBCT Management's concern regarding asset stranding, the DBCT User Group notes that, although existing contracts are five years in duration, the key issue is underlying demand, which appears stable and growing. The DBCT User Group also views inter-port competition as an unlikely asset stranding threat due to DBCT's cost

advantages and product offerings, eg coal blending, relative to competitors. Further, the DBCT User Group does not anticipate that regulatory optimisation should be a concern given its proposal for new capital expenditure is transparent, leading to investments being recognised immediately upon commissioning. Finally, the DBCT User Group notes that DBCT Management's concern regarding coal market specific risks is unwarranted because adverse changes in transport costs and/or exchange rates will only have an effect on terminal throughput, if any, at the margin, and as a consequence, should not affect the recovery of DBCT Management's revenue under the existing hybrid price model or the proposed revenue cap model (DBCT User Group sub. no. 5: 105-111).

In summary, the DBCT User Group submits that DBCT Management's claims of asymmetric risk do not have merit. They further note that DBCT Management has not attempted to quantify the risk. As a consequence, the DBCT User Group submits that no allowance should be given for asymmetric risk at this time.

Envestra submits that the asymmetric risk premium proposed is a pragmatic solution to address the truncation of returns and regulatory risk, for which the CAPM does not compensate (Envestra, sub. no. 3: 9).

Finally, QRC submits that there is no merit to incorporating an allowance for asymmetric risk in the WACC (QRC, sub. no. 2: 6).

Authority's Analysis

DBCT Management submitted that there are a number of specific and asymmetric risk factors that the Authority should consider in determining the annual revenue requirement for DBCT Management. The Authority considers that, to the extent that these risk factors are systematic, the asset beta for DBCT will reflect these risks. To the extent that elements of these risks are non-systematic (ie company-specific), the Authority believes that these factors (if proven) should be handled in the cash flows (eg accelerated depreciation). The Authority rejects any *ad hoc* adjustment to the discount rate, along the lines proposed by DBCT Management, because such adjustments fail to quantify the size of the risk and the likelihood of it occurring. The Authority considers that such risks must be established and justified on a case-by-case basis.

In this case, DBCT Management submitted that risks resulted from its contractual arrangements, potential for asset stranding and coal market specific risks. The Authority's view is that DBCT Management has not demonstrated that these risks are material. Firstly, coal contracts are, in general, long term and the proposed revenue cap will substantially transfer volume risk to users. Secondly, the proposed approach to capacity expansions will ensure that capacity need only be expanded when users are willing to assume the cost of unused expansion capacity. Thirdly, inter-port competition is unlikely to be material given DBCT's geographic location to the main sources of supply, the fact that coal handling charges are only part of the coal chain cost and DBCT is a highly competitive facility. Finally, in relation to the concern about coal market specific risks, the Authority notes that the Australian coal industry is in a strong competitive position world-wide, as Australia is a low cost supplier of coal, and forecasts indicate that current coal reserves are likely to last beyond the next 50 years, which exceeds the useful life of the terminal assets.

The Authority considers that an allowance for asymmetric risk for DBCT Management is not appropriate at this time.

9.5 Summary of WACC Parameter Values

The Authority's analysis gives a cost of equity capital for DBCT Management of 9.79%, based on a risk-free rate of 5.84%, a market risk premium of 6.00% and an equity beta of 0.66. The cost of debt capital is estimated at 7.14%, based on the risk-free rate of 5.84% and a total margin of 1.30%. Applying a capital structure of 40% equity and 60% debt yields a nominal, post-tax WACC for DBCT Management of **8.20%**. Table 1 summarises the DBCT Management and DBCT User Group positions, along with the Authority's draft position, on the cost of capital for DBCT.

Table 9.1: DBCT Cost of Capital Parameter Values

<i>Parameter</i>	<i>DBCT User Group</i>	<i>DBCT Management</i>	<i>Authority Draft Position</i>
Risk-free rate (%)	5.84 ^a	5.84	5.84
Market risk premium	6.00	7.00	6.00
Debt margin	1.30	1.50	1.30
Debt beta	0.22	0.21	0.11
Capital structure (% debt)	60	50	60
Asset beta	0.30	0.60	0.35
Equity beta	0.42	0.99	0.66
Gamma	0.50	0.50	0.50
Officer WACC ^{3b}	7.64%	10.04%	8.20%
Asymmetric Risk Premium	--	+ 10%	--
Adjusted Officer WACC3	7.64%	11.04%	8.20%

^a The DBCT User Group submitted a risk-free rate of 5.49%, while DBCT Management submitted a value of 5.35%. The Authority has updated these values to 5.84% for the yield on the 10-year Commonwealth government bond for the twenty trading days, 2-30 June 2004.

^b The DBCT User Group's and DBCT Management's WACCs are recalculated on the same basis as the original submission, ie using the Brealey-Myers levering formula and the upper bound debt beta value.

10. TOTAL REVENUE

Summary

This chapter sets out the elements of the Authority's building block model used to assess the annual revenue requirement for DBCT.

The opening asset value, as assessed in Chapter 8, is rolled forward over the term of the undertaking and is used to assess the return of capital (depreciation) and the inflationary gain. Return on capital is assessed with reference to the opening asset value and the WACC. These capital related items represent around 90 per cent of DBCT's annual revenue requirement, as operating and maintenance costs are treated as a pass-through item.

The remainder of the annual revenue requirement is comprised of corporate overhead costs and tax. As Prime Infrastructure engages in a number of activities other than managing the terminal, the Authority has assessed corporate overheads on the basis of benchmarked costs of comparable ports. In general, the Authority assesses tax on the basis of actual tax liabilities. However, in the course of the DBCT lease process, the Authority indicated it would consider sharing the tax benefits arising from the leasing arrangements between the terminal lessee and the terminal users. Contrary to its normal approach, the Authority has decided to smooth the tax benefits over the initial lease term, because the benefits are particularly skewed and to do otherwise would result in a significant imbalance between existing and future users in the sharing of the benefits.

10.1 The Building Blocks Approach

For an access provider to have the incentive to maintain existing assets and to invest in new assets, the access provider requires sufficient revenue to cover its costs and provide an adequate return on capital. The Authority employs the 'building blocks approach' for calculating an annual revenue requirement (ARR) for the regulated business, based on the following elements:

- return on capital – a fair and reasonable rate of return on assets taking into account the risks involved;
- return of capital – an allowance for depreciation of the assets over time; and
- operating and maintenance costs – an allowance for efficient administrative and operating costs required for providing the regulated service.

The Authority uses a nominal post-tax framework to assess a regulated firm's annual revenue requirement for pricing purposes. The primary inputs are: the regulatory asset base, the weighted average cost of capital (WACC), operating and maintenance expenditure forecasts (Opex) and capital expenditure forecasts (Capex). These inputs flow into the calculation of the ARR:

$$\begin{aligned} \text{ARR} &= \text{Return on capital} + \text{Return of capital} + \text{Opex} + \text{Tax} \\ &= (\text{WACC} * \text{WDV}) + \text{Dep} + \text{Opex} + \text{Tax} \end{aligned}$$

where:

WACC	=	post-tax nominal weighted average cost of capital ²³
WDV	=	written-down (depreciated) value of the asset base
Dep	=	depreciation
Opex	=	operating and maintenance expenditure
Tax	=	expected tax liability

The remainder of this chapter assesses DBCT Management’s proposal for each of the building block elements. The chapter concludes by discussing the raw and smoothed revenue streams obtained from applying the Authority’s building blocks approach and comparing these with those based on DBCT Management’s proposal.

10.2 Summary of DBCT Management’s Proposal

DBCT Management’s regulatory building blocks model determines an annual revenue requirement for each of the seven years commencing 1 July 2004 of its proposed draft access undertaking. The model generates sufficient revenue to cover DBCT Management’s costs incurred, including a return on investment capital. The only divergence from the standard application of the model is that the annual revenue requirement excludes any allowance for terminal operating and maintenance costs, as these costs are effectively a ‘pass-through’ to current access holders (this issue is discussed in more detail later). It does, however, include other operating costs.

DBCT Management’s proposed inputs for calculating its annual revenue requirement are:

- an initial regulatory asset base of \$1,084.3m, which is based on the average of two DORC valuations of the terminal, as at 1 July 2004;
- an asset base roll-forward that adjusts the asset base for depreciation and changes in the value of assets due to inflation;
- a return on capital (including an allowance for working capital) based on a nominal post-tax WACC of 10.52%;
- a return of capital, based on straight-line depreciation of the asset base and a weighted average remaining life of the terminal of 33 years (as at 1 July 2004);
- an allowance for corporate overhead costs, initially estimated at about \$4.0m and subsequently revised to \$6.5m, based on actual corporate costs incurred in the year

²³ The Authority uses the ‘vanilla’ version of the nominal WACC, consistent with the Officer WACC3 model.

ending 30 June 2004 and the budgeted costs for the financial year ending 30 June 2005; and²⁴

- an allowance for tax, calculated on a generic, corporate basis (using a ‘gamma’ of 0.50), which is adjusted for the sharing of tax benefits arising from the lease, rather than the sale, of the terminal assets.

10.3 Assessment of Building Blocks

Asset Base Roll Forward

To enable the return on capital to be determined for each year of the regulatory period, the asset base needs to be rolled forward to account for capital expenditure, inflationary gain and depreciation. The basic methodology underpinning the asset base roll-forward is that the closing value of each year is constructed by taking the opening value as the starting point, adding any relevant capital expenditure, converting the opening value to a nominal amount by adding inflationary gain and then subtracting depreciation. As all asset values and costs are increased annually by inflation, depreciation must also be increased annually by inflation to maintain relativity.

While no capital expenditure has been proposed by DBCT Management, the value for any year would include capital expenditure for those projects which were completed in that year; that is, capital expenditure on those projects that were started and completed in that year plus work commissioned in previous years and completed in that year (including interest during construction and financing costs).

Inflationary gain and depreciation are calculated on the opening asset value and on half the value of capital expenditure. Unless the specific timing of a project’s completion is known, half the value for capital expenditure is used to reflect an average rate of expenditure across a year. This method provides the best estimate of inflationary gain and depreciation applicable to capital expenditure under these circumstances.

DBCT Management’s Position

DBCT Management has modelled its asset base roll forward assuming no new capital expenditure. As a result, the asset base is adjusted over the regulatory cycle only for inflation and depreciation. DBCT Management’s proposed opening asset value for 2004-05 is \$1,084.3m and, once rolled-forward over the regulatory cycle, the closing asset value for 2008-09 is \$1,041.5m.

Authority’s Position

As discussed in Chapter 8, the Authority’s opening asset value is \$823.7m. The asset base roll forward for 2004-05 is based on inflationary gain of \$20.6m and depreciation of \$21.5m, giving a closing value of \$822.8m. The asset base roll forward over the remaining years of the undertaking results in a closing asset value in 2008-09 of \$813.4m, as shown in Table 10.1.

²⁴ This figure excludes DBCT Management’s allowance for the QCA levy and DBCT site remediation.

Table 10.1: Authority’s Draft Asset Base Roll Forward

	2004-05 (\$'000)	2005-06 (\$'000)	2006-07 (\$'000)	2007-08 (\$'000)	2008-09 (\$'000)
Opening Asset Value	786,148	784,927	783,154	780,802	777,843
plus Capital Expenditure	-	-	-	-	-
plus Inflationary Gain	19,654	19,623	19,579	19,520	19,446
less Depreciation	20,874	21,396	21,931	22,479	23,041
Closing Asset Value	784,927	783,154	780,802	777,843	774,247

Return on Capital

The return on capital compensates investors for the opportunity cost of their investment. In the context of the building blocks approach, this component provides the regulated firm with a return on its investment in the existing infrastructure, relevant capital expenditure and any work in progress.

The method used by the Authority to determine a regulated entity’s return on capital in a particular year involves applying the WACC to the entity’s opening asset value and to half of the capital expenditure which occurred during that year where the timing of that expenditure is unknown.

In a nominal framework, capital gain as a result of inflation is reflected in the closing value of the asset each year under the asset roll forward method. As the nominal WACC applied on the opening value of assets includes the market estimate of inflationary gain, and the asset base is adjusted at the end of the year to reflect inflation, it is necessary to reduce the return on capital included in the ARR by the value of inflationary gain applied to assets to avoid double-counting. That is, the total return on capital to be earned by the business over a full year is equivalent to WACC (a cash return included in ARR plus inflationary gain on assets).

Based on its proposed asset base roll forward and its nominal post-tax WACC of 10.52%, DBCT Management proposes a return on capital of around \$113.7m.

Based on the Authority’s assessed asset base roll forward (see Table 10.1) and its nominal post-tax WACC of 8.20%, the Authority’s draft return on capital for 2004-05 (and the following years) is: \$68.0m, \$68.0m, \$67.9m, \$67.7m and \$67.5m.

Return of Capital

Assets must be depreciated to recognise the consumption of service potential. As the value of a firm’s assets decrease over time, the firm should be compensated for the loss in value. Depreciation, therefore, represents the return of capital invested by the shareholder in the firm’s assets. Within the building blocks approach, an allowance for depreciation is included in the ARR.

DBCT Management’s Position

Based on its depreciation approach, as described in Chapter 8, DBCT Management proposes a nominal depreciation value of about \$33.8m in 2004-05, which is then inflated by 2.5% on an annual basis for the remainder of the regulatory cycle.

Authority's Position

On the basis of its approach to depreciation, as outlined in Chapter 8, the Authority proposes a nominal depreciation value of \$21.5m in 2004-05, which is then inflated by 2.5% on an annual basis for the remainder of the regulatory cycle (see Table 10.1 for details).

Corporate Overhead Costs

The costs of the operation and maintenance of the terminal are a 'pass-through' to users and, therefore, do not need to be incorporated into DBCT Management's allowable revenues. The operating expenditures facing DBCT Management comprise three elements: corporate overhead costs; the QCA levy; and the DBCT site remediation charge.²⁵

DBCT Management's Position

DBCT Management initially claimed an allowance of approximately \$4m per year for corporate overhead costs, covering DBCT Management's administration, ownership, governance, and finance expenses. DBCT Management notes that these costs are based on actual costs incurred in the 2002-2003 financial year (DAU, Accompanying Submission: 40).

DBCT Management subsequently submitted to the Authority that it understated its corporate overhead costs for each year in the regulatory cycle in its original submission. DBCT Management then submitted two revised estimates of its corporate overheads. The first re-estimate was \$9.7m, based on actual costs for the six month period ending 31 December 2003 and the forecast amount for the full financial year ending 30 June 2004.

The second re-estimate was \$6.5m, based on actual corporate costs incurred in the year ending 30 June 2004 and the budgeted costs for the financial year ending 30 June 2005. DBCT Management believes that this second revision more accurately reflects its sustainable future cost levels. DBCT Management derived the \$6.5m allowance by first deducting costs that could have been avoided if Prime had only invested in DBCT, rather than in DBCT and other assets. DBCT Management then deducted an additional 10% to account for non-specific costs attributable to non-DBCT business activities, resulting in an effective allocation of about 20% of total corporate overhead costs to non-DBCT assets and activities. The \$6.5m figure is then inflated by 2.50% per annum for the subsequent years of the regulatory cycle.

DBCT Management submitted the proposed \$6.5m allowance on the basis that the Authority took a generic approach to assessing its tax position. DBCT Management submitted that, should the Authority seek to determine the actual tax payable under the Prime Infrastructure corporate structure, then the Authority should allow all costs associated with that structure, including the Babcock & Brown Investor Service (BBIS) fees, in DBCT Management's corporate overhead cost allowance. Including these fees increases DBCT Management's proposed corporate overhead cost allowance from \$6.5m to about \$12.0m for 2004-05.

As a separate item, DBCT Management also claims a 'one-off' allowance of \$1.4m to cover its costs associated with the draft access undertaking and regulatory process to date.

The original and the two revised corporate overhead cost estimates exclude allowances for the QCA levy and the DBCT site remediation charge.

²⁵ DBCT Management's claim for an annual DBCT site remediation expense is included with corporate overheads to avoid confusion with terminal operating and maintenance costs that are subject to the pass-through model (see the next section).

Stakeholder Comments

In response to DBCT Management's original submission on this matter, the DBCT User Group notes that it has not seen any verification of the \$4m allowance claimed by DBCT Management for corporate overhead costs. The DBCT User Group submits that, given DBCT Management is actively seeking to add other assets to its investment portfolio, a careful assessment of the proportion of costs attributable to DBCT is required. The DBCT User Group's own estimate of an appropriate level of corporate overhead costs is in the order of \$2m (DBCT User Group, sub. no. 5: 183).

Consultant's Report

The Authority engaged Meyrick and Associates (Meyrick) to provide an independent view of whether the corporate overhead costs claimed by DBCT Management are reasonable for current and future years, given management responsibilities for DBCT, and to determine whether DBCT Management's proposed corporate overhead costs are in line with the costs of a similar, stand-alone business in the market.²⁶

In undertaking a detailed analysis of DBCT Management's proposed corporate overhead costs, Meyrick classified DBCT Management's costs as 'type-contested', 'non-contested', or 'size-contested' costs.²⁷

Meyrick first determined whether the cost item in question was of a type that a stand-alone coal terminal owner would be expected to incur (type-contested costs). If not, then Meyrick did not allow the cost. By far the most significant of these costs were the BBIS and related fees. Meyrick's view was that, as this fee is an incentive payment made to BBIS for Prime Infrastructure's security outperforming the ASX Accumulation Index, it is not a cost that a typical coal terminal owner would be expected to incur. Meyrick's recommended allowance for type-contested costs in DBCT Management's corporate overhead costs is nil.

If the cost in question was of a type that a coal terminal owner would be expected to incur, Meyrick then assessed whether or not the magnitude of the claimed allowance for the cost was consistent with the magnitude of such a cost for a stand-alone coal terminal. If Meyrick determined the proposed value was within a reasonable range, based on industry benchmarks, then Meyrick accepted DBCT Management's proposed allowance for these 'non-contested' costs. The total allowance for this category of costs is \$708,000. These non-contested expenses are predominantly administrative-related and include such items as couriers, telephone/fax, payroll processing and insurances.

In contrast, if Meyrick determined that the cost in question exceeded the upper limit of a benchmarked reasonable range for a coal terminal operator, then Meyrick reduced the allowance for the 'size-contested' cost to an appropriate level, based on relevant industry benchmarks. Meyrick reduces a number of claimed costs across a range of expenditure categories, including, for example, salaries and wages, travel/accommodation, consultancy fees, office rentals and accounting and taxation fees. In summary, Meyrick's total allowance for the size-contested category is \$2,155,000, which is less than half of DBCT Management's proposed allowance for the costs in question.

Based on this analysis, Meyrick's view is that DBCT Management's claim for a range of corporate overhead costs is considerably higher than what a coal terminal owner would be likely to incur on a stand-alone basis. Based on this detailed analysis of individual cost items,

²⁶ The Authority has not circulated Meyrick's report, as it contains information that is commercial in confidence.

²⁷ The fourth type is 'excluded costs', ie those costs that DBCT Management incurred but excluded from its claim. These costs, therefore, are not at issue.

Meyrick concluded that a more appropriate allowance would be approximately \$2.9m per annum.

Meyrick attempted to compare the overall unit costs of DBCT, taking into account capital costs, operating and maintenance costs (incurred by the terminal Operator) and corporate overhead costs with costs at other terminals. The findings from this latter approach are largely inconclusive, however, because the required information was not available.²⁸ Meyrick notes, however, that, although the findings from this approach are limited, they do not provide any basis for questioning the conclusions reached from the other approaches.

Authority's Analysis

DBCT Management proposes an allowance of \$6.5m for corporate overhead costs, while the DBCT User Group suggests an allowance of about \$2m. An independent assessment by Meyrick recommends an allowance of around \$2.9m. All of these estimates exclude allowances for the QCA levy and the DBCT site remediation charge.

In revising its original estimate to allow for a level of sustainable costs, DBCT Management derives the revised \$6.5m allowance by effectively allocating about 20% of total corporate overhead costs to non-DBCT assets and activities. The Authority, however, considers that DBCT Management has not adequately justified the basis on which it determined the split of non-specific costs between DBCT and all other activities. This is particularly the case given the substantial focus of Prime's new acquisitions.

The Authority considers that a reasonable allowance for corporate overheads should be determined in the context of DBCT as a stand-alone business and should not include expenses specifically relating to Prime Infrastructure's other business activities. In this regard, the Authority's view is that Meyrick's benchmarking approach is appropriate.

Consistent with Meyrick's recommendations, the Authority accepts DBCT Management's submitted allowances for the set of 'non-contested' costs, as they fall into a reasonable range.

The Authority notes that Meyrick gives no allowance for 'type-contested' costs, the largest of which are the BBIS and related fees. DBCT Management submitted that, should the Authority seek to determine the actual tax payable under the Prime Infrastructure corporate structure, then the Authority should allow all costs associated with that structure, including the Babcock & Brown Investor Service (BBIS) fees, in DBCT Management's corporate overhead cost allowance. As the Authority has not attempted to include the benefits, if any, of Prime's trust structure, this is not a matter that the Authority needed to consider. The Authority also concurs with Meyrick that DBCT Management has not justified the other 'type-contested' costs and, for this reason, rejects these claims as well.

Setting the BBIS fees aside, the primary, remaining source of divergence between the DBCT Management and Meyrick estimates are the 'size-contested' costs, with DBCT Management's claims being consistently higher across a range of costs. Since Prime Infrastructure is presently, and will be periodically, seeking to add additional assets to its portfolio, the Authority's view is that a benchmarking approach is relevant to assessing an appropriate allowance for relevant corporate overhead costs. As a consequence, the Authority accepts Meyrick's allowances for 'size-contested' costs, as they are benchmarked against the costs of a stand-alone coal terminal owner and supported by industry norms.

²⁸ Meyrick requested further information from DBCT Management on the specific cost allocation principles applied in reaching the estimates, as well as the operating costs of DBCT P/L for comparative purposes. This information, however, was not provided.

In the absence of further information from DBCT Management, the Authority considers that an allowance of \$3.1m for corporate overhead costs is appropriate. This allowance comprises the Meyrick recommended allowance of \$2.9m per annum, plus an additional \$200,000 per annum for on-going regulatory compliance costs. The Authority notes that the \$3.1m allowance does not include the separate allowances for the QCA levy and the DBCT site remediation charge, which the Authority accepts as reasonable. In assessing the DBCT asset value, Maunsell included certain operating cost items in its proposed DORC value. These items have not been included in the Authority's assessment of corporate overheads.

The Authority considers that an allowance of \$3.1m for corporate overhead costs, including on-going regulatory compliance costs, is reasonable. The Authority accepts the annual allowances for the QCA levy and the DBCT site remediation charge.

Operating and Maintenance Costs

The operation and maintenance of the terminal is currently undertaken by DBCT P/L under an Operations and Maintenance Contract (OMC) with DBCT Management. DBCT P/L is owned by a subset of the current users of the terminal, with each user's ownership interest (ie shareholding) capped in proportion to its contracted tonnage. All current users are entitled to be shareholders but some choose not to be. This arrangement is an extension of the arrangements in place since the terminal commenced operations.

The OMC sets out the roles, responsibilities and contractual obligations of the Operator (DBCT P/L) to DBCT Management with respect to the operation of the terminal. These responsibilities include, *inter alia*, operation and maintenance of the terminal to achieve optimum efficiency and reliability. In meeting these obligations, the Operator incurs the operating costs and recovers them, along with a margin, from DBCT Management. In turn, DBCT Management recovers from users these costs, along with other amounts (eg 'minor capital'). As a consequence, the operating and maintenance costs of the terminal are effectively a 'pass-through' to users.

DBCT Management's Position

In its draft access undertaking, DBCT Management has proposed a similar arrangement to the existing pass-through model for the treatment of operating and maintenance costs. DBCT Management considers that the current approach to terminal operations and maintenance is appropriate because:

- it is consistent with the existing user agreements and current users support it;
- following a different approach for new users would be administratively burdensome;
- the current approach has resulted in efficient practices and pricing; and
- it maximises flexibility given users can directly influence DBCT P/L's practices and costs in response to changing circumstances.

DBCT Management also notes that the users' control of terminal operations helps to ensure incentives for optimal utilisation and efficiency. As a consequence, DBCT Management submits that a regulator-imposed benchmarking approach to costs is not necessary to encourage efficiency. Finally, DBCT Management notes that, in conjunction with the users, it jointly commissioned Sandwell to undertake a benchmarking study of DBCT with other coal terminals,

and the findings are that DBCT is among one of the most efficient coal ports in the world (DAU, Accompanying Submission: 39-40).

Stakeholder Comments

The DBCT User Group and QRC believe that the general framework for operating and maintaining the terminal has functioned well to date, with users' ownership of the Operator providing a set of checks and balances to help ensure relatively efficient operations and a natural 'pass-through' mechanism for recovery of operating costs. The DBCT User Group favours retaining this basic framework as long as DBCT P/L remains the Operator (DBCT User Group, sub. no. 5: 157-160; QRC, sub. no. 2: 6).

While broadly supporting these arrangements, the DBCT User Group raises several issues for review and clarification. These are discussed in the remainder of this section.

Capital versus Operating Costs

The DBCT User Group's principal concern is that responsibilities for capital and operating costs are not clearly defined and allocated in the context of the existing arrangements. PCQ notes that the appropriate allocation of costs between the Operator and the owner has frequently been an issue and is likely to be an area of future uncertainty (PCQ, sub. no. 10: 5). The DBCT User Group's view is that further clarification is required to identify the party (ie DBCT Management or Operator) responsible for funding the expenditure. The DBCT User Group submits that further clarity is necessary to:

- prevent the 'cost-shifting' of capital expenditure to operating expenditure;
- ensure the correct economic trade-off with respect to asset maintenance versus replacement; and
- ensure inter-generational equity between existing and future users.

The DBCT User Group's concern with respect to 'cost-shifting' is that DBCT Management may be able to avoid certain funding obligations by shifting capital expenditure to operating expenditure, eg through the use of an operating lease. The DBCT User Group submits that, although such a leasing arrangement may provide the asset 'owner' with a financial advantage, it should not remove the funding obligation (DBCT User Group, sub. no. 5: 160-162).

The DBCT User Group and Treasury submit that making funding responsibilities more transparent is important for managing the correct trade-off between maintenance and replacement of assets. For example, maintenance may continue past the time when replacement is the appropriate economic decision. While the DBCT User Group acknowledges that the OMC obligates the Operator to maintain the terminal assets consistent with the 'lowest whole of life cost', the concern is that the OMC does not prevent DBCT Management from directing the Operator to maintain an asset, without regard to efficiency implications (and passing the resulting operating costs to users) (DBCT User Group, sub. no. 5: 160-161, 163-164; Treasury, sub. no. 8: 1).

The DBCT User Group submits that existing arrangements provide little guidance with respect to addressing the equity implications of 'major maintenance' expenditures. Specifically, some major maintenance expenditures may provide long-term benefits over a number of years, generating benefits for future, as well as current, users. The DBCT User Group submits that, under these circumstances, equity considerations warrant allocating the costs over the relevant period such that users of the terminal at the time the maintenance occurs do not bear the full

costs of the maintenance (DBCT User Group, sub. no. 5: 158-160). For example, refurbishing fenders and replacing conveyor belts are infrequent and costly expenditures that tend to be classified as operational, even though they have estimated lives of 8 to 10 years (DBCT User Group, sub. no. 5: 161).

For purposes of clarifying the definition of, and funding responsibilities for, capital and operating expenditures, the DBCT User Group suggests:

- classifying periodic maintenance costs, which provide long-term economic benefits, as capital costs and treating them as such for recovery under the access regime;
- expanding the Master Plan to address not only potential expansion scenarios but the implications of those expansions for asset refurbishment, replacement and maintenance programs; and/or
- reviewing the DBCT budget process to require detailed reporting of the implications of expansion for asset refurbishment, replacement and maintenance.

Treatment of 'Minor Capital' Expenditures

On a related matter, the DBCT User Group submits that the arrangements for 'minor capital' costs, while originally incorporated into the existing user agreements for convenience, are problematic, as they may result in 'double-dipping', ie users paying for (minor) capital expenditure through handling charges and DBCT Management subsequently capitalising the expenditure into its asset base. The DBCT User Group suggests that the undertaking make explicit DBCT Management's responsibility for providing capital expenditure funds and ensure that, in the event users fund capital expenditure, the relevant amount is deducted from DBCT Management's allowable revenue for the year (DBCT User Group, sub. no. 5: 162-163).

Budget Approval Process

The DBCT User Group notes that the OMC requires that DBCT P/L cooperates in establishing the annual and 5-year operating, maintenance and capital plans and budgets, as well as the Terminal Procedures. Given DBCT P/L's role in this capacity, the DBCT User Group recommends modifying the existing budget process to incorporate a specific timetable and approvals process, including defined dispute resolution procedures, to ensure that DBCT P/L has an approved budget within a certain time period (DBCT User Group, sub. no. 5: 157, 165). The DBCT User Group acknowledges that the terms of the OMC necessarily constrain the undertaking's scope in this respect but submits that a recommendation from the Authority to change the current approvals process would warrant serious consideration by the users (DBCT User Group, sub. no. 5: 165).

DBCT P/L as the Terminal Operator

The DBCT User Group notes that DBCT P/L's contract as the Operator may be extended, at DBCT P/L's option in 2004 and 2009, until 2014 (shareholding users have exercised the 2004 option). The DBCT User Group, however, observes that, under certain circumstances, as set out in the OMC, DBCT Management can terminate DBCT P/L's contract as the Operator. The DBCT User Group submits that, in the event that DBCT P/L ceases to be the Operator, the existing system of checks and balances are unlikely to be maintained with any other entity as the Operator. The DBCT User Group, therefore, submits that, if DBCT P/L ceases to be the Operator, this event should trigger a review by the Authority of the operating cost pass-through model (DBCT User Group, sub. no. 5: 168).

Other Issues

The DBCT User Group also makes a number of additional points, including the Operator's margin and DBCT P/L shareholding.

The DBCT User Group notes that the margin of 10% (which applies to operating costs and spares) recognises that DBCT P/L shareholders should be compensated for their investment in DBCT P/L and for their risks associated with serving as the Operator under the OMC. The DBCT User Group submits that the margin is on the low side of a reasonable range for returns consistent with industry-related service agreements, such as mining contracts (DBCT User Group, sub. no. 5: 166).

The DBCT User Group submits that the DBCT P/L Shareholders' Agreement provides a mechanism by which all users of the terminal, including future users, can become shareholders in DBCT P/L and that existing users, who have chosen not to become shareholders, have not expressed dissatisfaction with DBCT P/L's performance as the Operator or with their lack of direct involvement with DBCT P/L (DBCT User Group, sub. no. 5: 166-168).

Authority's Analysis

DBCT Management proposes the continued use of the existing cost pass-through model, on the basis that the users' control of terminal operations through ownership of DBCT P/L generally provides for the efficient operation and maintenance of the terminal. The DBCT User Group generally supports this pass-through model, although it does raise a number of concerns with its governance arrangements. The Authority accepts both DBCT Management's and the DBCT User Group's arguments that the current arrangements create natural incentives to help ensure efficiency. However, the Authority's view is that the DBCT User Group and other stakeholders raise material concerns that should be addressed accordingly. The Authority accepts the pass-through arrangement subject to DBCT Management adequately addressing these concerns. The Authority considers that satisfactory resolution of these issues is particularly important, given DBCT Management has proposed an operating cost pass-through subject to no regulatory benchmarking of the costs involved.

Capital versus Operating Costs

As a starting point for addressing these concerns, the Authority considers that DBCT Management must develop appropriate definitions for capital costs and terminal operating costs for inclusion in clause 2.1 of the undertaking. The Authority considers that establishing a set of appropriate definitions will make expenditures at the terminal, whether capital or operating-related, more transparent and, therefore, assist to a significant extent in clarifying funding obligations between DBCT Management and DBCT P/L. The guiding principle should be that DBCT Management is responsible for funding capital costs, while DBCT P/L is responsible for funding terminal operating and maintenance costs.

So far as capital costs are concerned, the Authority has been advised that standard practice in this area is to define 'capital costs' as (i) capital expenditures relating to the replacement or expansion of the terminal plant and/or infrastructure; and (ii) expenditures relating to refurbishments or upgrades that are expected to extend the life of the plant and/or infrastructure beyond its original useful life. This definition delineates standard maintenance practices (including cyclical maintenance activities), which do not extend original, useful asset lives, from more significant (capital) improvements to assets that do extend original, useful asset lives.

As a consequence, this definition helps align standard operation and maintenance practices with original, useful lives. In the event that some of these maintenance activities involve 'lumpy'

expenditures, the Authority suggests that DBCT P/L apportion the associated costs over a period of several years. This approach will help address the DBCT User Group's concerns regarding inter-temporal equity.

As 'capital costs' are not included in the Authority's assessment of reference tariffs, the occurrence of any such expenditure by DBCT Management should be a trigger for a reassessment of the revenue cap. In relation to capital costs to expand the terminal, the process associated with considering these costs is dealt with in Chapter 4. For replacement capital costs, the Authority requires these costs to be assessed as, and when, they occur and could be assessed annually through the submission of a draft amending access undertaking. The Authority will adjust the revenue cap as required to accommodate any approved capital costs.

In addition, the Authority considers that the current definition of 'capital charge' in clause 2.1 should be amended to recover any components of the access charges that are not an operation and maintenance charge. Consequently, it is the Authority's intention that the capital charge is the mechanism for the recovery of DBCT Management's allowable revenues, including the approved allowance for corporate overhead costs. The Authority notes that, as additional capital costs are subject to approval, the Authority's review process prevents leasing or rental payments from being recovered as 'capital costs'.

The Authority also agrees with the DBCT User Group that the definition of 'terminal operating costs' in clause 2.1 is too broad and accordingly, it should be amended along the following lines. First, it should be limited to amounts reasonably incurred in the operation and maintenance of the terminal under the OMC. Second, terminal operating costs should be defined to exclude any leasing and/or rental payments, made by the Prime Infrastructure Group, associated with the terminal infrastructure, plant and/or land. Third, terminal operating costs should also be defined to exclude capital costs, as defined above. The elements of this definition address the DBCT User Group's concern about the delineation of funding responsibilities and the potential for cost-shifting.

The Authority would be prepared to accept the draft access undertaking provided the definitions of 'capital charge' and 'terminal operating costs' are amended, and 'capital costs' defined, in accordance with the above principles. As this requirement may involve an amendment to the OMC, this is subject to the agreement of DBCT P/L. The Authority requires DBCT Management to amend Schedule B as necessary to be consistent with the definitions developed and approved by the Authority. The Authority notes that DBCT Management's reporting for capital and operating expenditures, as set out in Chapter 5 (section 5.4) of this Decision, should be fully consistent with the definitions developed.

Treatment of 'Minor Capital' Expenditures

The DBCT User Group submits that the arrangements for 'minor capital' expenditure have the potential to result in users paying for capital expenditures through handling charges and DBCT Management capitalising the expenditure into its asset base. The Authority considers that the DBCT User Group's concerns in this regard will be addressed by the proposed changes to the definitions of capital costs and terminal operating costs set out above. Further, the reporting requirements in section 5.4 of this Decision will make the expenditure under the minor capital element more transparent, thereby enabling the Authority to monitor this aspect of expenditure and ensure that there is no double-counting at the time the Authority approves a revenue cap revision.

Budget Approval Process

The Authority notes the DBCT User Group's concern that the current process for approving DBCT P/L's budget is relatively 'open-ended', in that there appears to be no detailed process or definitive timeframe for agreeing on a budget and resolving any disputes. Given that effective terminal operations depend on a timely resolution of budgetary issues, the Authority considers that the budgetary issue is a material concern. The Authority, therefore, believes that in order to approve the draft access undertaking, it must be amended to include an approval process for the OMC budget, including a process for dispute resolution, in consultation with DBCT P/L. Such amendments should require DBCT Management to:

- allow DBCT P/L to submit budgets, including detailed recommendations with respect to asset replacement and maintenance, to DBCT Management for approval;
- allow DBCT P/L to demonstrate the trade-off between replacement capital and maintenance expenditure for assets with a value, or combined value of \$50,000;
- specify a reasonable period of time during which DBCT Management can review and discuss any budgetary matters with DBCT P/L;
- specify a reasonable period of time by which DBCT Management must either approve or not approve the budget;
- allow an additional period of time for resolution of any remaining differences between DBCT Management and DBCT P/L; and
- provide for a dispute resolution process in accordance with clause 35 of the OMC; and
- specify an ultimate date by which a budget must be approved in the event of dispute.

While the Authority accepts that the effective implementation of this budgetary approval process is subject to acceptance by DBCT P/L, it nevertheless believes that an effective approval process is a necessary element to ensure the appropriate checks and balances are in place in order to implement the efficient operation of the cost pass-through model.

DBCT P/L as the Terminal Operator

The Authority agrees with the DBCT User Group that DBCT P/L's ceasing to be the Operator would represent a significant change that warrants reconsideration of various elements of the undertaking, especially the terminal cost pass-through model. The Authority proposes to address this concern by specifying that the undertaking ceases to be operative if DBCT P/L is no longer the Operator. This issue is addressed in detail in section 2.4 of this Decision.

Other Issues

The Authority has not undertaken a detailed analysis of the Operator's margin, for the primary reason that the margin is ultimately returned, if not to all users, at least to those users with a shareholding in DBCT P/L, on a pro rata basis. While non-shareholding users do not receive back their (pro rata) share of the margin since, as non-shareholders, they do not receive dividends, the Authority does not consider this situation to be a material concern, as users can choose whether or not to be shareholders in DBCT P/L.

The Authority concurs with the DBCT User Group that both existing and future users should have the right to hold shares in DBCT P/L. In this regard, the Authority is satisfied that clause 9 of the Shareholders' Agreement does not impose any limitations on this possibility.

Implications for DBCT Management's Annual Revenue Requirement

The operating and maintenance costs related to the terminal do not form part of DBCT Management's ARR as they are not incurred by DBCT Management. As a consequence, there is no allowance in the building blocks for (terminal) operating and maintenance costs, as these costs are a direct pass-through to users.

In order for the undertaking to be approved, it must be amended so that:

- **clause 2.1 includes an appropriate definition of 'capital costs', which clarifies that such costs are: (i) capital expenditures relating to replacement or expansion of the terminal plant and/or infrastructure; and (ii) expenditures relating to refurbishment or upgrades that are expected to extend the life of the plant and/or infrastructure beyond its original, useful life;**
- **clause 2.1 includes a modified definition of 'capital charge', where it is defined to mean the components of access charges that are not an operation and maintenance charge;**
- **clause 2.1 includes a modified definition of 'terminal operating costs', where it is defined to mean any amounts reasonably incurred in the operation and maintenance of the terminal under the Operation & Maintenance Contract, but excluding capital costs and any lease and/or rental payments, made by the Prime Infrastructure Group, associated with the terminal infrastructure, plant and/or land; and**
- **the undertaking includes a detailed budgetary approvals process consistent with the principles set out in this chapter.**

Tax

The tax component of the building blocks model seeks to compensate the regulated firm for the tax payable in respect of its annual revenue requirement.

In the context of the Officer WACC3 model, tax is addressed directly in the cash flows, as are the effects of dividend imputation credits. There are no tax or dividend imputation credit adjustments made in the WACC itself. This approach facilitates transparency. By treating tax like any other expense, it ensures that the allowance for tax in the annual revenue requirement is consistent with the amount of tax actually payable, both in terms of amount and timing.

On this occasion, however, the treatment of tax is also impacted by the Authority's *Statement of Regulatory Principles: Dalrymple Bay Coal Terminal (Feb 2001)*, which was prepared by the Authority as part of the Dalrymple Bay Coal Terminal leasing process to inform prospective bidders of, *inter alia*, the methodologies the Authority may apply when assessing an access undertaking. Although not formally binding on the Authority, it recognised that there were different ways in which the transaction could be structured, with different taxation consequences. It also recognised that the current arrangement of passing through all tax savings to users could adversely impact on the incentive to adopt the most efficient structure. While the

Authority noted at the time there was no correct way to share any such benefits, it did propose to share the benefits on a 50/50 basis between the lessee and users.²⁹

DBCT Management's Position

In its submission accompanying the draft access undertaking, DBCT Management argued that the appropriate basis for calculating tax is the tax profile of a generic, corporate tax-paying firm, not the actual tax profile of DBCT Management. DBCT Management submits that adopting an actual tax position is anomalous in the context of other aspects of the regulatory framework, eg applying an optimal capital structure. DBCT Management, therefore, models tax on a generic, corporate basis, employing the statutory corporate tax rate of 30% and a value of gamma of 0.50 (DAU, Accompanying Submission: 39).

DBCT Management notes that the decision to lease, rather than sell, DBCT resulted in a different tax profile. DBCT Management, therefore, has calculated the differences in the tax profiles arising over the (weighted average) economic life of DBCT (ie 33 years), smoothed them on a net present value neutral basis and shared the resulting benefit with users on a 50:50 basis (DAU, Accompanying Submission: 39).

Stakeholder Comments

The DBCT User Group submits that the Authority should maintain its approach to tax for regulatory purposes by assessing DBCT Management's actual tax liabilities.

In determining the tax benefits arising from DBCT Management's tax position, Synergies Economic Solutions (Synergies), on behalf of the DBCT User Group, submits that the following issues are relevant:

- benefit-sharing should include the tax savings already accrued and secured by DBCT Management (ie since the terminal was leased), and these benefits could be passed to users through an adjustment to the opening asset value as of 1 July 2004, based on the current value of the savings;
- the approach should reflect the most efficient, reasonable application of the tax savings available to the lessee in the future; and
- the basis of comparison for assessing the tax savings should be the tax position of an investor in the terminal without such a structure, ie a structure where corporate tax is payable on taxable income, after accounting for the effect of dividend imputation. The DBCT User Group submits that the difference between these two positions should be shared equally between DBCT Management and the users (DBCT User Group, sub. no. 34: 5-7).

DBCT Management's Revised Position

DBCT Management subsequently proposed an alternative approach to assessing tax for regulatory purposes and provided additional information on a confidential basis in support of that approach.

In summary, the revised approach involved:

- allowable revenue as determined by the Authority;

²⁹ QCA. *Statement of Regulatory Principles: Dalrymple Bay Coal Terminal (Feb 2001)*, pp. 16-17.

- operations and maintenance expenditure based on costs allowed by the Authority in the regulated revenue;
- interest charges based on the Authority’s efficient capital structure;
- tax depreciation based on the leasing payments made and stage 6 capital expenditure;
- incorporating the tax losses which result from the Original User Rebate payments and interest during construction/financing costs allowed in the DORC; and
- corporate tax assessed at 30%.

For the purpose of sharing these benefits with users, DBCT Management calculated the net present value of the tax savings arising from the leasing arrangements and smoothed them over the tenure of the leases, ie 50 years. DBCT Management then shared the resulting amount with users on a 50/50 basis, resulting in a deduction from its estimated tax allowance in the regulatory revenues.

Authority’s Analysis

In assessing the tax component of the annual revenue requirement, the Authority considers that there are three principal aspects:

- the actual tax position of the DBCT entities;
- the tax benefits arising from the leasing arrangements particular to the DBCT entities; and
- the trust structure.

Actual Tax Position and Tax Sharing

The Authority proposes to continue with its current practice of estimating the tax payable and treating it in the cash flows.

On this occasion, however, the Authority proposes to share the tax benefit resulting from the structure adopted 50/50 between DBCT Management and users. In doing so, the Authority accepts that, to do otherwise and to follow the Authority’s normal practice, DBCT Management would receive none of the benefits of its lease arrangements. This would not be appropriate and would not be consistent with the position outlined in the Authority’s *Statement of Regulatory Principles: Dalrymple Bay Coal Terminal (Feb 2001)*.

In addition, the Authority agrees with DBCT Management that, because the benefits are particularly skewed, the Authority’s normal approach would result in a significant imbalance between existing and future users in the sharing of the benefits. Therefore, on this occasion, the Authority proposes to smooth the benefits over the life of the lease on an NPV neutral basis. While this is consistent with the revised approach proposed by DBCT Management, DBCT Management assumed a discount rate consistent with a cash reserve rate in calculating the net present value of the tax savings. The Authority’s view is that the appropriate discount rate is the DBCT WACC.

In making its assessment of tax, the Authority has included those tax losses occurring after 1 July 2004. This is contrary to the views expressed by the DBCT User Group, which argued that the benefits that accrued prior to that date should be deducted from the asset value. The Authority, however, has based this draft decision on a reference tariff that would be effective

from 1 July 2004. The Authority believes that there are a range of benefits and costs which occurred prior to that date, which the Authority has not sought to value or include in this decision. The Authority believes that to have done so would have involved a degree of retrospectivity which would be inappropriate. On the same basis, the Authority has not sought to assess the tax losses that accrued prior to 1 July 2004.

As a result of applying the approach outlined, the Authority has provided DBCT Management with an estimated average allowance of \$2.0m per annum for tax over the regulatory cycle.

The Authority is aware that, in the medium to longer term, DBCT Management's actual tax liabilities may be greater than that provided for in the regulated revenues. This is the likely consequence of the approach adopted and the Authority would not be amenable to any change in the calculation of the tax allowance should this situation arise.

The Authority also recognises that the tax arrangements as they currently apply to DBCT Management may change over time. As would be the case under the Authority's normal approach to tax, the Authority would consider reassessing DBCT Management's tax allowance at that time, on a prospective basis.

Trust Structure

Prime Infrastructure's tax profile differs from the tax profile of a typical corporate entity. Specifically, each investor in Prime Infrastructure owns a share in a company, Prime Infrastructure Management Limited (PIML) and a unit in a trust, Prime Infrastructure Trust (PIT).³⁰ PIML and PIT are taxed on a different basis, with PIML taxed as a company and PIT taxed as a unit trust.³¹ The Authority notes that distributions to investors will principally be in the form of 'tax-deferred' income and capital distributions by PIT, with any income distributions by PIML expected to be fully franked.³² A tax-deferred distribution reduces the investor's capital cost base resulting in a commensurate increased capital gains tax obligation at the point at which the investor sells the security.³³

DBCT Management submitted that, as the distributions are, for tax purposes, a return of invested capital to investors, no benefits from deferral accrue to DBCT Management. The Authority does not entirely agree with DBCT Management that it receives no benefit from this arrangement. However, the Prime Prospectus indicates that, "over the forecast period, it is expected that both income and capital distributions by Prime Trust to investors will be made on a 'tax-deferred' basis..."³⁴ As a consequence, seeking to link the income component of distributions directly to operations at DBCT is highly problematic. Even if the Authority was able to establish such a definitive link, a number of important and contentious assumptions would be required to quantify any resulting benefits, should they exist. As a consequence, the Authority's view is that the DBCT User Group's proposed approach to modelling the trust structure is inappropriate. Further, the Authority considers that it would add an uncertainty and complexity that was not warranted and that, taking all factors into account, the approach proposed by the Authority is fair and reasonable to both DBCT Management and users.

³⁰ PIML holds all the shares in Prime Infrastructure (DBCT) Management Pty Ltd (DBCT Management) and Prime Infrastructure (DBCT) Finance Pty Ltd (DBCT Finance). PIT holds all the units in Prime Infrastructure (DBCT) Trust (DBCT Trust).

³¹ Further, the investor is taxed differently on the shareholding in PIML and the unitholding in PIT.

³² Prime Prospectus (p. 7).

³³ This applies to Australian tax resident investors who invest in Prime Infrastructure on capital account.

³⁴ Prime Prospectus (p. 7).

10.4 Annual Revenue Requirement and Revenue Smoothing

DBCT Management's Position

On the basis of its submitted estimates of asset value, WACC, depreciation, corporate overheads and tax, DBCT Management proposed a smoothed revenue over the period of the undertaking of about \$138m on average per annum. Using its approach to calculating the TIC, DBCT Management's proposed TIC is \$2.77/tonne for each year of the regulatory cycle.³⁵

This figure of \$2.77 needs to be placed in context, as follows:

- *Asset value* - when account is made for asset valuation and interest during construction errors made by DBCT Management, the inappropriately high WACC used for interest during construction purposes and the growth allowance that was inappropriate and, as a consequence, not allowed, reduces from \$1084m to \$888m. In addition, there was little optimisation undertaken of the assets;
- *WACC* – the cost of capital proposed was based on inappropriate comparators and included an allowance of 10% for asymmetric risk that has not been allowed by any other regulator in respect of an established enterprise and which is not justified on an analysis of the underlying risks;
- *Operating Costs* – the costs were based on the current operating costs of Prime Infrastructure which are on a level and scale that is consistent with its status as an infrastructure fund and inappropriate to a stand alone coal port;
- *Tax* – the original proposal by DBCT Management did not share the benefits of the terminal lessee's tax structure in the 50/50 manner envisaged in the Authority's *Statement of Regulatory Principles: Dalrymple Bay Coal Terminal (Feb 2001)*. This was corrected in a subsequent proposal by DBCT Management which has been substantially adopted by the Authority.

There is then the current charge of \$2.08 which is carried over from the PCQ. It also needs to be placed in context. In this regard, it should be particularly noted that:

- since this charge was established, stages 5 and 6 of the terminal have been completed. These stages had a construction cost per tonne substantially lower than the average cost per tonne on which the charge was based; and
- the charge was based on an assumed asset life substantially lower than that proposed by either DBCT Management or the Authority.

Authority's Position

On the basis of the Authority's analysis of asset value, asset life, cost of capital, operating costs and tax, the Authority has determined an annual revenue allowance of around \$76m over the term of the undertaking, as illustrated in Table 2.³⁶

³⁵ DBCT Management's proposed TIC is constant in nominal terms over the length of the regulatory period and calculated as a 'grossed-up' value, ie it is higher than a simple average \$/tonne rate, to ensure that revenues are constant between specific levels of throughput. In addition, the calculation reflects recovery of the entire revenue requirement via reference tonnages.

³⁶ Smoothing of the raw revenue series is undertaken on the principle that the net present value of the raw and smoothed series will be zero.

Table 10.2: Authority’s Draft Annual Revenue Requirement^a

	2004-05 (\$'000)	2005-06 (\$'000)	2006-07 (\$'000)	2007-08 (\$'000)	2008-09 (\$'000)
Return on Capital	68,036	67,976	67,871	67,717	67,514
less Inflationary Gain	20,592	20,570	20,534	20,484	20,418
plus Return of Capital	21,463	22,000	22,550	23,114	23,691
plus Corporate Overheads	4,309	4,393	4,479	4,567	4,657
plus Net Tax Payable	1,470	1,736	2,012	2,299	2,596
Raw ARR	74,686	75,534	76,377	77,213	78,041
Smoothed ARR	72,803	74,623	76,489	78,401	80,361

^a The values in this table are derived using the Authority’s method for calculating the TIC.

For comparative purposes only, if DBCT Management’s approach to calculating the TIC is employed in conjunction with the Authority’s estimated annual revenue requirement, then the TIC is \$1.53/tonne for each year of the regulatory period.

However, the Authority has proposed a revenue cap arrangement which transfers volume risk to the users. This results in a lower nominal TIC as there is no need to adopt coal tonnage estimates that are below forecast tonnages, as any shortfalls [and surpluses] will be automatically adjusted. Using the Authority’s proposed approach, the same annual revenue requirement of \$76 million results in a TIC which averages \$1.40/tonne over the regulatory period ^{37 38}.

³⁷ The Authority’s TIC estimates are based on the assumption that 2% of total tonnage is non-reference tonnage.

³⁸ The charge varies from \$1.35 to \$1.47 over the period as the TIC reflects the impact of changing demand forecasts over the period

A1 APPENDIX 1 – COST OF CAPITAL

A1.1 Introduction

The Authority's approach to determining the weighted average cost of capital (WACC) for regulated entities has remained largely unchanged since it was established in 2000/01. Since then, new research has emerged and, in some recent regulatory decisions, stakeholders have raised concerns about certain aspects of the Authority's approach. For example, a number of interested parties have observed previously that the Authority's approach to estimating the debt beta is likely to result in its overstatement, causing errors in estimating the cost of capital. In addition, the Authority is aware that recent research on cost of capital matters, such as the maturity of bond for measuring the risk-free rate and the value of dividend imputation credits (ie 'gamma'), has stimulated debate at the national level among regulators, regulated businesses and customer groups.

In light of stakeholder concerns and new research developments, the Authority considered it appropriate to review its methodology for determining the cost of capital as part of the DBCT draft access undertaking. For this purpose, the Authority engaged Dr Martin Lally of Victoria University (Wellington, New Zealand) to undertake an independent and comprehensive technical review of the Authority's current methodology, including appropriate recommendations for change that, *inter alia*, address these matters.

On 5 March 2004, the Authority released a draft of Lally's report for public consultation with stakeholders and other interested parties in order to assist the Authority in coming to a view about cost of capital issues. In response to Lally's report, the Authority received submissions from a range of interested parties, including the primary stakeholders (DBCT Management and the DBCT User Group), government departments, regulated businesses, and academics (see Attachment 1 for more details). Lally finalised his report after reviewing the submissions from interested parties. Dr Lally's report, which has been revised to address stakeholder comments, is on the Authority's web site.

The Authority then engaged Lally to review and respond to stakeholder concerns raised in their submissions. Lally's response to stakeholders on these issues is summarised in the relevant chapter of this report as appropriate. In addition to considering Lally's report, stakeholder submissions and Lally's response to those submissions, the Authority has also considered relevant comments on its cost of capital methodology contained in stakeholder submissions on *Request for Comments: Dalrymple Bay Coal Terminal Draft Access Undertaking (July 2003)*. This appendix summarises the issues and findings from this review of WACC.

A1.2 The Regulatory Approach

Cost of Capital Framework

Regulatory access pricing models in Australia typically involve setting a price- or revenue-based tariff that rewards the regulated business for the commitment of capital through a pre-determined rate of return and compensates the firm for efficient operating costs and the loss of capital through depreciation over the regulatory horizon. The relevant price or revenue is ultimately derived from a number of 'building blocks', the critical ones of which are the return on capital, return of capital (depreciation), and operating costs. The fundamental premise underpinning this model is that the net present value of the expected future cash flows (ie the regulated tariff stream) should equal the initial value of the asset base when the discount rate applied to the cash flows is the weighted average cost of capital (WACC).

The Weighted Average Cost of Capital

The WACC is the expected return that investors require in order for them to justify committing funds to an investment. In other words, it is an opportunity cost of capital or a return that is sufficient to attract and maintain capital funds for the investment. The cost of capital will depend on the supply and demand of investment funds, as well as the risk associated with the cash flows generated by the asset relative to the risk of other assets.

The cost of capital will also depend on the sources of finance for the investment. Typically, firm investment is financed, in part, by debt holders, with the residual finance contributed by the equity holders. In general, the equity holders bear the greater risk of the two parties; therefore, the return on equity will typically be greater than the return on debt. Given the costs of these two sources of finance differ, the cost of capital is determined by weighting each in proportion to its respective share of the overall financing for the relevant assets. The cost of capital is often referred to as the weighted average cost of capital (WACC) to recognise the different forms of finance contributed by investors — namely debt and equity — to the investment opportunity.

For a regulated firm, the regulator determines a weighted average cost of capital that is commensurate with the expected return in a competitive market for comparable investment opportunities. If the regulator sets the allowed cost of capital too high then prices to consumers will exceed competitive levels. In contrast, if the regulator sets the allowed cost of capital too low then investors will be attracted to other investment opportunities, and as a consequence, the regulated firm's quality of service to customers may decline.

The weighted average cost of capital can be estimated and applied on either a pre- or post-tax, nominal or real, basis.

Nominal vs. Real Cost of Capital

The Authority expresses cash flows in nominal terms and applies a nominal discount rate in calculating a WACC. An alternative approach is to express both in real terms. Both approaches yield equivalent outcomes provided that indexation is applied correctly and consistently. In prior regulatory decisions, the Authority has used a nominal approach because the nominal rate of return is directly comparable to financial benchmarks, and tax and balance sheet items (such as debt and equity) are expressed in nominal terms.

In his review of the Authority's cost of capital methodology, Lally supported the nominal approach due to its greater simplicity and transparency.

On this basis, and given its broad support among stakeholders and regulators, the Authority supports continued use of a nominal approach.

Pre-tax vs. Post-tax Cost of Capital

The cost of capital can also be expressed on either a pre-tax or a post-tax basis. The pre-tax approach requires the cost of capital formula to include an allowance for tax, while the post-tax approach models tax payments explicitly in the cash flows. As long as the definition of business cash flows is consistent with the definition of the rate of return, either approach is possible. In prior regulatory decisions, the Authority has used a post-tax definition of cash flows and the rate of return because it is less complex and more transparent.

Envestra, however, submits that a pre-tax approach is simpler to administer and less intrusive because a post-tax approach requires detailed information about asset positions for tax

depreciation purposes in order to estimate the allowed revenue component for tax.³⁹ Further, Envestra submits that the pre-tax approach is fiscal policy neutral, enabling regulated firms to retain Commonwealth fiscal policy benefits, such as accelerated depreciation allowances, which are intended for them.

In response to Envestra, the Authority notes that, as the effective tax rate required for the pre-tax approach uses forecasts of tax liabilities, it is as easy to model the expected tax liabilities explicitly in the cash flows. Further, a real pre-tax rate of return must be derived from a nominal, post-tax estimate, and the two conversion formulae for this derivation give different results. Therefore, the Authority's view is that the real, pre-tax approach substantially increases the potential for error in calculating the cost of capital.

Lally supports the Authority's view that the pre-tax approach is more complex and subject to error. In response to Envestra's claim regarding the fiscal neutrality of the pre-tax approach, Lally first observes that regulation must be based on the fundamental premise that the net present value of the future net cash flows should equal the initial investment. He then notes that if a regulator is prepared to make an exception, the post-tax approach is equally capable of accommodating this decision, simply by setting the allowed revenues consistent with normal taxation rules.

The Authority's view is that a nominal, post-tax approach is simpler and more transparent than a real, pre-tax approach. Further, the Authority agrees with Lally that the nominal, post-tax approach is equally capable of accommodating the flow-through of any tax benefits to the regulated business by adjusting the tax parameters in the model.

On this basis, the Authority supports continued use of a nominal, post-tax approach to determining the cost of capital.

The Authority's WACC Model

The Authority currently employs the Officer WACC Model (the Officer Model) version 3, which defines firm cash flows in nominal, company post-tax terms and modifies the cash flows, as opposed to the discount rate, for the tax effects of both debt and dividend imputation.⁴⁰ Allowing for the cash flow adjustments described, the Officer version 3 WACC is:

$$(1) \quad WACC_{O3} = \hat{k}_e(1 - L) + k_d L,$$

where \hat{k}_e is the cost of equity with dividends defined to include imputation credits to the extent that they are usable, k_d is the cost of debt and L is leverage (debt to total value). Therefore, $(1 - L)$ is equity to total value.

The WACC model, therefore, comprises three primary components: the cost of equity, the cost of debt, and the capital structure of the firm. The cost of equity capital is typically derived by applying the Capital Asset Pricing Model (CAPM). In the context of the Authority's WACC model, the Officer CAPM version is used to estimate the cost of equity. The cost of debt is observed or estimated from the promised yield on debt. The capital structure is determined either by benchmarking or credit rating analysis. Debates over cost of capital methodology issues generally focus on determining appropriate values for one or more of these three components, particularly the cost of equity capital.

³⁹Envestra, sub. no. 3: Appendix A.

⁴⁰ Officer (1994) presents four versions of the model that vary according to the definition of company post-tax net cash flows.

A1.3 The Cost of Equity Capital

The cost of attracting and retaining equity funds is not directly observable and must be estimated using data from securities markets. A number of models have been developed to estimate the cost of equity capital, the most common of which is the CAPM. Alternative models include the Fama-French Model, Arbitrage Pricing Theory and the Dividend Growth Model.

Capital Asset Pricing Model (CAPM)

The CAPM provides a pricing relationship for individual assets to compensate investors for the time value of money and risk. The central message of the CAPM is that in a competitive market, the required rate of return on an asset is equal to a risk-free rate plus a premium for risk, which depends on the beta of the asset and the market risk premium. The expected return on an asset is expressed as:

$$(2) \quad k_i = R_f + \beta_i[k_m - R_f],$$

where

k_i = expected return on asset i

R_f = risk-free rate

k_m = expected return on the market as a whole

β_i = systematic risk of asset i

Beta represents an asset's systematic risk, ie the risk that investors cannot eliminate by diversification, relative to the market as a whole. The measure of beta is typically the covariance between the return on the asset and the return on the market portfolio.

Since investors, by definition, cannot eliminate systematic risk, they expect to receive compensation for bearing such risk. This compensation is determined by the extent to which the asset's beta varies relative to the market portfolio. If an asset's returns vary exactly with the market portfolio then it has a beta of one. As a result, compensation for holding this asset is simply the risk-free rate plus the expected return on the market as a whole. Alternatively, the expected risk premium on an asset with a beta of 0.50 is half the expected risk premium on the market portfolio. If beta can be estimated then the required rate of return of security holders can be estimated by applying the CAPM relationship.

Alternative Models

A number of alternative models have been developed to estimate the cost of equity funds. These models include the Fama-French Model, Arbitrage Pricing Theory and the Dividend Growth Model.

- *Fama-French Model* — this model adds two additional risk factors to the CAPM, namely the difference between returns on stock portfolios with small and large capitalisations and the difference between returns on stock portfolios with high and low book-to-market equity values, to better explain the variation in cross-sectional returns.

- *Arbitrage Pricing Theory* — a model that attempts to explain asset returns by identifying macroeconomic factors affecting an asset and the risk premium associated with each of these factors.
- *Dividend Growth Model* — this model is based on the idea that the cost of equity can be deduced from the observed stock price.

Stakeholder Comments

A number of parties raise concerns with the CAPM. Energex and Ergon, Bornholt and Dempsey question the validity of the CAPM for estimating the cost of equity capital in the current regulatory context.

Energex and Ergon submit that the uncertainty surrounding estimates of the cost of equity capital from the CAPM is substantial. They consider the Fama-French Model as a possible alternative, but they note that it also generates estimates with substantial estimation error. Although they stop short of actually recommending it to replace the CAPM, they submit that the uncertainty surrounding estimates should be a relevant regulatory consideration in determining the cost of capital (Energex and Ergon Energy, sub. no. 13: 7-10; sub. no. 25: 37-38). Dr Bornholt of the Griffiths University Cost of Capital Research Group also questions the validity of the CAPM and suggests that the Authority remain open to alternative approaches in the future (Griffith University Cost of Capital Research Group, sub. no. 27: 1).

Professor Dempsey, also of the Griffiths University Cost of Capital Research Group, submits that the CAPM suffers from several major flaws. First, he contends that a regulatory cost of capital determined in accordance with Lally's approach would be sufficient to induce investment by shareholders but not by their risk-averse manager. The implication from this agency problem is that the allowed return should be about 12%, to give managers the incentive to invest. Second, Dempsey submits that the CAPM is unnecessarily complex and is open to simplification without loss of accuracy. He, therefore, suggests that the Authority consider the Dempsey Model on the basis that it is simpler than the CAPM.

Lally's View

In evaluating the competing models to the CAPM, Lally's primary observation is that these suggested alternatives suffer from weaknesses that are even greater than those associated with the CAPM.

Specifically, Lally observes that the Fama-French Model has a number of fundamental problems. First, it relies on empirical results that have no basis in economic intuition or a well-developed set of assumptions. Second, the research on the appropriate value of the parameters for the model is much less developed than for the CAPM. Third, the CAPM will tend to produce more reliable estimates of the cost of equity, as the market risk premium in the CAPM can be estimated in a number of ways (other than by historical averaging).

In examining the other competing models, Lally first notes that the Dividend Growth Model has limited use because it can only be applied to estimate the cost of equity capital from listed companies. Lally also submits that the CAPM is superior to Arbitrage Pricing Theory because it possesses a set of well-defined and limited parameters to estimate.

In response to Dempsey's suggestion that the CAPM understates the allowed return required by risk-averse managers to invest funds, Lally argues that providing an additional increment to the cost of capital for this reason would encourage the regulated firm to hire particularly risk-averse managers in order to demand greater increments to the cost of capital. This approach would aggravate, rather than mitigate, the agency problem. In reviewing the proposed Dempsey

Model, Lally first observes that the principal Dempsey formula is the CAPM. In regard to the greater simplicity, Lally notes that this aspect of the model arises because it invokes the concept of a representative investor, ie all investors are treated as if they are equally taxed, which assumes away tax differences across investors. As a consequence, Lally submits that this approach implies that the composition of the tax parameters is unknown and cannot be estimated with reference to the Australian tax regime. Lally views this feature of the model as a significant disadvantage.

In conclusion, Lally contends that the CAPM is preferable to these alternatives. First, it is derived from a well-defined set of assumptions about investor behaviour and as a consequence, it is theoretically sound. Second, Lally submits that the CAPM is superior because its parameters are capable of more reliable estimation. On this basis, Lally supports continued use of the CAPM (Lally, 2004: 19).

Authority's Analysis

The CAPM possesses several advantages over competing models, namely its sound, theoretical basis and its relative ease of implementation. Although it suffers from some empirical shortcomings, the Authority's view is that its advantages outweigh its disadvantages. Further, the CAPM is well accepted in commercial practice and by the vast majority of stakeholders. On this basis, and given that the shortcomings of competing models are more severe, the Authority supports the continued use of the CAPM.

The Authority supports the continued use of the Capital Asset Pricing Model (CAPM) for determining the cost of equity capital for regulated businesses.

A1.4 CAPM Version⁴¹

The basic and earliest version of the CAPM, often known as the 'standard' CAPM, determines the expected return on any risky capital asset as:

$$(3) \quad k_e = R_f + (k_m - R_f)\beta_e,$$

where k_e is the expected return on equity in which dividends *exclude* imputation credits, β_e is the firm's equity beta, k_m is the expected return on the market portfolio in which dividends exclude imputation credits, and R_f is the return on the risk-free asset. The market risk premium, therefore, is $(k_m - R_f)$.

A number of assumptions underpin the model, but three are particularly relevant to the Australian context, namely:

- national capital markets are completely segregated;
- dividends and interest income are taxed identically at the personal level; and
- capital gains and interest are taxed identically at the personal level.

All of these assumptions are departures from the Australian context. The first assumption is inconsistent with international flows of capital across financial markets. The second assumption is incompatible with dividend imputation in Australia. The third assumption is inconsistent with aspects of the current Australian tax code that favours capital gains relative to other forms of income. Given that these assumptions of the standard CAPM are unrealistic in the Australian

⁴¹The following descriptive material is largely drawn from Lally (2004) and Lally (2000).

context, a number of variations on the standard CAPM have been developed that relax one or more of them. The extent to which variations of the standard CAPM relax these assumptions in the Australian context directly impacts the version of the CAPM chosen.

International Capital Flows

Investors increasingly tend to hold internationally diversified portfolios due to the benefits from international diversification and from the relaxation of investment barriers. Australia's financial markets are substantially integrated with other markets worldwide, with foreigners owning approximately 30% of Australian equities (Lally, 2000). Given the extent of foreign ownership of Australian equities, it seems apparent that any CAPM version applicable for pricing should necessarily take international capital flows into account. A range of International Capital Asset Pricing Models (ICAPMs) have been developed for such purposes and provide the same basic insight of the domestic CAPM: assets are priced according to their systematic risk, as measured by their (international) beta relative to the world market portfolio.

Although significant theoretical work exists on ICAPMs, they are not generally used in practice due to their additional, significant complexity relative to the standard CAPM.

Dividend Imputation

A dividend imputation tax system integrates corporate and personal taxes, with the degree of integration varying across countries. Dividend imputation was introduced into Australia in July 1987. This system allows shareholders to offset tax already paid on dividends at the corporate level against their personal taxes. The result is to effectively eliminate corporate tax such that taxes are levied at the personal level.

The imputation tax system applies only to dividends paid from corporate profits on which Australian corporate tax has been paid. Resident taxpayers who receive franked dividends from Australian resident companies can claim a tax credit for tax that has already been paid by those companies on relevant dividend income. Consequently, Australian resident investors receive returns in the form of dividends, capital gains and dividend imputation credits. Dividend imputation has no effect on the tax position of non-resident (foreign) investors.

Capital Gains

The Australian tax system's treatment of capital gains tends to lower the effective tax rate on capital gains below the tax rate on other sources of income. Three significant aspects of the Australian tax system indicate a lower effective tax on capital gains relative to interest income. First, it is likely that some assets are held more than a year and, therefore, are taxed at concessionary, long-term rates. Second, individuals and superannuation funds are subject to tax on only 50% and 67% of these long-term gains. Third, since capital gains are subject to tax only on realisation, the deferral opportunity reduces the effective rate of the tax. These characteristics of the Australian tax environment jointly imply that, on average, individual investors and superannuation funds are likely to face lower effective tax rates on capital gains than the tax rates applicable to ordinary income.

A1.5 The Choice of CAPMs

Due to the additional and significant complexities associated with the use of an ICAPM, competing CAPM versions are typically domestic versions, ie they assume that national markets are completely segregated. With this common framework as a starting point, the models then

diverge with respect to relaxing the standard CAPM's assumptions on dividend imputation and capital gains.

The Officer CAPM

The Officer CAPM only differs from the standard CAPM by recognising dividend imputation, and is commonly used in Australia. This use encompasses standard regulatory practice by the various regulatory bodies at the national and state levels. Although other models reflecting dividend imputation preceded Officer, these models treat the issue as a personal tax matter. The Officer CAPM, however, treats dividend imputation as reducing company tax rather than the cost of equity capital. In the Officer CAPM, the return on equity is:

$$(4) \quad \hat{k}_e = R_f + (\hat{k}_m - R_f)\beta_e,$$

where \hat{k}_e and \hat{k}_m are the expected returns on equity and the Australian market portfolio respectively, with dividends defined *inclusive* of imputation credits to the extent that they are usable, R_f is the risk-free rate, and β_e is the firm's equity beta. The return on equity in the Officer CAPM differs from the return on equity in the standard CAPM only in the definition of dividends, ie in the former, they include imputation credits to the extent that they are usable. Further, since the Officer CAPM is a domestic version, the equity beta and market risk premium are measured relative to the Australian market portfolio.

The Lally CAPMs

The Officer CAPM assumes that capital gains and interest income are equally taxed. Lally submits that the Officer CAPM's exclusion of the differential taxation of capital gains and interest income is unrealistic given the current tax environment in Australia.

As a consequence, Lally submits that the Officer CAPM's failure to recognise the differential treatment of capital gains results in a systematic bias in estimating the cost of equity capital for regulated businesses. Lally argues that, in general, this bias is likely to *understate* the cost of equity capital by up to one percentage point.

To address this failing, Lally proposes that the Officer CAPM be set aside and replaced with one of two alternatives, namely: the Lally-van Zijl CAPM; or the Brennan-Lally CAPM.

The two Lally models differ from the standard CAPM by recognising both dividend imputation and the differential taxation of capital gains and interest income, and they differ from the Officer CAPM by recognising the latter. The difference between the Lally-van Zijl CAPM and the Brennan-Lally CAPM is a matter of form rather than substance – the former defines returns inclusive of imputation credits (consistent with the Officer definition), while the latter defines returns to exclude imputation credits. In the Brennan-Lally CAPM, the effect of dividend imputation is to reduce the personal tax rate on cash dividends rather than the company tax rate. As a consequence, the Lally-van Zijl CAPM may be relatively more appealing because its definition of returns is consistent with the Officer version. Lally, however, recommends the (simplified) Brennan-Lally Model because it is considerably less complex to implement.

The Lally-van Zijl CAPM

Lally and van Zijl (2003) extend the Officer CAPM to admit the differential taxation of capital gains and interest. For comparison to the Officer version, the return on equity in the Lally-van Zijl CAPM is:

$$(5) \quad \hat{k}_e = R_f + (\hat{k}_m - R_f)\beta_e + \Delta,$$

where:

$$(6) \quad \Delta = T \left\{ D \left(1 + U \frac{IC}{DIV} \right) - R_f + \beta_e \left[R_f - D_m \left(1 + U \frac{IC_m}{DIV_m} \right) \right] \right\}.$$

The cost of equity capital, \hat{k}_e , is defined consistent with the Officer CAPM (ie returns are defined to include imputation credits to the extent that they are usable), although it now differs from the cost of equity in the Officer version by ‘ Δ ’. The Officer CAPM, therefore, is a special case of the Lally-van Zijl CAPM, and Lally believes that it better represents the Australian tax environment.

In the model: T is a measure of the extent to which capital gains are taxed less heavily than interest; D and D_m are the firm and market’s cash dividend yields (respectively); and IC/DIV and IC_m/DIV_m are the ratios of attached imputation credits to dividends paid with regard to the firm and the market portfolio (respectively).

Clearly, this CAPM is more complex than the Officer CAPM, and it requires the estimation of several additional parameters relative to the Officer version. The critical, additional parameter is T . Lally submits that a reasonable estimate for this parameter is about 0.23, based on a set of assumptions on: the relevant investor set (ie types of investors holding Australian equities, eg individuals, superannuation funds, foreigners, etc.); the value weight of these investor types in the market; and estimates of their tax rates on both ordinary income and capital gains.

A key assumption in deriving this estimate of T is the average tax rate on ordinary income for individuals. Lally submits that a reasonable estimate for this parameter is 0.35, based on the fact that the top marginal tax rate in Australia is 0.47 but that many individuals actually pay lower rates due to the progressive scale or income-splitting. Lally further submits that a value of 0.35 (and, therefore, a value of 0.23 for the capital gains parameter) is conservative, based on an assessment of this parameter value in the New Zealand context (0.33) and the observations that the ordinary tax rates for individuals in Australia tend to be higher than in New Zealand for the same income level (at least in respect of the higher income levels), and that Australian incomes tend to be higher than for New Zealand.⁴²

The Brennan-Lally CAPM

Given the complexity of the Lally-van Zijl CAPM, Lally offers the Brennan-Lally CAPM as an alternative because its structure allows for some simplifying assumptions. The Brennan-Lally CAPM is a different class of CAPM in that, unlike the Officer and Lally-van Zijl CAPMs, it defines returns to exclude imputation credits. The implication is that the effect of dividend imputation is to reduce the personal tax rate on cash dividends rather than the company tax rate. This difference from the other models, however, is purely a matter of form, not substance, and the general version of the Brennan-Lally CAPM is equivalent to eq. (5), after taking account of the different definition of investor returns. The return on equity, excluding imputation credits, (k_e) is:

$$(7) \quad k_e = R_f(1 - T) + DT_d + [k_m - R_f(1 - T) - D_m T_m] \beta_e,$$

⁴² See Lally and Marsden (2004) for the relevant assessment.

where the new parameters are T_d and T_m . T_d is a parameter reflecting the extent to which cash dividends are taxed more heavily than capital gains, and T_m is its market counterpart. Lally submits that estimates of these two parameters are very close to zero, which leads to the possibility of actually setting them to zero to significantly simplify the CAPM:

$$(8) \quad k_e = R_f(1 - T) + [k_m - R_f(1 - T)]\beta_e.$$

Eq. (8) is the simplified Brennan-Lally CAPM, and it involves estimating only one potentially controversial parameter, T , which again, is the measure of the extent to which capital gains are taxed less heavily than interest. The parameter, ‘gamma’, does not appear in the model since dividend imputation reduces the personal tax rate on cash dividends, as opposed to the company tax rate, ie the company tax rate in the firm’s cash flows is not adjusted.

Synopsis of Stakeholder Views

The Authority received a wide range of comments from stakeholders in relation to Lally’s proposal to replace the Officer CAPM with the Brennan-Lally CAPM for regulatory decision-making. Only Fitzroy River Water unequivocally embraced the Brennan-Lally CAPM. While supporting the retention of the Officer CAPM, Envestra acknowledges that capital gains and dividend imputation effects tend to offset each other and recognises that regulated revenues may be understated if the differential taxation of capital gains is not taken into account.

These views notwithstanding, the vast majority of stakeholders support retaining the Officer CAPM. The reasons for their choice of CAPM, as well as their general comments, fall broadly into four main areas:

- theoretical and technical issues;
- empirical evidence;
- parameter estimation and measurement issues; and
- practical considerations.

Stakeholder comments and Lally’s responses are set out in the following sections.

Theoretical and Technical Issues

Stakeholder Comments

Capital Research, the DBCT User Group, QR and Envestra all support retaining the Officer CAPM on the basis that they identified several theoretical and technical concerns regarding Lally’s proposed models.

Capital Research supports retaining the Officer model by submitting that the capital gains issue is largely irrelevant. Capital Research argues that a CAPM can be defined on the basis of investor returns being defined after company tax but before personal tax. If a tax effect, such as dividend imputation, causes an impact that crosses outside this tax ‘band’ then the CAPM must explicitly account for the tax effect, eg the Officer version modifies the standard CAPM to adjust for the effects of dividend imputation. However, since capital gains tax only affects after-tax returns *within* a tax band, the CAPM version does not need to change because such an effect is already implicitly reflected in the CAPM. As a result, Capital Research concludes that the Lally models unnecessarily modify the standard CAPM to address the capital gains issue (DBCT Management, sub. no. 31: 2-4).

The DBCT User Group submits that parameter estimation difficulties associated with the Lally models lead to Lally's assumption that the average shareholder's tax position is the basis for assessing market returns. The DBCT User Group argues that this assumption is incompatible with the fundamental principle of economics that the marginal investor sets prices (DBCT User Group, sub. no. 34: 3-5).

QR rejects the adoption of the Brennan-Lally CAPM on the basis that it effectively incorporates any tax differentials through input parameters that are based on market data; as a result, further adjustments to the Officer CAPM are unnecessary. Along similar lines, DNRME argues that the estimate of beta should capture the effect of the differential taxation of ordinary income and capital gains because the average investor's circumstances will be reflected in the firm's share price (DNRME, sub. no. 37: 2).

While Envestra acknowledges that regulated revenues may be understated if an adjustment for capital gains is not admissible, it submits that the Brennan-Lally CAPM is flawed. In particular, Envestra submits that it ignores dividend imputation and that the Lally models cannot reflect a situation in which capital gains tax is negative. To address these concerns, Envestra proposes that an allowance for the differential taxation of capital gains should be addressed by adjusting the value of gamma (Envestra, sub. no. 35: 16-17).

Finally, SunWater submits that incorporating the impact of capital gains on the cost of capital is not expected to be material (SunWater, sub. no. 29: 1).

Lally's Response

Lally rejects Capital Research's claim that the CAPM does not change 'within the band'. Using an example, he shows that changing the tax differential between capital gains and ordinary income must change the form of the CAPM. In such a tax environment, he argues that the Officer CAPM would yield a cost of capital estimate that is incorrect.

In response to QR and DNRME's argument that differential taxation issues are reflected in beta, Lally submits that this claim is incorrect because it confuses tax issues with risk issues.

In response to the DBCT User Group's claim that the Lally models must assume the tax position of an average investor, Lally responds that the models do not make this assumption. Rather, Lally submits that the relevance of the average investor tax position is simply a mathematical consequence of the Lally models and that the Officer CAPM shares this feature with them. In other words, the CAPM outcome reflects the interaction of all investors' tax positions in the market, not the position of only a single investor.

In response to Envestra's point that the Brennan-Lally CAPM excludes dividend imputation, Lally submits that Envestra has confused ignoring dividend imputation with his assumptions that the tax parameters, T_d and T_m , are close to zero and, as a consequence, are set to zero to simplify the model. Specifically, ignoring imputation is equivalent to setting the parameter, U , equal to zero, which would imply that both T_d and T_m are equal to T . In contrast, the Brennan-Lally CAPM sets $U = 1$; therefore, the model does not ignore dividend imputation.

In response to Envestra's argument that the Lally models do not address the possibility of a negative capital gains tax, Lally submits that they do not make this assumption; they assume that gains and losses are treated symmetrically.

In regard to Envestra's suggestion that the value of gamma should be adjusted to reflect the differential taxation of capital gains, Lally observes that such an adjustment is not possible since the parameter, gamma, relates to dividend imputation, not capital gains.

In response to SunWater's comment that the impact of the differential taxation of capital gains and interest is not expected to be material, Lally submits that failure to address this issue implies that the Officer CAPM understates the cost of equity by as much as one percentage point.

Empirical Evidence

Stakeholder Comments

Stakeholders also provided comments regarding the empirical basis of the Lally models.

The DBCT User Group, QR, Envestra and Queensland Treasury submit that Lally has not provided any empirical support for his proposed CAPM versions (DBCT User Group, sub. no. 34: 2-3; QR, sub. no. 23 : 1-2; Envestra, sub. no. 35: 7; Queensland Treasury, sub. no. 36: 6).

Several other stakeholders went a step further and questioned whether such models are actually supportable based on their reviews of empirical evidence. Specifically, Energex and Ergon submit that the empirical evidence does not support the predicted outcomes of the Lally-van Zijl and Brennan-Lally CAPMs. They discuss the findings of several U.S. studies that test the relationship between dividend yield and stock returns. In general, the conclusion from these studies is that investors do not require higher returns from high-yielding stocks. Energex and Ergon attribute this finding, in part, to the ability of traders, brokers and tax-exempt institutions to arbitrage any existing differential (Energex and Ergon Energy, sub. no. 25: 6).

In particular, they note that the Brennan-Lally CAPM is an extension of the original Brennan CAPM, which was developed in the context of a classical tax system. Specifically, the Brennan CAPM differs only from the standard CAPM in predicting that the cost of equity capital depends on dividend yield, as well as on systematic risk (beta). In the Brennan-Lally CAPM, the cost of equity capital depends on both of these factors, as well as on dividend imputation credits. Energex and Ergon submit that the most appropriate way to test the predictions of the Brennan CAPM is to ascertain whether actual stock returns, on average, depend on systematic risk and dividend yield. Given this criterion, they examine relevant studies that test this prediction and conclude that the empirical findings reject a relationship and that this lack of empirical support is the likely explanation for the Brennan CAPM's lack of use in practice. They observe that the Lally CAPMs simply include imputation credits as an additional explanatory factor and note that to date, there is no direct empirical evidence on the predictive power of these models. In the absence of any direct empirical evidence, they submit that the indirect empirical evidence points to a rejection of their predictive power (Energex and Ergon Energy, sub. no. 25: 5-8).

The DBCT User Group also reaches this conclusion based on a review of U.S. studies and generally notes the ambiguity in the finance literature with respect to support for a relationship between dividend yield and stock returns (DBCT User Group, sub. no. 34: 1-3).

Lally's Response

In response to Energex and Ergon, as well as the DBCT User Group, Lally contends that the empirical evidence cited, in general, does not actually reject the differential taxation of capital gains but is simply inconclusive in that the results generally support a wide range of possible values for the relevant parameter, including zero. Further, he points out that one of the studies actually supports the predicted outcomes of his models.

Lally further submits that these stakeholders have ignored the Australian empirical evidence on this issue to date and that this evidence points strongly to the significance of the differential treatment of capital gains. Specifically, he examines the results of Australian studies of ex

dividend day returns, in which the point estimates for the capital gains parameter are 0.17, 0.26, 0.36 and 0.38, with all of the confidence intervals being positive. He concludes that these results offer strong statistical evidence in favour of a positive and economically significant value for T , although he does acknowledge the methodological problems associated with ex dividend day studies. Lally further submits that the Australian evidence on this matter would have to be judged the most relevant in terms of establishing an empirical basis for his models.

Parameter Estimation and Measurement Issues

Stakeholder Comments

Energex and Ergon, Envestra, and the DBCT User Group submit that the Lally models are more complex than the industry standard CAPM and require estimating more input parameters. Energex and Ergon, as well as Envestra, further submit that estimating these additional parameters will increase the time and costs associated with regulatory reviews (Energex and Ergon Energy, sub. no. 25: 8-9; Envestra, sub. no. 35: 7; DBCT User Group, sub. no. 24: 1-2).

Stakeholders also raised more specific concerns relating to implementation. Energex and Ergon, as well as the DBCT User Group, contend that capital gains tax liabilities should be incorporated into the allowed regulatory cash flows, as opposed to the discount rate. Energex and Ergon offer no reason for their preference; however, the DBCT User Group submits that such an approach is more transparent (Energex and Ergon Energy, sub. no. 25: 9; DBCT User Group, sub. no. 24: 3).

The DBCT User Group also submits that the Lally recommendations seek to identify the tax conditions applying to investors comprising a specific company and note that this approach is problematic in practice (DBCT User Group, sub. no. 24: 1-2).

Lally's Response

Lally agrees that the Lally-van Zijl CAPM is more complex to implement than the Officer CAPM but submits that it better captures the relevant Australian tax environment. Lally also notes that some of the additional complexity arises due to the additional parameters required to calculate the adjustment to the Officer market risk premium but that the premium would not require re-estimation at each regulatory review. Due to the additional complexity, however, Lally offers the (simplified) Brennan-Lally CAPM as an alternative.

Lally observes that the Brennan-Lally CAPM requires only one additional parameter than the standard CAPM (ie the differential taxation of capital gains parameter (T)), while the Officer version requires two additional parameters (ie the utilisation rate of imputation credits and the imputation credits to tax ratio). Lally argues that the capital gains tax parameter is not particularly difficult to estimate and that the estimate is supported indirectly by examining the results from ex-dividend day studies.

He further notes that in the Australian regulatory context, arguments over the appropriate value for the utilisation rate implicit in gamma are highly contentious and proposed estimates are diametrically opposed. In contrast, he reports that in the New Zealand regulatory context (which employs the Brennan-Lally CAPM), the only discussion is whether the estimate of the capital gains parameter should be 0.33 or 0.28. In summary, Lally argues that the Brennan-Lally CAPM is simpler, and if avoiding contentious estimation problems is important in the regulatory process, then the Brennan-Lally CAPM is likely to be preferable to the Officer CAPM.

In response to the argument that capital gains tax liabilities should be reflected in the underlying cash flows as opposed to the discount rate, Lally submits that the two approaches are equivalent because the cash flow adjustment derives from the discount rate adjustment. However, he notes that a cash flow adjustment is significantly more complex because capital gains taxes vary across investors and capturing this feature for a cash flow adjustment would require an assessment of how capital gains tax impacts after-tax returns.

Lally rejects the DBCT User Group's argument that the Lally CAPMs reflect the composition of shareholders across companies. Lally submits that the parameters T and U do not vary across companies.

Practical and Other Considerations

Stakeholder Comments

Stakeholders made three criticisms of the use of the Lally models in a regulatory context on the basis of practical considerations.

First, Queensland Treasury submits that the Officer model is preferable because it is known and accepted.⁴³ Also, QR and the DBCT User Group observe that the Officer CAPM has the benefit of acceptance by Australian regulators. The DBCT User Group notes that retaining the Officer version will provide reassurance to stakeholders that cost of capital parameters adopted by the Authority for regulatory purposes are directly comparable to parameters used by other regulators. In addition, Energex, Ergon and Envestra submit that no evidence exists that any commercial entity in Australia currently applies either of the Lally models. Specifically, Energex and Ergon cite a survey of 400 leading chief financial officers, finding that approximately 75% of them use the standard CAPM to calculate the cost of equity capital and none use the Brennan-Lally CAPM or any other after-tax CAPM (Queensland Treasury, sub. no. 36: 6; QR, sub. no. 23: 2; DBCT User Group, sub. no. 24: 2; Energex and Ergon Energy, sub. no. 25: 8; Envestra, sub. no. 35: 7).

Second, the DBCT User Group and QR believe that there is a benefit from applying a relatively accessible CAPM version. SEQWater makes the point that the current (Officer) approach strikes a balance between technical merit and accessibility and that any additional complexity is not warranted due to the inherent subjectivity of the cost of capital calculation (DBCT User Group, sub. no. 24: 2; QR, sub. no. 23: 2; SEQWater, sub. no. 21: 1-2).

Third, Energex, Ergon, and the QRC submit that since the standard CAPM is the industry standard for calculating the cost of capital, it should not be replaced unless the proposed alternative is demonstrably superior. Envestra and DBCT Management note that no Australian regulator currently uses either of the Lally models. DBCT Management further observes that the adoption of either Lally model would mark a substantial departure from current regulatory practice in Australia. As a consequence, DBCT Management believes there is a strong case for either retaining the Officer model until regulators develop a consensus on this issue over time or adopting the Lally recommendations in full. If the Officer model is retained, then DBCT Management advocates selecting parameter values at the top end of a reasonable range (Energex and Ergon Energy, sub. no. 25: 8; QRC, sub. no. 33: 2; Envestra, sub. no. 35: 7; DBCT Management, sub. no. 30: 2-3, 13).

⁴³The Treasury submission includes detailed comments by Queensland Treasury Corporation. Queensland Treasury's submission is supported by Queensland Transport and the Department of State Development and Innovation.

Lally's Response

Lally acknowledges the point that no regulatory body in Australia currently employs either the Lally-van Zijl or the Brennan-Lally CAPM. However, he observes that no progress on these important issues is possible if precedent is binding. He further notes that the Brennan-Lally CAPM is widely used in New Zealand, specifically by government agencies, regulatory bodies and most corporate advisory entities.

Authority's Analysis

Theoretical and Technical Assessment

The Authority considers that the Lally CAPMs have theoretical merits in that they recognise both dividend imputation and the differential taxation of capital gains. Since the Officer CAPM only recognises the former tax issue, the Lally CAPMs are both more general models. In particular, the Officer CAPM is a special case of the Lally-van Zijl CAPM. The theoretical superiority and generality of the Lally models relative to the Officer CAPM suggest that there is merit in adopting one of the models. This issue involves examining the empirical evidence to date.

Empirical Assessment

In examining the empirical evidence, the Authority considers that the key issue is whether such evidence supports the prediction of the Lally models. There are two aspects to this evidence: the estimate of, and statistical support for, the capital gains parameter (T); and direct tests of the proposed models or sufficiently related models.

The first aspect of the empirical question is Lally's calculated value for T and the statistical support for such an effect. Lally calculates a value of 0.23 for the capital gains parameter, T , using a number of assumptions. A key assumption is that the average tax rate on ordinary income for individuals is 0.35. He bases this estimate on an actual assessment of the parameter in the New Zealand context, coupled with several observations about the ordinary tax rates of individuals in Australia, relative to those in New Zealand. The estimate, however, is not based on an actual study of the parameter in the Australian context. Although the Authority considers that Lally makes sound arguments that the assumption of 0.35 for the average tax rate on ordinary income (and therefore 0.23 for the estimate of T) is reasonable, the Authority's view is that a full assessment of the average tax rate on ordinary income in the Australian context would be preferable for estimating the capital gains parameter, T .

With regard to statistical evidence of this effect, Energex and Ergon cite several U.S. studies that investigate this issue by examining either cross-sectional evidence of the relationship between dividend yield and expected return or the evidence from dividend ex-day returns. Contrary to their claim that this evidence largely rejects the proposition that dividend yield affects expected return, the Authority's view is that the evidence, on balance, appears to be largely inconclusive. In addition, Lally argues that the results are consistent with a wide range of possible values for this parameter, including zero, and notes that one of the studies actually supports a positive value.

Further, in reviewing the Australian evidence on this issue, Lally examines Australian studies of ex dividend day returns, in which the point estimates of T are 0.17, 0.26, 0.36 and 0.38, and all of the confidence intervals are positive. The results offer statistical evidence in favour of a positive and statistically significant value for T . However, while these results are suggestive, the Authority notes the acknowledged weaknesses of this type of study: foreign investors may affect the estimate; the results may be explained by a number of other factors, including

microstructure explanations; and the possibility that arbitrageur activities, such as buying immediately before (and selling immediately after) the ex-day, affect the value. As a consequence, the Authority considers that caution in interpreting these results is warranted.

The second aspect of evaluating the empirical evidence relates to direct tests of the Lally models or of closely related models. As far as the Authority is aware, neither of the Lally CAPMs has been subject to direct empirical testing. However, there exists a number of direct tests of the Brennan CAPM, which possesses the basic analytical framework for the Lally CAPMs. In particular, the Authority notes that the relationship between the Lally-van Zijl CAPM and the Officer CAPM parallels the relationship between the Brennan CAPM and the standard CAPM. The fact that direct empirical tests of the Brennan CAPM have, in general, not supported a capital gains effect brings into question whether one of the Lally models would pass the test of adding explanatory power to the Officer CAPM.

In recognising the importance of empirical testing as a decision criterion in selecting a CAPM version, the Authority acknowledges that it currently uses the Officer CAPM even though it is also the case that the Officer CAPM has not been subject to the same type of direct testing. The Authority notes, however, that Faff, Hillier and Wood (2000) test an imputation-adjusted CAPM, and the results imply that imputation credits have an effect on investors' required returns. Although it is not a direct test of the Officer CAPM itself, the results are evidence of an effect from dividend imputation. In light of this evidence, the Authority's view is that further testing is required to support the Lally CAPMs in order to justify these models on an empirical basis.

Parameter Estimation Assessment

The Authority accepts that the Lally-van Zijl CAPM is more complex than the Officer CAPM with respect to the additional parameter estimates required. In contrast to some stakeholder comments, the Authority considers that the Brennan-Lally CAPM is probably comparable to the Officer CAPM with regard to the parameter estimates required. However, the value for the capital gains parameter, T , has the potential to be controversial. Whether values for this parameter would be as controversial as the debates over the appropriate value for gamma is unclear. Given that the value for this parameter would require further research in the context of an Australian-specific study, the Authority's view is that the Lally CAPMs are unlikely to have an advantage over the Officer CAPM with respect to parameter estimation.

Practical Assessment

Stakeholders identified three issues in this area. First, some stakeholders submitted that the Officer CAPM should be retained as it is known and accepted. The Authority's view is that, while familiarity with the Officer CAPM is a consideration, this reason alone is insufficient to retain its use if a demonstrably superior alternative is available. Second, some stakeholders favour retaining the Officer CAPM on the basis that it is accessible, by striking a balance between technical merit and transparency. The Authority acknowledges that the Officer CAPM is likely to be more accessible than the Lally-van Zijl CAPM, simply due to the complexity of the latter. However, the Authority notes that the accessibility largely follows from experience in using a model over time. Therefore, in the context of the Brennan-Lally CAPM, the Authority is not convinced that the Brennan-Lally CAPM would be less accessible than the Officer CAPM given an appropriate transition period. The Authority, however, acknowledges that the recognition and understanding of the capital gains issue would introduce a considerable learning curve for both regulators and regulated firms. Finally, the Authority agrees with stakeholders that it would be preferable to achieve a convergence of views about an appropriate model over time.

Overall Assessment

The Authority's view is that the Lally CAPMs, are technically superior to the Officer CAPM. A key consideration, however, is whether the additional generality actually adds explanatory power to the models with respect to required investor returns. The Authority's view on the empirical evidence is that the verdict is still out on whether the Lally CAPMs actually provide additional explanatory power with respect to required investor returns. The Authority considers that with respect to parameter estimation issues, the Brennan-Lally CAPM input requirements are approximately commensurate to the Officer CAPM requirements. Finally, with respect to practical considerations, the Authority's view is that adopting the Lally CAPMs would introduce a substantial learning curve for both the regulator and regulated firms.

Taking all of these considerations into account, the Authority's view is that, on balance, the case for the Lally CAPMs is not proven at this time. However, the Authority believes that there is significant merit to this line of research and accordingly, will monitor it for future developments. In conclusion, the Authority will retain the Officer CAPM version.

A1.6 Gamma

The primary tax parameter that arises in the Officer Model is 'gamma (γ),' which is the value of dividend imputation credits to shareholders to the extent that they are usable. Formally, gamma is defined as the product of two elements, the utilisation rate of imputation credits (U) and the ratio of imputation credits to company tax paid (IC/Tax). The value of gamma ranges between zero and one (inclusive) and can be recognised in the cost of capital model through either an adjustment to the regulated firm's cash flows or to the discount rate. There is an inverse relationship between the gamma parameter value and regulated prices; that is, the closer gamma is to one the lower is the regulated price, all else equal.

To date, the Authority has employed a value for gamma of 0.50, which comprises a value of 0.625 for the utilisation rate and 0.80 for the imputation credits to tax paid ratio. The Authority models the impact of gamma in the firm's cash flows.

Utilisation Rate

Lally's View

Lally defines the utilisation rate (U) as a weighted average across the dividend imputation utilisation rates of all investors in the economy, not only those investors holding equity in the particular firm of interest.

Lally reviews several different approaches to estimating the value of the utilisation rate. The first approach uses empirical estimates from examining either ex-dividend day returns or the proportion of imputation credits attached to dividends that are redeemed against investor tax liabilities. Lally notes that the typical estimate drawn from these studies is about 0.60. Lally further notes that this estimate reflects the presence of foreign investors, who cannot utilise the credits.

The second approach ignores foreign investors entirely, on the basis that the Officer CAPM assumes national equity markets are completely segregated. Given this assumption, Lally submits that consistency requires that the utilisation rate be estimated on the basis that all investors in Australian equities are Australians. Lally rejects arguments, largely by owners of regulated assets, that the impact of foreign investors should be recognised when estimating the value of gamma on the basis that it is a form of "cherry-picking". He argues that if the model recognises foreigners only with regard to this parameter then the effect would likely be to raise

output prices when, in contrast, the overall effect of internationalisation, modelled by using an ICAPM, would be to lower the output price relative to the current level.

Therefore, excluding foreigners and taking into account recent empirical evidence on the proportion of imputation credits redeemed by Australian investors against tax liabilities, Lally estimates the utilisation rate close, or equal, to one. This value differs from the Authority's current estimate of 0.625.

Stakeholder Comments

Stakeholders advanced five principal considerations for determining an appropriate value for the utilisation rate:

- identity of the marginal investor;
- empirical evidence;
- tax status of individual businesses;
- assessment of beta; and
- regulatory precedent.

First, Energex, Ergon and Envestra make the point that the 'marginal' investor is relevant in setting prices. In particular, Energex and Ergon submit that for a number of large Australian companies with substantial foreign ownership, imputation credits are effectively worthless to the 'marginal' investor. The implication is that the utilisation rate should be zero. The background of this argument is as follows. Evidence suggests that foreign ownership of Australian equities is substantial in Australia. Foreigners will only provide funds if they receive their required return, which consists of dividends and capital gains, since they cannot utilise any attached imputation credits. On the other hand, Australian domestic investors can utilise the credits and therefore receive a return that exceeds their requirement. The foreigner, therefore, is the marginal investor because he is the last to contribute funds to the firm (Energex and Ergon Energy, sub. no. 25: 10-13).

Second, stakeholders made several comments on the empirical basis for estimating the utilisation rate.

Energex and Ergon submit that the value of imputation credits to the marginal investor is ultimately an empirical issue and review the evidence on this question. They first submit that the empirical basis for setting gamma to its current value of 0.50 relies on evidence with questionable results. The primary finding of their review is that studies to date on the value of imputation credits contain methodological problems and/or results that are either statistically unreliable or inconclusive (Energex and Ergon Energy, sub. no. 25: 13-19).

Energex and Ergon also refer to recent empirical research by Cannavan et al (2004) that attempts to estimate a value for the utilisation rate based on options pricing theory. The findings of this study indicate that the value of imputation credits is, on average, substantially less than the commonly adopted 0.50 by regulators. Energex and Ergon submit that these results show that imputation credits are worthless to the marginal investor for large Australian companies with significant foreign ownership, at least since the introduction of the 45-day holding period rule (Energex and Ergon Energy, sub. no. 25: 17-18).

Envestra agrees that the value of gamma should be less than 0.50 as a result of the significant holding of Australian shares by foreign investors (who cannot utilise the attached imputation

credits) and the recent tax law changes limiting the transfer of imputation credits (Envestra, sub. no. 35: 18-19).

QR submits that the Hathaway and Officer (1995) study is an appropriate methodology for determining gamma and that its use should lead to a low value for QR (QR, sub. no. 23: 2-3).

Capital Research submits that imputation credits can never be worth 100% of their full value due to the time value of money discount arising from the delay between companies attaching imputation credits to dividends and shareholders actually receiving their benefits. They also submit that the utilisation rate varies across companies and is a function of the shareholder mix of a particular company. Finally, they submit that their empirical findings show that the national average of the utilisation rate across companies is about 42%, based on total credits redeemed against total credits issued (DBCT Management, sub. no. 31: 7-8).

Third, Treasury and SEQWater submit that gamma should be zero for government-owned corporations because the government owner is unable to obtain the tax benefits from dividend imputation. In a similar vein, Envestra notes that not all firms pay tax and are, therefore, unable to utilise imputation credits (SEQWater, sub. no. 21: 1; Queensland Treasury, sub. no. 36: 2, 7; Envestra, sub. no. 35: 18).

Fourth, the DNRME submits that the average utilisation of imputation credits should be fully reflected in the share prices of traded companies. As a result, the estimated beta should already reflect the average investor's ability to utilise the imputation credits (DNRME, sub. no. 37: 2).

Fifth, DBCT Management favours retaining a value for gamma of 0.50, consistent with established regulatory practice, given the current controversy and conflicting evidence surrounding the issue (DBCT Management, sub. no. 30: 6).

Lally's Response

Lally notes that the marginal investor argument provides in principle support for a company-specific value of the utilisation rate. However, Lally submits that the utilisation rate, arising in the mathematical derivation of the Officer CAPM, averages over the rates of all investors in the market. Therefore, company-specific values for the utilisation rate are inadmissible in this model. On this basis, he rejects the marginal investor arguments tendered by Energex, Ergon and Envestra.

In response to Energex and Ergon's empirical findings, Lally first submits that their criticisms of earlier empirical studies are overstated. Second, he argues that regardless of the validity of the Cannavan et al (2004) findings, the empirical estimates are inconsistent with the Officer CAPM because they are company-specific estimates. Lally, therefore, concludes that any value other than one is inconsistent with the Officer CAPM because it is a domestic CAPM.

Lally notes that a number of stakeholders have presented arguments with reference to gamma but which should have referred to the utilisation rate instead.

In response to the tax status argument, Lally submits that the assumption that the utilisation rate should be zero due to the tax status of a firm's shareholders presumes that the utilisation rate is a company-specific parameter. For the same reasons noted above, the parameter is not company-specific but market-wide. Further, since very few investors are tax-exempt, the value for this parameter should be close to one.

In response to QR's preference for the Hathaway and Officer (1995) methodology for estimating the utilisation rate, Lally remarks that this methodology predicts values substantially

less than one due to the impact of foreign investors on the estimate. He notes that such values are inconsistent with the Officer CAPM.

Lally accepts Capital Research's point regarding the delay in investors receiving the tax benefits from imputation credits, but observes that the resulting discount to the utilisation rate would be slight. In regard to their second point, that the utilisation rate varies across companies, Lally again notes that company-specific values are inconsistent with the Officer CAPM. In relation to the third point, that the national average of the utilisation rate across companies is about 42%, Lally observes that this estimation approach reflects the presence of foreign investors and is inconsistent with the Officer CAPM. Lally further notes that the effect of recognising foreigners only with respect to the utilisation rate and not in the choice of CAPM is likely to raise the cost of equity capital. This result is the opposite of what would be expected to occur; that is, internationalisation, modelled by using an ICAPM, would lower output prices relative to their current level.

In response to the issue of beta capturing the effects of imputation credit utilisation, Lally submits that this argument is incorrect because it confuses taxation issues with risk issues.

Ratio of Imputation Credits to Tax Paid

Lally's View

Lally submits that the ratio of imputation credits to tax paid is firm-specific within the context of the Officer Model. This ratio changes from firm to firm due to variations in Australian company tax and cash dividends relative to Australia-sourced profits across firms.

Lally advises that the Authority's current methodology, which defines 'gamma' as the product of the utilisation rate and the proportion of fully franked dividends, is in error because the proportion of fully franked dividends is not equal to the ratio of imputation credits to tax paid.

In determining an appropriate estimate for this parameter, Lally advises against using the regulated firm's actual ratio on the basis that, *inter alia*, it increases the computational burden to the regulator and potentially creates controversy. Instead, as a compromise, he recommends using the relevant industry average. His examination of the Australian market average, based on the ratios of the eight largest listed firms, indicates that this ratio is at, or close to, one. Lally, therefore, concludes that based on this sample, the ratio should be at, or close to, one for firms in most industries.

This value differs from the Authority's current estimate of 0.80.

Stakeholder Comments

Based on Australian Tax Office statistics, Capital Research and Envestra dispute Lally's estimate of one for this parameter. Capital Research submits that the average for Australian companies from 1988-2001 is 72% (DBCT Management, sub. no. 31: 4-9). Envestra suggests that some companies retain imputation credits for future use, which implies a lower value for this parameter (Envestra, sub. no. 35: 18).

Lally's Response

Lally submits that both Capital Research and Envestra have confused the ratio of imputation credits to tax paid with the proportion of dividends that are fully franked, thereby invalidating their conclusions on the appropriate estimate for this parameter.

In response to Envestra's observation that some companies may retain imputation credits for distribution in future years, Lally submits that the only situation in which retaining the credits would be rational is if a firm had reached its maximum attachment rate. Given that the value of imputation credits to tax paid cannot exceed one, this situation actually reinforces a value of one, as opposed to some other value, for this parameter.

Evaluation of Gamma

The Authority accepts Lally's point that 'gamma' is the product of the utilisation rate of imputation credits and the ratio of imputation credits to company tax paid. The Authority also notes that the vast majority of arguments relating to an appropriate value of gamma are actually arguments about the appropriate value for the utilisation rate. With this distinction in mind, the Authority addresses, in turn, arguments for the value of each parameter.

Authority's Analysis

Utilisation Rate

The Authority does not dispute that there are a number of plausible arguments, both theoretical and empirical, for determining an appropriate value for the utilisation rate of imputation credits. First, in regard to the identity of the marginal investor, the Authority agrees with Lally that the purpose of this argument is to make a case for a company-specific value of this parameter. For example, stakeholders, such as Energex and Ergon, cite the Cannavan et al (2004) results to suggest that "for a large number of Australian companies with significant foreign ownership, imputation credits are effectively worthless to the marginal investor..." (Energex and Ergon Energy, sub. no. 25: 18). Lally, however, observes that the utilisation rate that arises from the mathematical derivation of the Officer CAPM is not a company-specific, but a market-wide, parameter. The Authority's view, therefore, is that regardless of the theoretical merits of the marginal investor argument, it is simply not relevant for determining a value of the utilisation rate that is consistent with the Officer CAPM.

By the same reasoning, the Authority rejects the view that the utilisation rate should be zero as a result of the tax status of a regulated firm's shareholders. This argument also presumes that the utilisation rate is company-specific, which is inconsistent with the derivation of this parameter in the Officer CAPM.

With respect to empirical evidence for the value of the utilisation rate, the Authority first observes that the Officer CAPM is a domestic, not an international, CAPM. As a consequence, it must be recognised that since the utilisation rate is an input to a domestic model, any empirical estimates of this parameter must be determined within a domestic context for consistency. The Authority considers that to recognise the impact of foreigners on empirical estimates of gamma, but not on the other principal parameters of the model, ie beta and the market risk premium, is likely to result in a higher allowed output price. In contrast, full internationalisation within an ICAPM would likely have the opposite effect, ie decrease the allowed price, because the impact of measuring beta and the market risk premium against a world portfolio would likely outweigh any benefit to the firm from a lower value of gamma. Lally's view is that empirical arguments for a low value of gamma that ignore the impact of foreigners on other parameters in the model represent a form of cherry-picking and should be rejected. The Authority concurs with this view.

The Authority has no objection to applying empirical approaches for estimating the utilisation rate. However, the Authority's view is that, as a matter of principle, parameter estimates must be consistent with the choice of model. Since the Officer CAPM is a domestic version, estimates of the utilisation rate that reflect the presence of foreign investors are inconsistent

with the model. The Authority, therefore, considers that any estimates, in the context of the Officer CAPM, must necessarily exclude foreigners. The implication that follows from applying this consistency principle is that the value of the utilisation rate should be close, or equal, to one, given that very few investors are tax-exempt.

The Authority's view is that Lally makes a strong case that the value of the utilisation rate in the context of the Officer CAPM should be one for consistency with the domestic framework of the model. The Authority, however, acknowledges that in regulatory practice to date, values of 0.50 to .60 have been employed, in part, based on an ad hoc recognition of foreign investors and on the basis of achieving compromise over a controversial issue.

Taking all of the aforementioned points into account, the Authority considers that employing a value of one to achieve consistency in the current context would only be appropriate if the CAPM version also recognises the differential taxation of capital gains, which generally has the opposite impact on allowed revenues for regulated firms. Given that the Authority has decided to retain the Officer CAPM, the Authority considers that no change in the value of the utilisation rate is warranted at this time. The Authority maintains that the choice of asset pricing model for determining the required return on equity capital should be kept open to future review in light of new theoretical and empirical research.

Ratio of Imputation Credits to Company Tax Paid

The Authority acknowledges that the ratio of imputation tax credits to company tax paid is likely to be closer to one than to the current value of 0.80, depending on the relevant industry. Increasing the value of this ratio would increase the value of gamma, resulting in a decrease in the revenues of the regulated firm, all else being equal. As stated previously, the Authority considers that such a change is not appropriate at this time in view of the failure of the Officer model to recognise capital gains, which would, in general, increase the revenues of regulated firms. The Authority, therefore, will retain a value of 0.80 for the ratio of imputation credits to company tax paid.

In conclusion, the Authority will retain a value of gamma of 0.50 in the context of the Officer WACC3 model.

A1.7 Risk-free Rate

Determining the return on equity in the CAPM requires a risk-free rate. The risk-free rate is the rate of return on an asset with zero default risk. In setting the risk-free rate, there are three important issues to consider:

- choice of proxy instrument;
- measurement period; and
- term of the risk-free rate.

To date, the Authority has benchmarked the risk-free rate with reference to a 10-year Commonwealth government bond and averaged the rate over the twenty days preceding the start of the regulatory cycle.

Choice of Proxy Instrument

In practice, a truly risk-free rate does not exist; however, domestic government debt (at least in economically developed countries such as Australia) serves as a close proxy.

Lally submits that the yield on government bonds is typically used to proxy the risk-free rate. Although such bonds have some probability of default, Lally notes that the Australian government has never defaulted on its debts, and any allowance for default would be sufficiently small such that it may be disregarded. On this basis, Lally supports the use of an Australian government bond as a proxy instrument for determining the risk-free rate.

No stakeholders object to the Authority's continued use of a Commonwealth government bond as the proxy for the risk-free rate.

Measurement Period

For purposes of measuring the risk-free rate, it is possible to use either an 'on-the-day' rate or some type of average over a longer period. The on-the-day rate is, in principle, a superior measure because it reflects the most current market information. However, this rate may be subject to several drawbacks. As a consequence, an average over a number of trading days (typically twenty or forty) preceding the commencement of the regulatory cycle is commonly applied by Australian regulators.

Lally's View

Lally notes that while an on-the-day rate offers the most current information, it possesses three potential drawbacks:

- it exposes producers and consumers to aberrant transactions on the specified date;
- it invites manipulation of the rate in the interest of maximising the allowed output price; and
- to the extent that a single day rate leads regulated businesses to borrow or hedge on that day, it exposes them to potential collusive behaviour by lenders.

Lally, therefore, recommends using an average over twenty trading days on the basis that it helps mitigate these potential difficulties and represents a compromise between invoking the most current data available and addressing these problems. This view is consistent with the Authority's current approach.

Stakeholder Comments

DBCT Management has no objection to the continued use of a 20-day averaging period for measuring the risk-free rate (DBCT Management, sub. no. 30: 7).

DNRME suggests that, consistent with the use of a long-term bond to proxy the risk-free rate, the relevant averaging period should also be 'long-term', although it does not suggest a period. (DNRME, sub. no.37: 2)

Queensland Treasury (Treasury) expresses two basic concerns with the use of a 20-day averaging period for the risk-free rate.⁴⁴

First, Treasury argues that the 20-day average is too short and as a consequence, it results in debt management practices that are imprudent and imposes additional risks on regulated businesses for which the regulatory regime does not provide compensation. Specifically, Treasury submits that refinancing over such a short period may be imprudent because the

⁴⁴The Treasury submission includes detailed comments by Queensland Treasury Corporation on the risk-free rate and the cost of debt.

limited supply of physical bonds maturing close to regulatory reset dates may lead to financial markets increasing the price of funds and/or imposing costs on other parties sourcing funds from the same part of the yield curve. Treasury acknowledges that such risks can be managed through the use of swap contracts but notes that such a strategy results in additional costs and risks not necessarily reflected in the cost of debt (Queensland Treasury, sub. no. 36: 5).

Second, Treasury submits that setting the risk-free rate at the beginning of the regulatory cycle creates inefficient incentives for new investment, ie capital expenditure, during the cycle. In particular, for new capital expenditure during the cycle that is at least partially funded by debt, the business is exposed to the possibility that the prevailing interest rate at the time of the expenditure exceeds the regulatory cost of debt. Although a hedging strategy is possible to mitigate such risks, Treasury argues that such a solution is difficult because the timing and amount of any requirements are not known with certainty at the start of the cycle. Treasury recognises that these uncertainties can be hedged with products such as options but claims that these hedging strategies are cost-prohibitive (Queensland Treasury, sub. no. 36: 5-6).

Although superior to more short term measures, Treasury offers two alternatives: i) more frequent reviewing of the risk-free rate to monitor movements in the rate and updating it on a periodic basis or in the event of a significant change; or ii) an adjustment to the cash flows of regulated businesses, eg a margin added to the cost of debt, for uncontrollable changes in the risk-free rate during the regulatory cycle (Queensland Treasury, sub. no. 36: 6).

Lally's Response

In addressing QTC's concern, Lally submits that a fundamental principle of regulation is that the regulated firm's expected future cash flows should match the initial investment. The implication is that the bond rate applied to determining the output price should be current (ie the rate applied to set the output price should match the interest rate used in valuing the future cash flows, resulting in the value of those cash flows equalling the initial investment). Lally notes that, in contrast, if the interest rate applied to set the output price is a cyclical average, then the present value of the future cash flows will not, in general, equal the initial investment, exposing regulated firms to uncontrollable risk.

In response to Treasury's second concern regarding interest rate risks associated with capital expenditure, Lally makes the point that the issue raised is much more general, in that there is a whole range of costs that may differ from those expected at the beginning of the regulatory cycle. Lally's view is that reimbursing the regulated firm for these costs would effectively mimic a cost-plus regulatory approach, and for this reason, he does not recommend doing so.

For the same conceptual reason, Lally also rejects Treasury's two proposed solutions. Updating the risk-free rate when significant interest rate changes occur and/or adjusting the cash flows or discount rate for shifts in the cost of debt are effectively cost-plus approaches to regulation and, therefore, are incompatible with the concept of an incentive regime over a regulatory cycle.

Term of the Risk-free Rate

The 'term' refers to the appropriate maturity of bond for benchmarking the risk-free rate. Recent debate on this issue has typically focused on whether the maturity of the risk-free rate should be set with reference to the life of the investment or the length of the regulatory cycle.

Lally's View

Lally's view is that regulatory decisions must be subject to the principle that the net present value of the future cash flows resulting from those decisions should equal the initial investment

by the regulated firm. Lally argues that this premise implies using a risk-free rate with a term to maturity that matches the length of the regulatory cycle. Lally demonstrates that if the term structure of interest rates (ie the relationship between the yield and maturity for securities that differ only in the length of time to maturity) is positive, then the use of a term longer than the regulatory cycle will over-compensate the regulated firm, while if the term structure is negative then the use of a term longer than the cycle will under-compensate the firm, relative to its initial investment.⁴⁵

Stakeholder Comments

In general, stakeholders favour a 10-year maturity bond for the term of the risk-free rate. The primary arguments in support of this position include:

- the CAPM's applicability to discounting multi-period cash flows only under restrictive assumptions;
- matching the risk-free rate with the investor horizon;
- consistency with the market risk premium; and
- volatility of short-term interest rates.

Energex and Ergon advance the argument that using the standard (single period) CAPM to discount multi-period cash flows is only justifiable if the risk-free rate of interest is assumed constant over the life of the relevant asset, a condition which they note is violated in practice. The implication is that the CAPM cannot be theoretically justified for this purpose. As a consequence, Energex and Ergon submit that the regulatory choice is ultimately about which unjustified approach to use – one that is consistent with industry best practice or one that is not. They conclude that the choice should reflect industry best practice and that this choice implies use of the 10-year bond rate (Energex and Ergon Energy, sub. no. 25: 20-21).

Many of the stakeholders, including DBCT Management, Capital Research, QR, DNRME, Treasury and Envestra, support using a 10-year maturity on the basis that the term of the risk-free rate should match the investment horizon, which is generally consistent with the asset life. Given that infrastructure assets tend to have reasonably long lives and that a 10-year maturity is the longest maturity available, they submit that the 10-year bond is the best proxy available. QR and DNRME further submit that, although the 10-year bond is the longest maturity, liquid bond available, it is still likely to understate the risk-free rate applicable to very long-lived assets (DBCT Management, sub. no. 30: 7; DBCT Management, sub. no. 31: 9; QR, sub. no. 23: 3-4; DNRME, sub. no. 37: 2; Queensland Treasury, sub. no. 36: 4; Envestra, sub. no. 35: 9-13).

Energex, Ergon and Envestra also contend that the term of the risk-free rate must be consistent with the term on which the market risk premium is estimated. In other words, if the market risk premium is estimated with reference to a 10-year bond maturity then there is an inconsistency in using a 5-year bond to proxy the risk-free rate in the CAPM. More generally, Energex and Ergon submit that when a second risk-free asset with a different maturity, ie a bond with a term matching the regulatory cycle, is introduced into the CAPM, investors must effectively choose among three assets instead of the standard two. As a consequence, they argue that the CAPM cannot be derived under these conditions. They, therefore, conclude that consistency requires using a risk-free rate with a maturity matching the market risk premium (Energex and Ergon Energy, sub. no. 25: 26-27; Envestra, sub. no. 35: 10-12).

⁴⁵ See Lally (2004).

DBCT Management and QR do not support a bond term matching the regulatory cycle on the basis that short-term rates are more volatile than long term rates, which is inconsistent with a ‘risk-free’ assumption. (DBCT Management, sub. no. 30: 7; QR, sub. no. 23: 3-4).

Treasury notes that proponents of a 10-year bond maturity believe that a risk-free rate with a term equal to the regulatory cycle is inappropriate because it implicitly assumes that the regulated assets are sold and re-purchased at the end of each cycle (Queensland Treasury, sub. no. 36: 4).

Energex, Ergon and Envestra note that using the 10-year bond rate is consistent with the outcome of the 2003 GasNet decision in which the Australia Competition Tribunal (ACT) rejected a risk-free rate with a term equal to the regulatory cycle on the basis that using a 10-year bond is consistent with measuring the market risk premium in the CAPM and with the actual asset life (Energex and Ergon Energy, sub. no. 25: 20-30; Envestra, sub. no. 35: 9-13).

Lally’s Response

In response to Energex and Ergon’s argument regarding the limitations of the CAPM in discounting multi-period cash flows, Lally acknowledges that any attempt to apply the CAPM in a regulatory context will be theoretically imperfect. He contends, however, that the appropriate response is to choose a term for the risk-free rate that is least imperfect. His view is that the current practice of using a 10-year maturity exposes one to a risk-free rate that is particularly imperfect, ie it does not satisfy the net present value principle.

Energex and Ergon also comment on the consistency of the risk-free rate with the market risk premium. In response, Lally notes that, while it is conceded that theoretical perfection in applying the CAPM in the regulatory context is unachievable, it still remains important to apply it in a consistent manner. In this regard, Lally proposes two possible options: i) use the 10-year risk-free rate in the first term of the CAPM; or ii) re-estimate the market risk premium using the risk-free rate that matches the regulatory cycle. Lally notes that Energex and Ergon favour the first option but do not give a reason for their preference. He further observes that if consistency is important then the second option is preferable because it also satisfies the net present value rule, while the first option does not.

In response to the argument that the term of the risk-free rate should match the life of the assets, Lally observes that this practice violates the fundamental regulatory rule that the net present value of future cash flows should equal the initial investment, as the risk-free rate will change at every regulatory reset.

In response to DBCT Management’s and QR’s concerns about the greater volatility of short term interest rates, Lally submits that ‘risk-free’ in the regulatory context implies that the return on the asset over the life of the contract is certain at the time of entering the contract, while their reference to volatility is in the context of variability over time with respect to a succession of bonds.

In regard to Treasury’s comment, Lally notes that his application of the net present value rule to a regulatory setting assumes only that the regulator resets the allowed output price to reflect the prevailing interest rate. He rejects the claim that it requires the stronger assumption that the regulated assets are sold and repurchased at the end of each regulatory cycle.

Finally, in relation to the ACT’s rejection of the risk-free rate with a term that matches the length of the regulatory cycle, Lally observes that in the decision, the ACT never addresses the fundamental issue that the net present value of the expected future cash flows should equal the initial investment.

Authority's Analysis

There are three aspects to determining the risk-free rate that the Authority considers in turn: the choice of proxy instrument, measurement period and term of the bond for proxying the risk-free rate.

Choice of Proxy Instrument

The Authority has employed a Commonwealth government bond to date to proxy a risk-free asset. The Authority's view is that such a bond remains suitable due to its very low risk. Lally and stakeholders support this view unanimously.

Measurement Period

The Authority has used a 20-day averaging period for determining the rate to apply for regulatory purposes to date. Stakeholders generally support this approach.

The Authority's view is that the current, on-the-day rate already reflects all available information, including any historical information about previous prices. The current yield on a bond, therefore, should reflect expectations from all relevant assessments. The Authority, however, accepts the drawbacks of using an on-the-day rate and for this reason, has employed a relatively short averaging period to date to avoid such problems. The Authority's view is that this approach is a reasonable compromise.

QTC (2001) and Treasury, however, raise several concerns with this approach. Their concerns primarily relate to risks arising from refinancing over a narrow window, such as: lender market power; yield spikes; and counterparty credit risks from employing derivatives. In order to manage these risks, QTC (2001) proposes using a 'rolling' average over, for example, the four or five years before each year of the regulatory cycle to avoid cyclical volatility. Treasury proposes either more frequent review of the risk-free rate, or a cash flow/discount rate adjustment for adverse rate movements.

The Authority rejects the QTC/Treasury proposal as it appears designed solely to overcome difficulties which arise from QTC's high level of regulated industry debt and the manner in which regulated industries choose to manage risk. These are not matters which the Authority should take into consideration.

The QTC/Treasury proposal fails to recognise that the determination of a cost of capital is necessary solely because the Authority chooses to use a building block approach to the determination of an appropriate revenue requirement for regulated industries. Were the Authority to adopt a pure price cap approach to regulation, with the use of external benchmarks such as total factor productivity to vary prices over time, the Authority would not need to make any conclusions about the cost of capital.

The concerns raised by QTC/Treasury regarding the narrow refinancing window, etc would then not exist, at least not because of anything the Authority had done. This is because regulated industries would not be able to minimise interest rate risk by mimicking the Authority's cost of capital calculations by resetting their interest rates on the same basis and at the same time that the Authority does for cost of capital calculation purposes. They would be forced to manage their risks in a more usual commercial manner.

As such, therefore, the concerns raised by QTC/Treasury are caused by the manner in which regulated industries seek to manage risk in the regulated environment, which gives them an opportunity to minimise risk which is not available in non-regulated industries. This issue is exacerbated by the fact that QTC is the sole supplier of regulated industry debt. Were the debt

more widely spread, it is likely that the issues raised by QTC/Treasury regarding the narrow refinancing window, etc would no longer be of serious concern.

In terms of the specific refinancing risks, the Authority's view is that, in general, derivative instruments are the natural solution for addressing risks associated with movements in interest rates. QTC and Treasury acknowledge the potential for derivatives to address these risks but express concern about the associated costs and the potential for derivatives creating counterparty credit risks. The Authority considers that costs arising from using derivatives could be treated in the same manner as debt-issuing costs, provided it can be shown that such costs have not been accounted for elsewhere and that the costs have not arisen solely because of the actions of the regulated industry and/or QTC.

The Authority considers that the other suggested approaches, reviewing the risk-free rate and adjusting the cash flows or discount rate for adverse effects on the rate, represent cost-plus regulatory approaches and are, therefore, inconsistent with the concept of incentive-based regulation. Further, the Authority notes that the suggested treatment of debt costs implicit in these solutions would be inconsistent with the treatment of other costs in the cost of capital framework. For these reasons, the Authority rejects the proposed solutions.

On the basis that it contains the most recent information on prices, balanced by a mechanism that removes short term spikes, the Authority therefore supports the continued use of a 20-day averaging period.

Term of the Risk-free Rate

The Authority has benchmarked the risk-free rate with reference to a Commonwealth government bond with a 10-year maturity. Lally, however, recommends using a bond with a term equal to the length of the regulatory cycle. His primary reason is that this term is the only one that satisfies the basic regulatory principle that the net present value of the expected future cash flows should equal the initial investment of the regulated firm. Lally submits that matching the term of the bond to the regulatory cycle is robust to cost and demand shocks and to risks arising from asset valuation methodologies.⁴⁶

Stakeholders raised several objections to this recommendation, primarily based on: theoretical limitations of applying the CAPM in a regulatory setting; consistency of the term of the risk-free rate with the investor horizon; consistency of the term of the risk-free rate with the market risk premium; and the volatility of short-term interest rates. In general, the Authority accepts the merit in Lally's responses to these criticisms. In particular, a 5-year bond rate need not necessarily be inconsistent with the estimate of the market risk premium. Also, if this apparent inconsistency remained a concern, then it could easily be addressed by benchmarking the market risk premium to (eg) the 5-year bond rate. For example, the 5-year bond rate tends to sit 20 basis points below the 10-year rate, and the market risk premium could be increased by this margin.

Despite the theoretical appeal of estimating the risk-free rate with reference to the length of the regulatory period, the Authority does not propose to alter its current approach to determining the risk-free rate with reference to the 10-year bond. Relevant factors in the Authority's consideration are that no stakeholders definitively supported a move away from a 10-year bond, this term of bond is consistent with commercial practice and that since the ACT's decision on GasNet, all Australian regulators currently set the risk-free rate on the basis of a 10-year bond.

⁴⁶ Starting from the same premise, that the net present value of the future cash flows should equal the initial investment by the regulated firm, Professor Kevin Davis also demonstrates that term of the risk-free rate must match the length of the regulatory cycle (Davis 2003).

The Authority will determine the risk-free rate with reference to a 10-year Commonwealth government bond and average the rate over a 20-day period.

A1.8 Market Risk Premium

The market risk premium represents the reward that investors require to accept the uncertain outcomes associated with equity investment, relative to the return provided by the risk-free rate. This premium is determined with reference to the market portfolio, which is defined as the value-weighted portfolio of all risky capital assets. Since the true market portfolio is not observable, the most commonly used proxy is listed equity in a share market index, such as the All Ordinaries Index in Australia.

In its prior regulatory decisions, the Authority has selected a market risk premium of 6%, primarily based on applying a historical averaging estimation approach.

Stakeholder Comments

Stakeholders make several comments regarding the appropriate approach for estimating the market risk premium.

QR and the DNRME submit that the market risk premium should be based on a historic averaging methodology with reference to the 10-year government bond rate. However, QR recommends using a time series of 30 years, while DNRME favours 10-20 years. Envestra also supports using an estimate based on a historic methodology and submits that an appropriate range is 6-8% (QR, sub. no. 23: 2-3; DNRME, sub. no. 37: 2; Envestra, sub. no. 35: 9).

DBCT Management believes that a strong case exists for a market risk premium of 7%, given the recent history of observed market volatility (DBCT Management, sub. no. 30: 6).

Lally's View

Lally surveys the major methodologies available for estimating the market risk premium: historical averaging, historical estimation, and forward-looking estimation based on forecasts. Lally's key point is that these methodologies produce a range of estimates for the market risk premium and that as a consequence, there is considerable statistical uncertainty surrounding the estimate of this parameter. Further, Lally submits that all of the approaches suffer from methodological or estimation difficulties and, therefore, it is appropriate to consider estimates derived from multiple approaches. Based on the range of estimates from the methodologies surveyed, Lally concludes that the Authority's current estimate of 6% is reasonable in the context of the Officer CAPM.

In response to QR and DNRME's suggestions for estimating the market risk premium, Lally notes two potential problems. First, the suggested period of 10-20 years is too short to provide any statistical reliability. Second, both parties rely on a single estimation methodology, which he does not recommend.

In response to DBCT Management, Lally observes that, using data from 1900-2002 for applying the historical averaging methodology, there has been a downward drift in volatility over this period. Therefore, he submits that estimates from historical averaging over this period are too high rather than too low, which is the opposite of DBCT Management's claim.

Authority's Analysis

The Authority has made a series of regulatory determinations in which it has adopted a market risk premium of 6%, primarily based on applying the historical averaging methodology. Based on surveying a range of different estimation methodologies, Lally concludes that the Authority's current estimate of 6% is reasonable in the context of the Officer CAPM. On this basis, he recommends no change from the current estimate. The Authority concurs with Lally and supports the continued use of an estimate of 6% for the market risk premium.

The Authority considers that an appropriate estimate of the market risk premium is 6.00%.

A1.9 Betas and Beta Levering Formulas

Lally makes a number of recommendations on aspects of the Authority's methodology that are ultimately relevant to deriving an appropriate asset beta for the regulated firm of interest. Given the central importance of the asset beta in the cost of equity calculation, the basic steps in deriving the asset beta are first briefly reviewed.

Equity and Asset Betas

In the CAPM, an asset beta represents the business risk arising from the sensitivity, or covariance, of a firm's returns with the returns of the market. Asset betas are not directly observable and, therefore, must be derived from (observable) equity betas. Equity betas can be estimated from the historic returns of publicly listed companies.

The difference between an asset beta and an equity beta reflects the extent to which debt is used to finance the firm's assets. Specifically, a firm's equity beta reflects both the underlying business risk associated with its assets and the financial risk borne by shareholders due to the firm's use of debt financing.

Given this standard relationship between asset and equity betas, there are four basic steps for determining the underlying (asset) beta for the regulated firm of interest:

- (v) apply statistical techniques to estimate the equity beta from the firm's observable historic returns;
- (vi) if returns are unavailable (ie the firm is not publicly listed) then identify comparator firms that match the firm of interest on the basis of explanatory factors for its beta (ie systematic risk), such as the nature of the product and customer, the extent of monopoly power, the duration of supplier contracts, the presence and type of regulation, etc;
- (vii) after estimating equity betas for one or more comparator firms, use a levering formula and the comparator firm's leverage to convert the estimated equity betas into the underlying asset betas; and
- (viii) pool the derived asset betas in some manner to arrive at a single estimate for the regulated firm of interest, eg a simple pooling method is selecting the median asset beta to eliminate the effect of outliers.

Lally's View

Lally reviews these steps and makes a number of recommendations.

First, Lally notes there are standard procedures associated with directly estimating an equity beta from a firm's historic returns and references Brailsford et al (1997) for a comprehensive treatment of basic and advanced statistical techniques for estimating equity betas.

Second, when estimating a beta with reference to a comparator firm, Lally notes that it is highly unlikely that a 'match' to all of the comparator firm's explanatory factors for beta is possible. While Lally notes that subjective adjustments are often applied to account for differences in some of the factors, he advises against such an approach. Rather, Lally recommends choosing a set of comparators from which to derive a beta to serve as an upper bound for the estimate and a set of comparators from which to derive a beta to serve as a lower bound.

Third, once a set of comparators has been identified, Lally identifies a number of adjustments to the estimated betas to improve their comparability. One adjustment is to correct the observed equity beta for time variation in both the firm's and market's leverage, which can bias the estimates of the asset beta. Another adjustment is to correct the beta for cross-country factors when the comparator firm is foreign. While Lally identifies approaches for adjusting a foreign beta for differences in market leverage and industry weight relative to the firm of interest, he nevertheless observes that other differences, arising from various macroeconomic factors, are not possible to address.

Fourth, Lally makes several recommendations in relation to 'pooling', ie ways to aggregate the comparator betas in order to improve the final estimate. First, if no estimate of the beta of the firm of interest is available then Lally recommends simply applying the mean or median to the set of derived comparator betas. Second, if an estimate is available, then Lally advises against using the Blume method but suggests the Vasicek method could be applied instead.

The Blume and Vasicek methods are types of weighting schemes, ie similar to deriving a weighted average. The Blume method is the more general method and starts from the premise that low (high) beta estimates arise because the true beta is low (high) and because the estimate is below (above) the true beta. Blume, therefore, suggests a correction that involves increasing low estimates and reducing high estimates. Since the method involves aggregating over all firms in making the correction, low estimates are pushed up toward one, while high estimates are pulled down toward one. The Vasicek method works in basically the same manner except that the aggregating involves firms in the same industry, rather than all firms in the market. Lally does not support applying Blume adjustments for cost of capital purposes, primarily because the method effectively ignores relevant information – the industry of the firm.

In conclusion, Lally notes that the asset beta derived for a firm of interest through these recommendations should satisfy two tests. First, the estimate should be statistically reliable. Second, the estimate should be consistent with other estimates generated by the same regulatory body. In the absence of identifying any credible comparators, Lally suggests two 'default' options. The first default option is the average asset beta of all firms in the Australian market. With a market leverage of approximately 0.20, Lally notes that the estimate for the average asset beta is 0.80. The second default option is the asset beta for very low risk firms, ie those firms producing products or services with low income elasticities of demand, operating in monopolistic markets and subject to regulatory environments that almost guarantee a rate of return. Given these conditions, Lally observes that suitable proxies are U.S.-based water or electricity utilities.

Stakeholder Comments

QR and the DBCT User Group agree with Lally that, if possible, a sample of comparator firms should be used for benchmarking an asset beta for the regulated firm (QR, sub. no. 23: 5; DBCT User Group, sub. no. 24: 3).

DBCT Management and Envestra express reservation in relying on internationally sourced betas due to the significant differences among international equity markets. DBCT Management submits that cross-country adjustments, as well as inter-temporal adjustments for firm and market leverage, would substantially complicate the current process of beta estimation and involve significant regulatory judgment. For this reason, DBCT Management supports the Authority's current approach to estimating betas and recommends considering the relevance of foreign betas on a case-by-case basis (DBCT Management, sub. no. 30: 8-9). Envestra recommends extensive empirical testing before implementation of international beta adjustments (Envestra, sub. no. 35: 14).

The DBCT User Group agrees with Lally that Blume adjustments should not be applied to beta estimates (DBCT User Group, sub. no. 24: 3). Envestra, however, favours the use of Blume-adjusted betas because they are supported by practitioners, and empirical evidence shows that betas tend to move over time (Envestra, sub. no. 35: 14-15).

The Cost of Capital Research Group submits that estimating the equity betas of comparable firms (step (i)) is a critical aspect of the cost of equity determination that is not addressed by Lally (Griffiths University Cost of Capital Research Group, sub. no. 27: 1).

The Cost of Capital Research Group also argues that measuring the risk-free rate, market risk premium and equity betas over different time horizons is inconsistent with the CAPM and has the potential to substantially underestimate the cost of capital for a regulated firm.

Lally's Response

In response to the Cost of Capital Research Group's point that the use of different time horizons for estimating parameters in the CAPM may likely lead to underestimating the cost of equity capital, Lally observes that beta is typically estimated using an interval (ie monthly) shorter than the investor horizon. Lally notes that this inconsistency actually leads to higher estimates of beta for low beta stocks. Since regulated firms tend to have low betas, he concludes that, if anything, the inconsistency will lead to overestimating betas of regulated firms.

Authority's Analysis

The Authority agrees with Lally's recommended use of comparator firms and notes that it has employed this approach to date. In regard to the recommended corrections for inter-temporal variation in firm and market leverage, the Authority notes that such corrections may be warranted under certain circumstances. The Authority accepts that estimates based on foreign betas should be treated with significant caution, as differences between international equity markets are substantial and cannot be taken into account through beta adjustments.

In regard to pooling estimates, the Authority has previously indicated its support for Blume-adjusted betas. The Authority, however, accepts Lally's points in regard to applying this technique. The Authority has not applied the Vasicek method to date for pooling betas although its potential usefulness in the relevant context is acknowledged. Finally, the Authority considers that Lally's two default options appear reasonable in the absence of any alternative options.

Debt Beta

The debt beta represents the share of an asset's systematic risk that is borne by debt providers. Its function in the application of the CAPM in the current context is as an input into the beta de-levering/re-levering process.

If the expected return on debt is known then the debt beta can be estimated by 'reverse-engineering' the CAPM:

$$(9) \quad R_d = R_f + \beta_d (R_m - R_f) \Rightarrow \beta_d = \frac{R_d - R_f}{R_m - R_f},$$

where:

R_d	expected return on debt
R_f	risk-free rate
R_m	expected return on the market portfolio
β_d	debt beta

The expression for the debt beta is equal to the expected return on debt less the risk-free rate divided by the market risk premium, where the latter is $(R_m - R_f)$. To date, the Authority has estimated the debt beta with this approach, using the promised yield on debt as the proxy for the expected return on debt, R_d . The promised yield is the discount rate that equates the *promised* payments on a bond with the current market value of the bond.

In a prior submission to the Authority, SFG Consulting (SFGC) observes that equating the promised yield on debt to the expected return on debt is an error because the promised yield exceeds the expected return by an amount equal to the default premium on corporate debt. Since the default element does not reflect systematic risk, SFGC submits that the Authority's approach, therefore, generates an estimate of the debt beta that is not only greater than its true value but at its upper bound. The implication is an error in estimating the cost of equity capital.

SFGC demonstrates further that not only does the Authority's current approach constitute an error, but it results in counter-intuitive impacts on the WACC. In particular, under reasonable assumptions regarding the CAPM parameters and firm leverage, estimating the debt beta without considering default possibilities can lead to the result that increasing a firm's financial leverage *decreases* the estimated risk to equity holders.

SFGC, therefore, recommends that the Authority draw on recent empirical research to estimate the default risk premium, enabling the debt beta to be estimated excluding this premium. SFGC notes that this approach is more correct relative to the Authority's current approach and will likely reduce the potential for under- or over-estimating the WACC.

Lally's View

Lally agrees with SFGC that failing to recognise expected default losses when estimating the debt beta constitutes an error. Lally further observes that the promised yield also embeds an allowance for the inferior liquidity of corporate bonds relative to government bonds. Lally concludes that, if both the premium for expected default losses and the premium for inferior liquidity can be estimated, then an accurate estimate of the debt beta can be derived. He notes, however, that obtaining accurate estimates for the default and liquidity allowances is difficult.

In the face of these difficulties, and that the debt beta is likely to be close to zero, Lally argues that the effect on the cost of capital from omitting the debt beta completely will be slight. Consequently, Lally recommends simply setting the debt beta to zero. Lally submits that, in general, the effect will be to increase the cost of equity capital slightly.

Stakeholder Comments

The DBCT User Group accepts a debt beta of zero as long as a consistent approach is applied for the de-levering and re-levering processes (DBCT User Group, sub. no. 24: 3). Queensland Treasury likewise supports the use of a zero debt beta (Queensland Treasury, sub. no. 36: 7).

Capital Research disputes Lally's argument that the debt beta should *not* be estimated by applying the Authority's current approach. Specifically, Capital Research contends that systematic risk in the debt market reflects both default risk and liquidity risk and that these effects are captured by the debt beta (DBCT Management, sub. no. 31: 9-10).

Energex and Ergon make several points regarding Lally's recommendation.

First, they question Lally's conclusion that using a debt beta of zero is likely to result in an increase in the cost of equity capital. They argue that this conclusion is only valid for the case in which the comparator firm has a lower level of leverage than the firm of interest.

Second, they also submit that Lally's conclusion does not take into account the differences between the debt beta of the firm of interest and the comparator firm.

Third, they argue that there is not a compelling case for a zero debt beta and suggest estimating it by applying one of two methods: i) using available estimates of the relevant default allowance to estimate the debt beta taking this allowance into account (ie by excluding it), or ii) calculating the midpoint of the lower and upper bounds for the debt beta. They submit that either approach is as easy to implement as Lally's recommended approach (Energex and Ergon Energy, sub. no. 25: 31-36).

Envestra does not agree with a zero debt beta assumption either, on the basis that it will lead to an estimate that is less than the true value. For this reason, Envestra recommends that the Authority undertake empirical work to determine an appropriate value of the debt beta (Envestra, sub. no. 35: 6).

Lally's Response

Lally argues that Capital Research's treatment of expected default losses as 'default risk' is incorrect because it fails to distinguish between expected default losses and default risk. Lally argues that this view leads them to wrongly conclude that the debt beta fully reflects the default issue and therefore can be estimated using the Authority's current approach. Lally indicates that the same response applies to their argument regarding the liquidity issue.

In response to Energex and Ergon's first point, Lally contends that the available evidence and regulatory precedent to date support his assumption that leverage levels set by regulators for the firm of interest are typically larger than those of comparator firms.

In response to their second point, Lally acknowledges that differences in debt betas should be recognised but that estimating the relevant debt betas is problematic. Assuming that suitable estimates are obtainable, Lally's view is that the resulting error from setting them to zero is relatively small and significantly smaller than the error from applying the Authority's current approach.

In response to their third point, Lally submits that it is unclear whether their second recommended approach (using the midpoint) produces smaller or larger errors than a zero debt beta assumption. He provides an example that demonstrates a slight gain in accuracy from the midpoint approach but notes that this gain assumes that the components of the debt beta have been estimated accurately. As a result, he concludes that this approach is not demonstrably superior.

Authority's Analysis

The Authority's view is that since its current approach uses the upper bound on the true value, the resulting estimate is likely to significantly overstate the value of the debt beta. In other words, the current approach to estimating the debt beta attributes the entire debt margin to systematic risk, ie it treats both default and liquidity premium allowances as systematic. The Authority agrees with Lally that, in general, his approach of setting the value to zero (ie the lower bound) will generally result in less error than the Authority's current approach, given the typical relationship between the leverage of regulated firms and their comparators. The Authority, therefore, concludes that its current approach to estimating the debt beta should be changed.

The relevant issue then is whether Lally's approach to setting the debt beta to zero is preferable to the two alternatives suggested by Professor Gray, on behalf of Energex and Ergon. The first suggested alternative uses empirical data on default premia (see Elton et al (2001)) in order to derive the debt beta net of a premium for default. The second suggested approach uses the midpoint between zero and the upper bound as an estimate of the debt beta.

In choosing among these three approaches, the Authority considers that the preferred approach should be the one that leads to estimating the debt beta with the least error. In analysing the approaches, the Authority concurs with Lally that the suggested empirical approach suffers from the problem that it ignores the liquidity premium. The Authority notes that if the liquidity premium is significant in size relative to the default premium, then this approach may still result in substantially overstating the debt beta. Available empirical evidence suggests that the debt beta is lower than the debt beta implied by the empirical approach. Specifically, Lally cites a study that estimates debt betas falling within a range of 0.02 to 0.08. Given standard regulatory assumptions on credit ratings and debt margins of regulated firms and evidence on the implied default premia, the Authority considers that the empirical approach is still likely to substantially overstate the true value of the debt beta.

Given the remaining approaches, the Lally approach and the midpoint approach, the Authority considers that at this point in time, empirical limitations prevent determining which approach results in less error. In light of this indeterminacy, and since the Authority's view is that the debt beta is positive, the Authority's view is that the midpoint approach is preferable and will lead to less error than its current approach.

The Authority considers that the debt beta should be estimated by taking the midpoint of the lower and upper bounds.

Beta Levering Formulas

Beta levering formulas adjust betas for the effects of financial leverage. Applying the formula to remove the effect of leverage from an (observed) equity beta to obtain the underlying asset beta is known as 'de-levering'. By eliminating the effects of financial risk, applying the de-levering process leaves only the risk that reflects the underlying business risk of the firm (ie the

asset beta). Applying the formula to adjust the underlying asset beta for the leverage of the firm of interest (ie to obtain its equity beta) is known as ‘re-levering’.

The choice of a particular levering formula depends upon several factors, including: the firm’s debt policy, the relevant tax environment, the systematic risk of debt and the sources of financing for the firm of interest. To date, the Authority has employed the Brealey-Myers formula:

$$(10) \quad \beta_e = \beta_a \left[1 + \frac{L}{1-L} \right] - \beta_d \frac{L}{1-L},$$

where:

β_e equity beta

β_a asset beta

β_d debt beta

L leverage (debt to value)

In a previous submission to the Authority, however, SFGC submits that the correct formula is the Conine formula:

$$(11) \quad \beta_e = \beta_a \left[1 + (1 - T_c) \frac{L}{1-L} \right] - \beta_d (1 - T_c) \frac{L}{1-L}.$$

The apparent difference in the formulas is that the latter includes tax terms, and the Authority’s current formula excludes them. SFGC argues that the latter formula is correct given the tax environment, ie corporate taxes, in Australia. SFGC further argues that the choice of levering formula is completely independent of the definition of WACC. In other words, whether corporate taxes are reflected by an adjustment to the WACC equation or included in the firm’s cash flows has no bearing on the choice of levering formula. For example, the Authority currently employs the Officer Model (version 3), which captures the impact of corporate taxes in the firm’s cash flows, as opposed to the discount rate. SFGC, however, argues that the correct levering formula is still eq. (11) because this formula depends on the tax environment, not the discount rate applied for valuation purposes (SFG Consulting: 42-43).

Lally’s View

Lally concurs with SFGC that, when assessing regulated prices, a choice exists whether to address the tax deductibility of interest in the cash flows or in the discount rate, but that no such choice exists with respect to the levering formula – it must reflect the relevant tax environment. Further, Lally observes that the appropriate tax environment for Australia must reflect the fact that the imputation-adjusted corporate tax rate is lower than the statutory rate. As a consequence, the corporate tax rate in eq. (11) must be replaced with the imputation-adjusted tax rate, ie $T_e = T_c(1-\gamma)$:

$$(12) \quad \beta_e = \beta_a \left[1 + (1 - T_e) \frac{L}{1-L} \right] - \beta_d (1 - T_e) \frac{L}{1-L}.$$

Lally's recommended leveraging formula in the context of the Officer model is a special case of (12), in which he substitutes his recommended values for gamma ($\gamma=1$) and the debt beta ($\beta_d=0$), which simplify the formula substantially.

As a final point, Lally notes that in the context of either the Lally-van Zijl CAPM or the Brennan-Lally CAPM, the beta leveraging formula requires modification to reflect the differential taxation of capital gains and interest. Lally provides the relevant formulas but demonstrates that a reasonable proxy for these formulas is still eq. (12), using his suggested values for the debt beta and gamma.

Stakeholder Comments

In general, stakeholders did not comment on this technical aspect of the review, although the DBCT User Group submits that a consistent approach should be applied for the de-levering and re-levering processes (DBCT User Group, sub. no. 24: 3).

Authority's Analysis

With respect to the DBCT User Group's comment, the Authority agrees that a consistent approach should be applied in the de-levering and re-levering processes. The Authority, however, observes that consistency does not necessarily imply using the same leveraging formula for both de-levering and re-levering. For example, the leveraging formula for converting the levered equity beta of a U.S. water utility into an asset beta will necessarily be different to (or use different tax parameters than) the leveraging formula for converting the asset beta into an equity beta in the Australian context, due to the different tax environments. Consistency, therefore, requires that the de-levering/re-levering formulas are consistent with the relevant tax environments, not that the formulas are necessarily the same.

The Authority notes that using the Brealey-Myers formula implicitly assumes that the imputation-adjusted tax rate is zero (ie $\gamma=1$). The Authority's currently employed value of gamma, however, is 0.50. As a consequence, the Authority's view is that it is appropriate to change the formula to achieve internal consistency.

For this reason, the Authority will employ the imputation-adjusted Conine formula in future regulatory determinations, with the corporate tax rate displaced by the imputation-adjusted tax rate. The latter is consistent with the tax environment in Australia. The Authority notes that this formula is sufficiently general to accommodate any assumptions on the value of gamma and/or the debt beta.

For methodological consistency, the Authority will employ the Conine leveraging formula, replacing the corporate tax rate with the imputation-adjusted tax rate in this formula.

A1.10 Capital Structure

A firm's weighted average cost of capital is the weighted average cost of servicing the various classes of financial claims on the firm. Capital structure refers to the relative weights of debt and equity that together finance the company's asset base. Each source of capital or financial claim will involve different risks and, therefore, different costs. Business or operating risk reflects the risk of the firm when it is solely financed by equity funds. The addition of debt increases the risk to equity holders by creating financial risk.

The Authority's approach to determining the capital structure for a regulated business involves benchmarking an 'optimal' capital structure by either examining the average level of leverage in an industry (or set of related industries) or by using simulation techniques.

Lally's View

Lally advances three possible measures of a firm's leverage: actual leverage, target leverage and optimal leverage. Lally first sets aside the possibility of using a firm's target leverage since a regulator simply cannot determine this information. With respect to a firm's actual leverage, Lally observes that the primary problem with this approach is that it encourages the regulated firm to manipulate its leverage to maximise the regulated output price. Lally submits that a firm's optimal, or efficient, level of leverage avoids both of these problems. First, although determining an efficient leverage level is subjective, this subjectivity can be minimised by benchmarking the average level of leverage in an industry or in a set of related industries. Second, the use of a firm's optimal leverage is consistent with the regulator's objective of setting an output price that reflects an efficient industry cost structure.

Stakeholder Comments

While most stakeholders did not comment on capital structure issues, DBCT Management indicates that it supports the continued use of the optimal leverage approach (DBCT Management, sub. no. 30: 11).

Authority's Analysis

The Authority concurs with Lally's view that using an optimal capital structure for the regulated firm, based on examining the average level of leverage in the industry, or in a set of related industries, is appropriate. The Authority also notes that a more sophisticated approach involves applying simulation techniques to determine an optimal capital structure.

The Authority considers that the capital structure of the regulated firm should be established with reference to an optimal capital structure, by either examining the level of leverage in the industry (or in a set of related industries) or by using simulation techniques.

A1.11 Cost of Debt

The cost of debt is the marginal rate at which a firm can raise debt financing, or alternatively, the cost that the firm's debt holders demand on new borrowings. The cost of debt is usually expressed as the sum of the risk-free rate and a debt premium. The cost of debt depends on a variety of risk factors, including liquidity and default, the latter of which is, in turn, affected by the firm's leverage, the short term volatility of cash flows and the long term security of revenue. In estimating the cost of debt for regulatory purposes, the cost of debt should reflect the current market rate for debt for a firm that is efficiently financed.

Lally's View

Lally supports the use of a debt premium added to the risk-free rate to calculate the cost of debt. In regard to the risk-free rate, he notes that the risk-free rate used in determining the cost of debt should be the same rate used in calculating the cost of equity for consistency purposes.

Lally also considers that both the margin that generates the promised yield and debt issuing costs should be dealt with as part of the debt premium. With regard to the promised yield, he

notes that it typically comprises systematic risk, expected default losses and inferior liquidity on corporate, relative to government, bonds. He observes that the yield can be estimated by comparing the yields to maturity on traded corporate debt with that for government bonds of the same maturity. In examining relevant trades, he recommends identifying companies that are similar both in leverage and industry. An alternative approach is to rely on credit ratings. This approach involves identifying firms with the same credit rating as the firm of interest and determining the debt premium for the comparators based on trades of their corporate bonds.

With respect to debt issuance costs, Lally notes that these costs could be recognised either through a discount rate or cash flow adjustment. His preference is for the former because it allocates the debt costs among all periods, as opposed to concentrating them in the periods in which the firm pays them. Based on a study reporting the average debt issue costs of utilities, and taking into account the frequency of regulatory resets, he suggests the costs are approximately 20 basis points. Given typical leverages of regulated firms (ie in the neighbourhood of 50% debt to total value), he submits that permitting such an adjustment would only increase the cost of capital by about 10 basis points. However, Lally submits that if the regulator adjusted the cost of capital for such an allowance then it would also have to remove all actual costs of this type from the firm's cost base. He concludes that, given the verification difficulties and the size of the estimated allowance, there is a reasonable case for ignoring debt issuance costs entirely.

Stakeholder Comments

Regarding the general regulatory approach to determining the cost of debt, Envestra supports Lally's recommendation for calculating a cost of debt by adding an appropriate debt premium to the risk-free rate (Envestra, sub. no. 35: 13).

In contrast, DNRME submits that the cost of debt should be based on an efficient, benchmark debt duration. DNRME argues that firms use a variety of debt products with a range of maturities and that the weighted average yield of these products gives the actual cost of debt to the firm. Given that over the long run, firms manage the trade-off between cost and risk, debt durations should move toward an efficient duration and remain stable from that point in time. On this basis, if it is possible to establish an efficient debt duration, this duration will most closely approximate the efficient cost of debt (DNRME, sub. no. 37: 3).

With respect to the two possible methods for determining an appropriate debt margin, QR supports both methods, while DBCT Management favours the credit rating approach (QR, sub. no. 23: 5, DBCT Management, sub. no. 30: 11).

In regard to the second issue, debt issuance costs, QR and DBCT Management submit that these costs are legitimate costs that regulators should take into account. QR concurs with Lally that such costs should be included via an adjustment to the discount rate (QR, sub. no. 23: 5, DBCT Management, sub. no. 30: 11). QR further submits that the same consideration should be given to equity issuance costs (QR, sub. no. 23: 5-6).

The DBCT User Group notes that the allowance for the cost of debt has generated controversy in Australian regulatory circles and submits that a more appropriate allowance for issuance costs is likely to be 12.5 basis points (applied to the cash flows), rather than Lally's allowance of 20 basis points (DBCT User Group, sub. no. 24: 6).

Lally's Response

Lally's primary additional point on this issue is in response to DNRME. He notes that basing debt on an efficient, benchmark duration violates the net present value rule. Specifically, the risk-free rate recommended for determining the cost of equity is consistent with a rate based on

a term that equals the length of the regulatory cycle (ie it satisfies the net present value rule). Consistent with the cost of equity determination, the risk-free rate used for calculating the cost of debt capital should also match the regulatory cycle. Lally submits that any variation from setting the risk-free rate to the length of the regulatory cycle will result in the net present value of the expected future cash flows not matching the initial investment.

Authority's Analysis

The Authority considers that continued use of the credit rating methodology is appropriate for determining the debt premium because it provides an approach to benchmarking an efficient cost of debt.

The Authority considers that debt-issuing costs are legitimate costs faced by regulated firms. The Authority's view, therefore, is that such costs should be allowed given the firm provides verification that all debt-issuing expenses have been removed from the cash flows. The Authority prefers an adjustment to the discount rate for debt-issuing costs to avoid spikes in prices during periods in which the firm incurs such expenditures.

A1.12 Asymmetric Risk

Several stakeholders raise the issue that the distribution of expected returns from investment may be asymmetric in that there exists a higher risk of negative returns than positive returns and that this violates the CAPM assumption that returns are normally distributed. As a consequence, some stakeholders have argued that such a situation provides a case for modifying the current version of the CAPM to allow for asymmetric risk.

Lally's View

Lally defines asymmetric risks as those that “comprise the risk of assets being stranded, of assets being optimised out by a regulator, and of miscellaneous exposures to such events as adverse (and uninsurable) weather conditions”.

Lally submits that both ex ante and ex post compensation for asymmetric risks have advantages as well as disadvantages. Lally notes that in the event that the regulator offers ex ante compensation to the regulated firm, such compensation is achievable through an adjustment either to its discount rate or to its cash flows. Lally further notes that a cash flow adjustment is the natural mechanism to use because asymmetric risks are basically cash flow issues, ie they are compensation for expected losses. Given that the equivalent discount rate adjustment cannot be known until the appropriate cash flow adjustment is first articulated, Lally strongly favours cash flow adjustments over discount rate adjustments.

Stakeholder Comments

The DBCT User Group and QR concur with Lally in that any allowances for asymmetric risk should be recognised through the regulated firm's cash flows (DBCT User Group, sub. no. 24: 7; QR, sub. no. 23: 6).

DBCT Management contends that the Authority's current treatment of this issue represents a major deficiency in the regulatory model. DBCT Management supports an ex ante adjustment to the discount rate to allow for asymmetric risk, although it acknowledges cash flows adjustments as an acceptable alternative (DBCT Management, sub. no. 30: 11-12).

In contrast, the QRC argues that asymmetric risk is minimal for two primary reasons. First, in the context of optimisation, the QRC notes that the resources sector undertakes capacity planning and capital investment analysis with the infrastructure sector. Second, it submits that

the majority of the resources sector has the advantage of exposure to a variety of projects, which tend to have a cost structure with high sunk costs and low operating costs. The QRC contends that this risk is likely to be largely offset by the potential for the demand for infrastructure services to extend beyond the originally expected economic life of the assets (QRC, sub. no. 33: 4-5).

Authority's Analysis

The Authority's view is that the rate of return derived from the CAPM should reflect systematic risk only, in which case CAPM remains the best approach. The Authority considers that the approach of adding ad hoc risk premia to the discount rate to account for company-specific risks is inappropriate. The cost of managing these risks should be accounted for in the cash flows or dealt with in the regulatory framework.

REFERENCES

- Brennan, M. 1970. Taxes, Market Valuation and Corporate Financial Policy. *National Tax Journal*. 23: 417-27.
- Cannavan, D., Finn, F. and S. Gray. 2003. The Value of Dividend Imputation Tax Credits in Australia. *Journal of Financial Economics*, forthcoming.
- Davis, K. 2003. Report on Risk Free Interest Rate and Equity and Debt Beta Determination in the WACC, report prepared for the Australian Competition and Consumer Commission.
- Elton, E., Gruber, M., Agrawal, D. and Mann, C. 2001. Explaining the Rate Spread on Corporate Bonds. *Journal of Finance*. 56: 247-277.
- Faff, R., Hillier, D. and Wood, J. 2000. Beta and Return: Implications of Australia's Dividend Imputation Tax System. *Australian Journal of Management*. 25(3): 245-260.
- Fama, E. and French, J. 1997. Industry Costs of Equity. *Journal of Financial Economics*. 43: 153-193.
- Hathaway, N. and R. Officer. 1995. The Value of Imputation Tax Credits (working paper), University of Melbourne.
- Lally, M. 2004a. The Cost of Capital for Regulated Entities, report prepared for the Queensland Competition Authority.
- Lally, M. 2004b. Regulation and the Choice of the Risk Free Rate. *Accounting and Research Journal*. 17(1): 18-23.
- Lally, M. 2000. The Cost of Equity Capital and its Estimation. McGraw-Hill Series in Advanced Finance. Vol. 3, McGraw-Hill Australia, Sydney.
- Lally, M. and Marsden, A. 2004. Tax-Adjusted Market Risk Premiums in New Zealand: 1931-2002. *Pacific-Basin Finance Journal*. 12: 291-310.
- Lally, M. and van Zijl, T. 2003. Capital Gains Tax and the Capital Asset Pricing Model. *Accounting and Finance*. 43(2): 187-210.
- Office of the Regulator General. 1998. *Access Arrangements for Multinet, Westar and Stratus: Draft Decision*. May.
- Officer, R. 1994. The Cost of Capital of a Company Under an Imputation Tax System. *Accounting and Finance*. 34(1): 1-17.
- Queensland Treasury Corporation. 2001. Interest Rate Risk Consequences of the Regulatory Regime.

ATTACHMENT 1

The following participants provided submissions to the Authority as part of the review of its current cost of capital methodology:

- DBCT User Group (two submissions, including a consultant’s report by Synergies)
- Energex and Ergon (includes consultant’s report by SFG Consulting Pty Ltd)
- Envestra (includes consultant’s report by Ernst & Young)
- Fitzroy River Water
- Gladstone Area Water Board
- Griffiths University Cost of Capital Research Group (Dr Bornholt and Professor Dempsey)
- DBCT Management (includes consultant’s report by Capital Research)
- Queensland Department of Natural Resources, Mines and Energy
- Queensland Environmental Protection Agency
- Queensland Rail
- Queensland Resources Council
- Queensland Transport
- Queensland Treasury (in consultation with Queensland Treasury Corporation)
- SEQWater
- SunWater

LIST OF SUBMISSIONS

<i>Organisation</i>	<i>Submission number</i>
Burton Coal	1
DBCT Management	11,17,30,31,40
DBCT User Group	5,6,19,20,24,34,39
Department of Natural Resources, Mines and Energy (DNRME)	7,37
Energex	16
Energex and Ergon Energy	12,13,14,15,18,25
Envestra	3,4,35
Environmental Protection Agency (EPA)	26
Fitzroy River Water	22
Gladstone Area Water Board (GAWB)	32
Griffiths University Cost of Capital Research Group (CCRG)	27,28
Ports Corporation of Queensland (PCQ)	10,41
Queensland Rail (QR)	9,23
Queensland Resources Council (QRC) (Formerly Queensland Mining Council)	2, 33
Queensland Transport	38
Queensland Treasury	8,36
SEQWater	21
SunWater	29

REFERENCES

Australian Competition and Consumer Commission. 30 September 1999. *Access Undertakings — A Guide to Part IIIA of the Trade Practices Act*.

Brennan, M. 1970. Taxes, Market Valuation and Corporate Financial Policy. *National Tax Journal*. 23: 417-27.

Burton Coal. 29 August 2003. *Re: Request for Comments Dalrymple Bay Coal Terminal Draft Access Undertaking* (submission no. 1).

Cannavan, D., Finn, F. and S. Gray. 2003. The Value of Dividend Imputation Tax Credits in Australia. *Journal of Financial Economics*, forthcoming.

Davis, K. 2003. Report on Risk Free Interest Rate and Equity and Debt Beta Determination in the WACC, report prepared for the Australian Competition and Consumer Commission.

DBCT Management.

——— 19 June 2003. *Draft Access Undertaking concerning Dalrymple Bay Coal Terminal - Volume 1*.

——— 19 June 2003. *Draft Access Undertaking concerning Dalrymple Bay Coal Terminal - Volume 2*.

——— 19 June 2003. *Draft Access Undertaking concerning Dalrymple Bay Coal Terminal - Asset Valuation*.

——— 19 June 2003. *Dalrymple Bay Coal Terminal Draft Access Undertaking - Accompanying Submission*.

——— 16 September 2003. *Response to QCA Request for Comments Paper on the Dalrymple Bay Coal Terminal Draft Access Undertaking* (submission no. 11).

——— 2 February 2004. *Comments on the Asset Valuation Component of the DBCT User Group's Submission to QCA including the GHD Report* (submission no. 17).

——— 7 April 2004. *Technical Review of the Authority's Cost of Capital Method* (submission no. 30).

——— 7 April 2004. *Issues in Cost of Capital for QCA* (Capital Research) (submission no. 31).

——— 23 August 2004. *DBCT Asset Valuation — Request for Comments Paper. Prime Infrastructure's Response* (submission no. 40).

DBCT User Group.

——— 3 September 2003. *Volume 1 - Submission to Queensland Competition Authority* (submission no. 5).

——— 3 September 2003. *Volume 2 - Dalrymple Bay Coal Terminal Infrastructure Valuations* (submission no. 6).

——— 8 March 2004. *DBCT DORC Valuation GHD's Response to Connell Hatch's Comments on User Group Submission* (submission no. 19).

-
- 8 March 2004. *Supplementary Submission to Queensland Competition Authority in Response to Report Dated 2/2/2004 from Connell Hatch “Comments on the Asset Valuation Component of the DBCT User Group’s Submission to the QCA including the GHD Report”* (submission no. 20).
 - 2 April 2004. *Re: Dalrymple Bay Coal Terminal, Draft Access Undertaking* (submission no. 24).
 - 14 April 2004. *Comments on the Lally CAPM Model* (submission no. 34).
 - 19 August 2004. *Re: Dalrymple Bay Coal Terminal — Asset Valuation Request for Comments* (submission no. 39).

Department of Natural Resources, Mines and Energy.

- 2003. *51st Queensland Coal Industry Review 2001-2002*.
- 4 September 2003. *Comments on Dalrymple Bay Coal Terminal Draft Access Undertaking* (submission no. 7).
- 29 April 2004. *Request for Comments - Technical Review of the Authority's Cost of Capital Method* (submission no. 37).

Elton, E., Gruber, M., Agrawal, D. and Mann, C. 2001. Explaining the Rate Spread on Corporate Bonds. *Journal of Finance*. 56: 247-277.

Energex. 17 November 2003. David K. Round, *Workable Competition: A Modern Interpretation of the Dynamic Process of Competition* (submission no. 16).

Energex and Ergon Energy.

- 19 September 2003. *Discussion Paper on Dalrymple Bay Coal Terminal Draft Access Undertaking* (submission no. 12).
- 19 September 2003. Stephen Gray, Jason Hall, *Issues in Cost of Capital Estimation* (submission no. 13).
- 19 September 2003. F. Fama and French, Kenneth R. French, *Industry Costs of Equity* (submission no. 14).
- 2 October 2003. NECG, *International Comparison of WACC Decisions Submission to the Productivity Commission Review of the Gas Access Regime* (submission no. 15).
- 3 March 2004. *Using Stock Price Changes to Estimate the Value of Dividend Franking Credits* (submission no. 18).
- 2 April 2004. Response to the QCA Paper: *Cost of Capital for Regulated Entities* (submission no. 25).

Envestra.

- 2 September 2003. *Re: Dalrymple Bay Coal Terminal Draft Access Undertaking* (submission no. 3).
 - 2 September 2003. Damian Cannavan, Frank Finn, Stephen Gray, *The Value of Dividend Imputation Tax Credits* (submission no. 4).
-

- 22 April 2004. *Comments on the Cost of Capital for Regulated Entities Report Prepared by Associate Professor Martin Lally* (submission no. 35).
- EPA. 2 April 2004. *Technical Review of the Authority's Cost of Capital Method* (submission no. 26).
- Faff, R., Hillier, D. and Wood, J. 2000. Beta and Return: Implications of Australia's Dividend Imputation Tax System. *Australian Journal of Management*. 25(3): 245-260.
- Fama, E. and French, J. 1997. Industry Costs of Equity. *Journal of Financial Economics*. 43: 153-193.
- Fitzroy River Water. 31 March 2004. *Response to the Queensland Competition Authority* (submission no. 22).
- Gladstone Area Water Board. 7 April 2004. *Technical Review of the Authority's Cost of Capital Method* (submission no. 32).
- Griffiths University Cost of Capital Research Group.
- 2 April 2004. *Comments by Dr Graham Bornholt on the report: The Cost of Capital for Regulated Entities* (submission no. 27).
- 2 April 2004. *Comments by Associate Professor Mike Dempsey on the report: The Cost of Capital for Regulated Entities* (submission no. 28).
- Hathaway, N. and R. Officer. 1995. The Value of Imputation Tax Credits (working paper), University of Melbourne.
- Lally, M.
- 2000. The Cost of Equity Capital and its Estimation. McGraw-Hill Series in Advanced Finance. Vol. 3, McGraw-Hill Australia, Sydney.
- 2004a. The Cost of Capital for Regulated Entities, report prepared for the Queensland Competition Authority.
- 2004b. Regulation and the Choice of the Risk Free Rate. *Accounting and Research Journal*. 17(1): 18-23.
- Lally, M. and Marsden, A. 2004. Tax-Adjusted Market Risk Premiums in New Zealand: 1931-2002. *Pacific-Basin Finance Journal*. 12: 291-310.
- Lally, M. and van Zijl, T. 2003. Capital Gains Tax and the Capital Asset Pricing Model. *Accounting and Finance*. 43(2): 187-210.
- Maunsell. August 2004. *DORC Valuation for Dalrymple Bay Coal Terminal*.
- Office of the Regulator General. May 1998. *Access Arrangements for Multinet, Westar and Stratus: Draft Decision*.
- Officer, R. 1994. The Cost of Capital of a Company under an Imputation Tax System. *Accounting and Finance*. 34(1): 1-17.

Ports Corporation of Queensland.

——— July 2003. *Port of Hay Point - Land Use Strategy*.

——— 9 September 2003. *DBCT Draft Access Undertaking Response to QCA's Request for Comments* (submission no. 10).

——— 2004. *Port of Hay Point – Port Charges and Port Rules*.

——— 23 August 2004. *DBCT Asset Valuation Request for Comments* (submission no.41).

Prime Infrastructure.

——— 14 January 2002. *Media Release — Dalrymple Bay Coal Terminal expansion moves to Stage Six*. www.primeinfrastructure.com.au/docs/DBCTS6_Expansion.pdf (accessed 2 February 2004).

——— 10 May 2002. *Prime Infrastructure – Prospectus and Product Disclosure Statement*.

——— 20 June 2003. *Information Release — Prime Infrastructure announces DBCT Stage 6 Expansion reaches Practical Completion*. www.primeinfrastructure.com.au/docs/MR-STAGE6COMPLETION-20.06.03.pdf (accessed 2 February 2004).

Queensland Competition Authority Act 1997 (Qld).

Queensland Competition Authority Regulation 1997 (Qld).

Queensland Government. December 2000. *Information Memorandum, Long Term Lease Dalrymple Bay Coal Terminal* (Commercial in Confidence).

Queensland Rail.

——— 5 September 2003. *Comments on DBCT's Draft Access Undertaking* (submission no. 9).

——— 1 April 2004. *The Cost of Capital for Regulated Entities Report* (submission no. 23).

Queensland Resources Council.

——— 1 September 2003. *Submission to the Queensland Competition Authority in Response to the Draft Access Undertaking – Dalrymple Bay Coal Terminal* (submission no. 2).

——— 8 April 2004. *The Cost of Capital for Regulated Entities* (submission no. 33).

Queensland Transport. 30 April 2004. *Request for Comments - Technical Review of the Authority's Cost of Capital Method* (submission no. 38).

Queensland Treasury.

——— 4 September 2003. (submission no. 8).

——— 22 April 2004. (submission no. 36).

Queensland Treasury Corporation. 2001. *Interest Rate Risk Consequences of the Regulatory Regime*.

SEQWater. 30 March 2004. (*submission no. 21*).

SunWater. 2 April 2004. ***Request for Comments - Technical Review of the Authority's Cost of Capital Method*** (*submission no. 29*).

Part B

DRAFT 1

19 June 2003

**Dalrymple Bay Coal Terminal
Access Undertaking**

**submitted by Prime Infrastructure
(DBCT) Management Pty Limited on
behalf of DBCT Holdings Pty Limited**

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1 Introduction

1.1 Purpose of this document

In March 2001 the Queensland Government passed a regulation under which the handling of coal at the Dalrymple Bay Coal Terminal (“**the Terminal**”) was made a “declared service” for the purposes of the *Queensland Competition Authority Act 1997* (“**QCA Act**”). Access providers of declared services have an obligation under the QCA Act to negotiate with and in certain circumstances provide access to third parties seeking access to that service (“**Access Seekers**”). The regulator under the QCA Act is the Queensland Competition Authority (“**QCA**”).

The QCA Act has provisions that allow the owner of a declared service to voluntarily submit a draft access undertaking to the QCA which sets out the terms and conditions upon which access will be granted to Access Seekers. If the draft access undertaking meets certain criteria set out under the QCA Act and is approved by the QCA, it will regulate third party access to the service.

On 14 September 2001 Prime Infrastructure (DBCT) Investor Services Limited as trustee of the Prime Infrastructure (DBCT) Trust (“**DBCT Trustee**”), as primary lessee, and Prime Infrastructure (DBCT) Management Pty Limited (“**DBCT Management**”), as secondary lessee, entered into a number of agreements with DBCT Holdings Pty Limited (“**DBCT Holdings**”) and Ports Corporation of Queensland (“**PCQ**”) (both owned by the Queensland Government (the “**State**”)) as part of a long-term lease of the State-owned DBCT.

One of the agreements, the Port Services Agreement, requires DBCT Trustee to prepare a draft access undertaking on behalf of DBCT Holdings (which as the owner of the Terminal is formally responsible for submitting the draft access undertaking) for submission to the QCA for approval under the QCA Act. The Port Services Agreement also specifies a number of issues the draft access undertaking must address above and beyond the requirements of the QCA Act.

This access undertaking (“**Undertaking**”) has been prepared by DBCT Management on behalf of DBCT Trustee and DBCT Holdings for the purposes of the Port Services Agreement.

This Undertaking sets out details of the terms and conditions on which DBCT Management undertakes to provide access to the declared services provided by the Terminal as set out in Part 4 of this Undertaking. This Undertaking has been prepared to assist Access Seekers in reaching negotiated outcomes on the terms and conditions of access to those services.

DBCT Management submitted this Undertaking to the QCA on behalf of DBCT Holdings on 20 June 2003.

1.2 Scope of Undertaking

This Undertaking provides for the negotiation of Access to the Coal Handling Service at the Terminal.

1.3 Duration of Undertaking

This Undertaking will come into operation on the Commencement Date. It will apply until the Terminating Date unless withdrawn as provided for in the QCA Act.

1.4 Review of Undertaking

DBCT Management and the QCA will meet approximately one, and three ~~and~~ five years after the Commencement Date to review the operation of this Undertaking. These reviews will identify any provisions of the Undertaking that are not operating to the satisfaction of either DBCT Management or the QCA. If as a result of this review, DBCT Management and the QCA agree that amendments are required to the undertaking, DBCT Management will submit a draft amending undertaking to the QCA for approval.

1.5 Access Agreements

This Undertaking applies only to the negotiation of new Access Agreements or the negotiation of additional Access rights in addition to those already the subject of an Access Agreement or Existing User Agreement. Nothing in this Undertaking requires a party to a concluded Access Agreement to vary a term or provision of that Access Agreement.

1.6 Existing User Agreements

Nothing in this Undertaking requires a party to an Existing User Agreement to vary a term or provision of that Existing User Agreement.

1.7 Amendment to Undertaking

Any amendment to this Undertaking will be prepared and submitted to the QCA by DBCT Management on behalf and with the consent of DBCT Holdings in accordance with the Port Services Agreement and the QCA Act.

2 Interpretation

2.1 Dictionary

In this Undertaking:

Access means access to the Coal Handling Service as provided by DBCT Management at the Terminal under an Access Agreement or Existing User Agreement.

Access Agreement means an access agreement between DBCT Management and an Access Holder negotiated under Part 5 of this Undertaking.

Access Application means an application for Access under Section 5.2 of this Undertaking.

Access Charges means amounts payable by an Access Holder under an Access Agreement or Existing User Agreement for the Coal Handling Service.

Access Holder means a party who has an entitlement to Access under an Access Agreement or an Existing User Agreement.

Access Seeker means a party seeking Access, or increased Access, to the Coal Handling Service.

Aggregate Reference Tonnage means the sum of the Reference Tonnages for all Access Holders.

Aggregate Non-Reference Tonnage means the sum of the Non-Reference Tonnages for all Access Holders.

Annual Contract Tonnage means, for an Access Holder, the number of tonnes of coal in a Contract Year that the Access Holder is entitled to have Handled under its Access Agreement or Existing User Agreement.

Annual Revenue Requirement means the amount of revenue ~~required by~~ DBCT Management is entitled to earn to fully recover the costs incurred (other than Terminal Operating Costs), in providing Access to the Coal Handling Service (including an adequate rate of return on the value of assets employed).

Approvals means any and all licences, approvals, consents and permits required from any Government Agency or third party for the construction, occupation, development or operation of the Terminal for the provision of the Coal Handling Service, performance of the Primary Leases, Secondary Leases, or the Port Services Agreement including but not limited to:

- (a) environmental approvals and licences;
- (b) planning and development approvals and licences; and
- (c) Local Government approvals and licences.

Available Capacity means the amount of Terminal Capacity that is not subject to Contracted Tonnage, and is derived by subtracting Contracted Tonnage from Terminal Capacity.

Business Day means a day on which banks (as defined in the *Banking Act 1959* (Cth)) are open for general banking business in Queensland excluding Saturdays and Sundays.

Capacity Expansion means any construction work at the Terminal that is reasonably expected to have the effect of increasing the Terminal Capacity.

Capital Charge means the components of Access Charges ~~under which DBCT Management recovers its capital and other costs, and comprises all components of the Access Charge~~ that are not an Operation & Maintenance Charge.

Capital Cost means: (i) capital expenditures relating to replacement or expansion of the terminal plant and/or infrastructure; and (ii) expenditures relating to refurbishment or upgrades that are expected to extend the life of the plant and/or infrastructure beyond its original useful life;

Coal Handling Service means the services set out in ~~Part 4~~ Schedule G of this Undertaking.

Commencement Date means ~~the later of~~ the date this Undertaking is approved by the QCA ~~or 1 July 2004~~.

Confidential Information means any information, data or other matter disclosed to a party by, or on behalf of, another party where:

- (i) the disclosure of the information, data or other matter by the recipient might reasonably be expected to affect the commercial affairs of the owner of the Confidential Information; or
- (ii) the information, data or other matter is marked or otherwise clearly identified as confidential by a party when disclosed; provided that such information, data or other matter:
- is not already in the public domain;
 - does not become available to the public through means other than a breach of the confidentiality provisions in this undertaking or under any confidentiality deed contemplated in Section 8 of this Undertaking;
 - was not in the other party's lawful possession prior to such disclosure; ~~and/or~~
 - is not received by the other party independently from a third party free to disclose such information, data or other matter;

and provided further that the information, data or other matter will cease to be Confidential Information if the information, data or other matter has ceased to retain its confidential nature, for example:

1. the disclosure of the information, data or other matter by the recipient would no longer reasonably be expected to affect the commercial affairs of the owner of the information, data or other matter;
2. the information, data or other matter is now in the public domain through means other than a breach of the confidentiality provisions in this Undertaking or under any confidentiality deed contemplated in Section 8 of this Undertaking; or
3. the information, data or other matter has been received by the recipient independently from a third party free to disclose the information, data or other matter.

Contracted Tonnage means the aggregate number of tonnes of coal in a Contract Year that all Access Holders are entitled to have Handled under Access Agreements or Existing User Agreements, and is the sum of each Access Holder's Annual Contract Tonnage.

Contract Year means 1 July in a calendar year to 30 June in the next following calendar year.

DBCT Holdings means DBCT Holdings Pty Limited ACN 096 395 783.

DBCT Management means Prime Infrastructure (DBCT) Management Pty Limited ACN 097 698 916.

DBCT Trustee means Prime Infrastructure (DBCT) Investor Services Limited ACN 052 156 082 as trustee of the Prime Infrastructure (DBCT) Trust.

Demurrage Costs means the average cost across all Access Holders of demurrage in respect of the loading of coal on vessels at the Terminal over any period of 3 consecutive months.

Dispute has the meaning given to that term in Section 5.8(a).

Dispute Notice has the meaning given to that term in Section 5.8(a).

Excess Tonnage means tonnes of an Access Holder's coal Handled in excess of 110% of that Access Holder's Reference Tonnage, ~~and includes~~ excluding the Access Holder's Non-Reference Tonnage.

Existing User Agreement means an agreement for Access in force as at the Commencement Date.

Framework Agreement means the framework agreement between DBCT Holdings, the State, PCQ, DBCT Trustee, DBCT Management and others dated 31 August 2001.

Government Agency means a minister, government, government department or another government body, a governmental, semi-governmental or judicial person or a person (whether autonomous or not) charged with the administration of any applicable law.

Good Operating and Maintenance Practice means adherence to a standard of practice which includes the exercise of that degree of skill, diligence, prudence and foresight which would reasonably be expected from a competent, experienced and qualified operator of a facility comparable to the Terminal.

Handle ~~means~~ includes the unloading, storing, reclaiming and loading of coal and any other services provided in accordance with Schedule G, using any of the infrastructure at the Terminal.

Indicative Access Proposal has the meaning given to that term in Section 5.4.

Insolvent~~ey~~ means, for an Access Seeker, where one of the following events has happened in relation to ~~an~~ the Access Seeker:

- (1) it is unable to pay all its debts as and when they become due and payable or it has failed to comply with a statutory demand as provided in Section 459F(1) of the Corporations Act 2001 (Cth);
- (2) a meeting is convened to place it in voluntary liquidation or to appoint an administrator, unless the resolution is withdrawn within 14 days or the resolution fails to pass;
- (3) an application is made to a court for it to be wound up and the application is not dismissed within one month;
- (4) the appointment of a controller (as defined in the Corporations Act) of any of its assets, if that appointment is not revoked within 14 days after it is made; or
- (5) it resolves to enter into or enters into any form of arrangement (formal or informal) with its creditors or any of them, including a deed of company arrangement.

Leases means the Primary Leases and the Secondary Leases.

Lease Term has the meaning ascribed to that term in the Framework Agreement.

Master Plan means the Master Plan approved by DBCT Holdings under the Port Services Agreement (a current copy of which is attached at Schedule F), and related engineering and other reports, as amended from time to time with the approval of DBCT Holdings under the Port Services Agreement.

Negotiation Cessation Notice means a notice given in accordance with the provisions of Section 5.7.

Non-Reference Tonnage means, for an Access Holder, that portion of the Access Holder's Annual Contract Tonnage that is not Reference Tonnage.

Operation & Maintenance Charge means the component of Access Charges under which DBCT Management recovers the Terminal Operating Costs from Access Holders and is calculated in accordance with Section 11.5.

Operation & Maintenance Contract means any contract in force between DBCT Management and the Operator under which the Operator is appointed by DBCT Management to operate and maintain the Terminal on a day to day basis.

Operator means Dalrymple Bay Coal Terminal Pty Limited ACN 010 268 167, ~~or any other person appointed by DBCT Management from time to time to operate and maintain the Terminal on a day to day basis.~~

PCQ means Ports Corporation of Queensland.

Port Services Agreement has the meaning ascribed to that term in the Framework Agreement.

Primary Leases has the meaning ascribed to that term in the Framework Agreement.

QCA means the Queensland Competition Authority, a statutory authority established under the QCA Act.

QCA Act means the *Queensland Competition Authority Act 1997 (Qld)*.

Reference Tariff means that tariff approved by the QCA as a reasonable Capital Charge (details of which are set out in Schedule C) to apply in respect of the Reference Terms.

Reference Terms means the terms and conditions of a Standard Access Agreement.

Reference Tonnage means, for an Access Holder under an Existing User Agreement, that portion of the Access Holder's Annual Contract Tonnage that is contracted to be Handled as Product 4 (as that term is defined in the Existing User Agreement) and, for an Access Holder under an Access Agreement, that portion of the Access Holder's Annual Contract Tonnage which is contracted to be Handled in accordance with the Reference Terms.

Related Party has the meaning given to that term in the Corporations Act 2001 (Cth).

Revenue Cap is the amount DBCT Management is entitled to earn from Reference Tonnage. For clarity, it is calculated as follows:

$$\text{Revenue Cap} = \frac{\text{Annual Revenue Requirement} * \text{Reference Tonnage}}{\text{total Contracted Tonnage}}$$

Secondary Leases has the meaning ascribed to that term in the Framework Agreement.

Standard Access Agreement means a pro-forma Access Agreement to be developed under Part 13+ of the Undertaking, which must ~~include~~incorporate detailed terms and conditions that are consistent with the principles set out in Schedule B.

Term means the period between the Commencement Date and the Terminating Date.

Terminal means the port infrastructure located at the Port of Hay Point which is owned by DBCT Holdings or the State and leased to DBCT Trustee and DBCT Management, and known as the Dalrymple Bay Coal Terminal, and includes the following which form part of the Terminal:

- loading and unloading equipment;
- stacking, reclaiming, conveying and other handling equipment;
- wharves and piers;
- deepwater berths; and
- shiploaders.

Terminal Capacity means the throughput capacity of the Terminal (measured in tonnes per Contract Year) as determined pursuant to Section 10.1 of this Undertaking.

Terminal Operating Costs means any amounts reasonably incurred in the operation and maintenance of the Terminal, ~~including but not limited to any amounts paid to the Operator under the Operation & Maintenance Contract, but~~ excluding capital costs and any lease and/or rental payments, made by the Prime Infrastructure Group, associated with the terminal infrastructure, plant and/or land.

Terminal Regulations means regulations in force from time to time governing procedures for the operation of the Terminal and provision of the Coal Handling Service. ~~A copy of the Terminal Regulations in force as at the Commencement Date is attached at Schedule E.~~

Terminating Date means the ~~seventh~~^{five} anniversary of the Commencement Date or when the Operator changes, whichever is earlier.

Undertaking means this Access Undertaking (as amended from time to time) which is an undertaking for the purposes of the QCA Act.

2.2 Interpretation

In this Undertaking unless the context otherwise requires:

- (a) reference to a person includes any other entity recognised by law and vice versa;
- (b) reference to “dollars” or “\$” means a reference to Australian dollars;
- (c) words importing the singular number include the plural number and vice versa;
- (d) words importing any gender include the other gender;
- (e) where a word or phrase is defined, its other grammatical forms have a corresponding meaning;
- (f) clause headings are for reference purposes only;
- (g) any reference to the words “include” or “including” must be read as if they are followed by the words “without limitation”;
- (h) reference to a Section, Part, Clause, Subclause, Paragraph, Subparagraph or Schedule is a reference to the corresponding Section, Part, Clause,

Subclause, Paragraph, Subparagraph or Schedule to this Undertaking as amended or replaced from time to time;

- (i) this or any other document or agreement includes the document or agreement as varied, amended or replaced from time to time;
- (j) reference to any legislation includes all legislation under and amendments to that legislation and any legislation passed in substitution for that legislation or incorporating any of its provisions to the extent that they are incorporated;
- (k) if there is any inconsistency between matters contained in a Schedule and the body of this Undertaking, the provision in the body of the Undertaking prevails.

3 Role of DBCT Trustee and DBCT Management

Under Section 136(1) of the QCA Act, the owner of a declared service may voluntarily submit a draft Access Undertaking to the QCA. The owner of the Terminal (and consequently the declared service) is DBCT Holdings.

DBCT Trustee and DBCT Management, under the Primary Leases and Secondary Leases, are the lessee and sublessee of the Terminal. DBCT Management is solely responsible for providing Access to Access Holders and Access Seekers during the Lease Term.

DBCT Management will comply with and give effect to this Undertaking and any applicable laws relating to the provision of ~~third party access to the Coal Handling Service~~ Access as if it was the owner of the Terminal and had itself given this Undertaking.

DBCT Management, subject to DBCT Holdings acting reasonably, will take all action reasonably available to ensure that DBCT Holdings is able to comply with this Undertaking and any applicable laws relating to the provision of ~~third party access to the Coal Handling Service~~ Access including, but not limited to, Part 5 of the QCA Act.

Section 158A of the QCA Act provides that enforcement action in respect of a breach of this undertaking either by the QCA or another person may only be sought against the “responsible person” under the QCA Act. The term “responsible person” under the QCA Act means the person to whom the undertaking applies as the owner of the relevant service. Therefore, in this context, the “responsible person” is DBCT Holdings.

DBCT Holdings accepts and acknowledges that a breach by DBCT Management of a term or condition of the undertaking will constitute a breach by Holdings, and Holdings will be liable to enforcement action under s.158A of the QCA Act for such a breach.

4 Services to be provided

The Coal Handling Service provided at the Terminal is ~~the unloading, storing, reclaiming and loading of coal~~ as set out in Schedule G.

~~DBCT Management believes that a number of the services provided at the Terminal do not fall within the scope of the declared service under the Queensland Competition Authority Regulation 1997 (as amended). However, DBCT Management also believes that at present such services are not material and do not negatively impact on the efficiency of the Terminal. If in the future such services do become material or do negatively impact on the efficiency of the terminal, then DBCT Management will inform the QCA and prepare a draft amending Undertaking setting out its proposed treatment of such services.~~

5 Negotiation arrangements

5.1 Framework for negotiation

This Part of the Undertaking outlines the process which will be followed to enable Access Seekers to obtain Access. It provides for:

- (a) submission of an Access Application by the Access Seeker;
- (b) provision of an Indicative Access Proposal by DBCT Management;
- (c) negotiations to develop an Access Agreement; and
- (d) dispute resolution procedures.

5.2 Application for Access and information to be provided

Any application for access to the Coal Handling Service must be in writing and contain the information set out in Schedule A (“Access Application”), where reasonably practicable.

DBCT Management acknowledges that, at the time of provision, the information provided in the Access Application may be a forecast only.

Prior to submitting this Access Application, an Access Seeker may request from DBCT Management and DBCT Management must provide:

- (a) reasonably available preliminary information relating to the Access Application (including copies of the then current Standard Access Agreement and Terminal Regulations) within 10 Business Days of DBCT Management receiving an Access Seeker’s request, and where practicable, the information set out in Section 101(2)(d) to (h) of the QCA Act); and
- (b) where there is a Reference Tariff, the information set out in Section 101(2)(d) to (h) of the QCA Act;
- (c) where there is no Reference Tariff, the information set out in Section 101(2)(a) to (h) of the QCA Act; and
- ~~(b)~~(d) initial meetings to discuss the Access Application and the requirements set out in Schedule A.

DBCT Management will make all reasonable efforts to progress the Access Application in a timely way.

5.3 Acknowledgment

Upon receiving an Access Application under Section 5.2, DBCT Management must use its reasonable endeavours to acknowledge receipt of the Access Application in writing to the Access Seeker as soon as practicable and in any event within 10 Business Days of its receipt.

DBCT Management may request from the Access Seeker additional information where DBCT Management can reasonably demonstrate the need for such information for the purpose of preparing an Indicative Access Proposal, or clarification of information provided. Upon receiving the required information or clarification from the Access Seeker, DBCT Management must provide written acknowledgment of the receipt of this further information as soon as practicable and in any event within 10 Business Days of receipt of the further information.

5.4 Indicative Access Proposal

As soon as practicable and in any event within 20 Business Days following receipt of the Access Application, DBCT Management must use its reasonable endeavours to provide the Access Seeker with a response containing proposed terms and conditions of access (“Indicative Access Proposal”). If it is not reasonable to provide an Indicative Access Proposal within 20 Business Days of ~~acknowledgment~~ receipt of the Access Application, DBCT Management must, as soon as practicable, but in any event, within 20 Business Days, advise the Access Seeker of its estimate of the extra time required to deliver the Indicative Access Proposal.

If the Access Seeker is of the opinion that the estimate of extra time for preparation of the Indicative Access Proposal is excessive, then the Access Seeker may refer the matter for dispute resolution in accordance with Section 5.8 of this Undertaking. DBCT Management must use reasonable efforts to provide the Indicative Access Proposal within the estimated time period provided by DBCT Management or as otherwise determined by the QCA.

The Indicative Access Proposal must set out:

- (a) an indicative assessment as to whether there is sufficient Available Capacity to accommodate the Access Application and, if not, an estimate of what the Available Capacity is;
- (b) advice in respect of the existence of (but not the identity of) other Access Seekers who have submitted an Access Application.
- (c) If there is sufficient Available Capacity to accommodate the Access Application, the Indicative Access Proposal must also set out:
 - (1) an initial estimate of the Aaccess Ceharge, including an estimate of current and prospective Handling charges, for the requested services in the Access Application based on the pricing principles set out in Part 11111111111119 of this Undertaking;
 - (2) a draft access agreement where there is no approved Standard Access Agreement;
 - (3) the current Master Plan;

~~(2)~~(4) details of any additional information required by DBCT Management to progress the proposal and develop the terms and conditions for acceptance; and

~~(3)~~(5) the expiry date of the Indicative Access Proposal which will be 30 Business Days following the date the Access Seeker receives the Indicative Access Proposal.

The Indicative Access Proposal will, unless it contains specific conditions to the contrary, contain indicative arrangements only and does not oblige DBCT Management to provide ~~Access to the Coal Handling Service~~.

~~5.5~~If, after 20 Business Days following DBCT Management's acknowledgment of the Access Application, the Access Seeker believes that DBCT Management is not making reasonable progress in the preparation of the Indicative Access Proposal, the Access Seeker may refer the matter for dispute resolution in accordance with Section 5.8 of this Undertaking.

If there is not sufficient Available Capacity to accommodate the Access Application, DBCT Management must notify the Access Seeker of this fact and provide reasonable particulars as to why this circumstance prevails. DBCT Management will also notify the Access Seeker of how much Available Capacity there is, and will provide to the Access Seeker ~~with~~ an indicative timetable for any Capacity Expansion which may be necessary. DBCT Management will comply with the provisions of Part 12~~0~~ of this Undertaking.

If the Access Seeker wishes to continue the negotiation process provided for in this Section 5, such negotiations can continue on the basis that the Capacity Expansion which may be necessary is to be undertaken in accordance with Part 12 of this Undertaking. In this case, if DBCT Management is unable to comply with the timeframes specified in Part 5 of this Undertaking, it will advise the Access Seeker of the estimated timeframes. If the Access Seeker does not believe the proposed timetable is reasonable or that DBCT Management is not making reasonable progress, it may refer the matter to dispute resolution in accordance with Section 5.8 of this Undertaking.

5.5 Response to Indicative Access Proposal

If the Access Seeker intends to progress its Access Application on the basis of the arrangements set out in the Indicative Access Proposal, it must notify DBCT Management of its intention to do so within ~~20~~30 Business Days of the date it receives the Indicative Access Proposal. If the Access Seeker does not notify DBCT Management of its intention before the expiry date of the Indicative Access Proposal, it may apply again for Aaccess in accordance with Section 5.2 unless agreed otherwise between the parties.

If the Access Seeker considers that the Indicative Access Proposal has not been prepared in accordance with Section 5.4 of this Undertaking, it must notify DBCT Management in writing within 20 Business Days of receipt of the Indicative Access Proposal, such notice setting out the reasons why the Access Seeker believes that the Indicative Access Proposal is inconsistent with Section 5.4 of this Undertaking.

DBCT Management must use all reasonable efforts to respond to this notice, including, where appropriate, the making of revisions to the Indicative Access

Proposal within 20 Business Days of the notification under this Section. If DBCT Management is unable to respond within this time period, it must notify the Access Seeker of the date on which it expects to be able to respond.

If the Access Seeker is not satisfied with:

- (a) the response to the notice given under this Section; or
- (b) DBCT Management's estimated date to respond to the notice,

the Access Seeker may seek to resolve the dispute in accordance with the dispute resolution procedure in Section 5.8.

5.6 Negotiation process

If the Access Seeker indicates its willingness to progress its Access Application under Section 5.5, then both parties must commence negotiations as soon as reasonably possible to progress towards an Access Agreement. The period for negotiation will commence on the date notified by the Access Seeker under Section 5.5 and end upon any of the following events:

- (a) execution of an Access Agreement in respect of Access sought by the Access Seeker;
- (b) written notification by the Access Seeker that it no longer wishes to proceed with its Access Application;
- (c) DBCT Management issuing a Negotiation Cessation Notice to the Access Seeker in accordance with Section 5.7;
- (d) the expiration of ~~3~~6 months from the commencement of the negotiation period or, if both parties agree to an extension of the negotiation period, the expiration of the agreed extended term, provided that agreement to extend the negotiation period is not unreasonably withheld by either party; or
- (e) a reduction in Available Capacity due to another Access Seeker finalising an Access Agreement, where that reduction in Available Capacity adversely affects DBCT Management's ability to offer Access to the Access Seeker under the terms of the Indicative Access Proposal.

In the event the negotiation period ceases for the reason set out in Section 5.6(e) above, DBCT Management must review the Indicative Access Proposal and prepare a revised Indicative Access Proposal in accordance with Section 5.4 and the negotiation process will recommence from the date this is provided to the Access Seeker.

If at any time during the negotiation period a dispute arises between the parties that, after reasonable negotiations, the parties are unable to resolve to their mutual satisfaction, then either party may seek to resolve the dispute in accordance with the dispute resolution process set out in Section 5.8.

5.7 Negotiation Cessation Notice

At any time during the negotiation process under Section 5.6, DBCT Management may give notice to an Access Seeker that it does not intend to enter into an Access Agreement with the Access Seeker (such notice being a "Negotiation Cessation Notice"), if:

- (a) an Access Seeker does not comply with all of its material obligations contained in this Undertaking;
- (b) DBCT Management is reasonably of the opinion that there is no reasonable likelihood that the Access Seeker will comply with the material terms and conditions of an Access Agreement;
- (c) DBCT Management is reasonably of the opinion that the Access Seeker has no genuine intention of gaining Access, or has no reasonable likelihood of utilising Access at the level of capacity sought;
- (d) DBCT Management is reasonably of the opinion that the Access Seeker or its guarantor is not reputable and of good financial standing ~~or would not have the capability to fulfil all of its obligations under an Access Agreement, should one be concluded;~~
- (e) except where the expert is in manifest error, the Access Seeker does not materially comply with a decision of an expert pursuant to Section 5.8; or
- (f) an Access Seeker does not materially comply with a decision of the QCA pursuant to Section 5.8.

A Negotiation Cessation Notice must identify the reasons for DBCT Management's decision not to enter into an Access Agreement with the Access Seeker.

Without limitation, it will be reasonable for DBCT Management to form the view that circumstances in Section ~~5.7(a)~~, ~~5.7(b)~~, ~~(e)~~ or (d) apply if:

- (a) the Access Seeker is Insolvent; or
- (b) the Access Seeker, or a Related Party of the Access Seeker, is currently or has in the previous two years been in material default of any Access Agreement, Existing User Agreement or any other agreement and where its performance under that agreement is relevant to its likely performance under an Access Agreement.

If the Access Seeker reasonably considers that DBCT Management has improperly given it a Negotiation Cessation Notice, then the Access Seeker may refer the matter to dispute resolution in accordance with Section 5.8. If the resolution of the dispute is in favour of the Access Seeker, DBCT Management must re-commence negotiations with that Access Seeker.

DBCT Management may recover its reasonable costs incurred in negotiations with the Access Seeker where it ceases negotiations in accordance with a Negotiation Cessation Notice validly issued under ~~this~~ Section 5.7(c). The Access Seeker may refer a Dispute about the recovery of these costs for resolution in accordance with Section 5.8.

5.8 Dispute resolution

- (a) *Disputes*

If any dispute or question arises under this Undertaking or in relation to the negotiation of Access between an Access Seeker and DBCT Management ("Dispute") then, unless otherwise expressly agreed by both parties, such Dispute shall be resolved in accordance with this Section 5.8 and either party may give to the other party to the Dispute notice in writing

(“Dispute Notice”) specifying the Dispute and requiring that it be dealt with in the manner set out in this Section 5.8.

Unless otherwise agreed by the parties, Disputes in relation to an executed Access Agreement must be dealt with in accordance with the provisions of that Access Agreement and are not dealt with under this Undertaking.

(b) *Chief Executive Resolution*

Unless otherwise agreed by both parties or provided for in this Undertaking, any Dispute must be referred in the first instance and in any event within 10 Business Days of the giving of the Dispute Notice to the Chief Executive of DBCT Management (or his or her nominee) and the Chief Executive of the Access Seeker (or his or her nominee) for resolution.

In the event that:

- (i) resolution is not reached within 20 Business Days of referral; or
- (ii) either Chief Executive appoints a nominee in accordance with this Section 5.8(b) that is unacceptable to the other party;

the relevant Dispute may, by agreement between DBCT Management and the Access Seeker, be referred for resolution by an expert in accordance with Section 5.8(c). Failing such agreement, either party may, ~~within a further 30 Business Days,~~ refer the Dispute to the QCA in accordance with Section 5.8(d).

(c) *Expert determination*

Where a matter is referred to an expert in accordance with Section 5.8(b) or as otherwise specified in accordance with this Undertaking, then the following will apply:

- (i) An expert may be appointed by the parties, or where agreement cannot be reached by the parties within 20 Business Days, in the case of financial matters, by the President for the time being of the Australian Society of Certified Practising Accountants and, in the case of non-financial matters, the President for the time being of the Institution of Engineers, Australia;
- (ii) In any event the expert must:
 - have appropriate qualifications and practical experience having regard to the nature of the Dispute;
 - have no interest or duty which conflicts or may conflict with his or her function as expert, he or she being required to fully disclose any such interest or duty before his or her appointment; and
 - not be a current or immediate past employee of the Access Seeker or DBCT Management or of a Related Party of either of them;
- (iii) The expert appointed pursuant to this Section 5.8(c) must not act until the expert has given written notice of the acceptance of his or her appointment to both parties;

(iv) The parties must upon request by the expert, provide or make available to the expert:

- all information in their possession or control (other than Confidential Information);
- all Confidential Information, subject to entry into arrangements to preserve confidentiality which are acceptable to all relevant parties, acting reasonably; and
- all other assistance,

that the expert may reasonably require. Any such information or assistance must be provided as soon as reasonably practicable. Any determination made by an expert in relation to a Dispute must be consistent with the provisions of this Undertaking;

(v) The expert will provide both parties with a copy of the determination in relation to the Dispute within a reasonable time after his or her appointment;

(vi) The expert appointed pursuant to this Section 5.8(c) is required to undertake to keep confidential all matters coming to his or her knowledge by reason of this appointment and performance of his or her duties;

(vii) Any person nominated as an expert pursuant to this Section 5.8(c) is deemed to be and must act as an expert and not as an arbitrator. The law relating to arbitration including, without limitation, the *Commercial Arbitration Act 1990* (Qld), as amended, does not apply to the expert or to the determination or to the procedures by which the expert may reach that determination;

(viii) In the absence of manifest error, the decision of the expert is final and binding upon the parties. If a party believes that there was a manifest error it may refer the matter to the QCA for a determination. If the QCA determines that there was a manifest error, then the parties may agree to refer the Dispute to another expert in accordance with this Section 5.8(c), or failing such agreement, either party may refer the Dispute to the QCA for resolution in accordance with Section 5.8(d);

(ix) The costs of the expert and any advisers are to be borne by the parties in such proportions as determined by the expert.

(d) *Determination by the QCA*

If a Dispute is referred to the QCA in accordance with this Section 5.8(d) or as otherwise specified in accordance with this Undertaking, then Division 5 of Part 5 of the QCA Act will apply ~~subject to consistency of any determination by the QCA with the provisions of this Undertaking~~ provided that the Authority must not make an access determination that is inconsistent with this Undertaking.

If an issue is referred to the QCA for determination as specified in accordance with this Undertaking but does not constitute a Dispute for the purposes of Division 5 of Part 5 of the QCA Act, then the QCA will make

a determination through any process that it considers appropriate, provided that:

- prior to considering the issue, the QCA advises both parties of the process that it will use to make the determination and both parties are given the opportunity to advise the QCA of any concerns they may have with that process and receive a response from the QCA as to how it will deal with such concerns, if at all; and
 - the Authority must not make an access determination that is inconsistent with this Undertaking.
- ~~-any determination by the QCA is consistent with the provisions of this Undertaking-~~

The costs of the QCA are to be borne by the parties in such proportions as determined by the QCA.

6 Terminal Regulations

- (a) DBCT Management will comply with, and ensure the Operator complies with, the Terminal Regulations in force from time to time.
- (b) DBCT Management must not implement or consent to a proposed amendment to the Terminal Regulations without reasonable consultation with Access Holders and Access Seekers.
- (c) If, following consultation about a proposed amendment, an Access Seeker or Access Holder wishes to notify a Dispute about the proposed amendment, the Access Seeker or Access Holder may refer the matter for dispute resolution, in the case of an access seeker in accordance with Section 5.8 of this Undertaking and, in the case of an Access Holder, in accordance with the dispute resolution provisions of its Access Agreement. DBCT Management must not implement the proposed amendment to the Terminal Regulations until the outcome of the Dispute has been determined.
- (d) DBCT Management must notify Access Holders, Access Seekers and the QCA of any amendments to the Terminal Regulations and to provide a copy of the amended Terminal Regulations to them:-
- (e) DBCT Management will use its best endeavours to ensure that the Operator applies the Terminal Regulations in a manner that does not prevent or hinder an Access Holder's access to the Terminal; and
- (f) DBCT Management acknowledges that a failure to comply with subparagraph (e) above will amount to conduct by DBCT Management which itself constitutes prevention or hindering of an Access Holder's access to the Terminal for the purpose of ss.-104 and 125 of the QCA Act.

67 Information provision

The QCA has the right, by written notice, to request that DBCT Management provide to the QCA any information or documents that the QCA reasonably requires for the purpose of performing its obligations and functions in accordance with either this Undertaking or an Access Agreement developed pursuant to this Undertaking. The notice must include a description of the information or document required, the purpose for which it is required, and the date it is required, (with such date to allow DBCT Management reasonable time to comply with the notice).

DBCT Management will comply with any such request, by the date stated in the notice, unless there is a reasonable reason for non-compliance. ~~Reasonable reasons for non-compliance will include circumstances in which DBCT Management:~~

- ~~(a) has a legal or contractual obligation to comply with confidentiality requirements; or~~
 - ~~(b) otherwise wishes to maintain confidentiality in respect of the information provided;~~
- ~~but the QCA has not undertaken to keep the information confidential.~~

78 Confidentiality requirements

The Access Seeker and DBCT Management will, at all times, keep confidential and not disclose to any other person, any Confidential Information exchanged under the negotiation arrangements in Part 5 of this Undertaking or any other part of this Undertaking, except:

- (a) where any disclosure is required by law; and/or
- (b) where disclosure is to the recipient's advisors who are under a duty of confidentiality.

If required by either party, the parties must enter into a confidentiality deed substantially in the form of schedule D.

Both the Access Seeker and DBCT Management must only use Confidential Information provided by the other party for the purposes for which it was provided.

89 Ring-fencing arrangements

DBCT Management does not presently have any interests in upstream or downstream markets. However, if such interests arise in future then DBCT Management will inform the QCA and prepare a draft amending access undertaking setting out its obligations in relation to ring fencing.

10 Reporting by DBCT Management

10.1 Regulatory Accounts

DBCT Management will report to the QCA on an annual basis, within four (4) months of the close of the relevant year, information relating to:

- (a) the opening regulated asset base value for the relevant year — by asset class/type consistent with the asset class/types used to determine the initial capital base;
- (b) the amount of indexation of the regulated asset base calculated for the relevant year — by asset class/type;
- (c) the amount of depreciation calculated for the relevant year — by asset class/type;
- (d) DBCT Management’s corporate overheads for the relevant year;
- (e) the value of any new assets (capital expenditure) acquired during the relevant year — by asset class/type. Capital expenditure is to be identified as either replacement or expansionary capital expenditure, and is to include information relating to the estimated life of each new asset;
- (f) asset disposals for the relevant year — by asset class/type;
- (g) the actual operating and maintenance costs incurred for the relevant year – at a level to be determined by the Authority. This should separately identify any minor capital; and
- (h) an explanation for any significant variance in actual capital expenditure and/or operating and maintenance costs, and forecast capital expenditure and/or operating and maintenance costs for the relevant year.

10.2 Indicators relating to compliance with this undertaking

DBCT Management will publicly report on an annual basis the following information:

- (a) the number and percentage of total Indicative Access Proposals provided within the applicable timeframe;
- (b) the number and percentage of Access Applications received for which an extension of time for provision of an Indicative Access Proposal is sought by DBCT Management;
- (c) the average delay (in days) taken to provide an Indicative Access Proposal not provided within the applicable timeframe;
- (d) the number of instances where a Dispute has been referred to dispute resolution in accordance with Section 5.8;
- (e) the average length of the negotiation period (in days), where the negotiation period has commenced and has ceased as the result of the execution of an Access Agreement in respect of the Access sought by the Access Seeker;
- (f) the average length of the negotiation period (in days), where the negotiation period has commenced and has ceased as the result of any

reason other than the execution of an Access Agreement in respect of the Access sought by the Access Seeker;

(g) the number of instances where a negotiation period commenced has ceased as the result of the execution of an Access Agreement in respect of the Access sought by the Access Seeker; and

(h) any other performance measure requested by the Authority.

10.3 Indicators Relating to Service Quality

DBCT Management is required to publicly report on the following service quality key performance indicators for the Terminal, on a quarterly basis:

(a) tonnes of coal discharged from trains per hour;

(b) the percentage of trains arriving within an hour of the scheduled arrival time;

(c) gross operating capacity (Mtpa);

(d) capacity utilisation ratio;

(e) the ratio of net operating capacity to gross operating capacity;

(f) Terminal area available for storage (m²);

(g) stockyard utilisation ratio;

(h) tonnes loaded per ship-hour at berth segregated by category of vessel;

(i) average ship delay in port;

(j) demurrage costs; and

(k) average net transport costs of access holders.

911 Pricing arrangements

9.111.1 Pricing objectives

In developing Access Charges, DBCT Management's objectives are to:

(a) achieve its Annual Revenue Requirement in order to provide a commercial return to its shareholders;

(b) provide incentives for efficient utilisation of Terminal Capacity;

(c) ensure equitable treatment of Access Holders and Access Seekers;

(d) encourage efficient future investment in the Terminal; ~~and~~

(e) ensure full recovery from Access Holders of Terminal Operating Costs; ~~and-~~

(f) ensure efficient Terminal Operating Costs.

9.211.2 Access Charges

Access Charges will comprise two components:

- (a) a Capital Charge, being the Reference Tariff or any other tariff agreed between DBCT Management and an Access Holder (subject to Section 119.6); and
- (b) an Operation & Maintenance Charge.

9.311.3 Reference Tariff

- (a) The Reference Tariff will apply to coal Handled under the Reference Terms. The Capital Charge for coal Handled on terms and conditions other than the Reference Terms will be negotiated between DBCT Management and the Access Seeker (subject to Section 119.6).
- (b) The Reference Tariff will be set such that only the proportion of DBCT Management's Annual Revenue Requirement associated with Reference Tonnage throughput would be recovered over Aggregate Reference Tonnage, assuming the Reference Tariff applies to all Reference Tonnage. The proportion of DBCT Management's Annual Revenue Requirement associated with Reference Tonnage will be established in accordance with the formula set out in Schedule C.
- (c) The Reference Tariff will comprise a single~~two~~ components being the Terminal Infrastructure Charge (TIC)~~and the Throughput Rebate.~~
- (d) The TIC will comprise:
 - (1) a variable component, based on the tonnes of the Access Holder's coal Handled; and
 - (2) a fixed component payable irrespective of the portion of Reference Tonnage which is actually Handled (ie. the take or pay charge).
- (e) The TIC will be established in accordance with the formula set out in Schedule C.
- (f) The TIC will be applied to the Reference Tonnage of each Access Holder who enters into an Access Agreement on Reference Terms. The TIC rate of the Reference Tariff applying as at the Commencement Date is set out in Schedule C.
- (g) An adjusted TIC rate calculated as set out in Schedule C will be applied to Excess Tonnage.
- (h) The collection (allocation) of additional revenue from an under (over) recovery of the Revenue Cap amongst users will be established in accordance with the formula set out in Schedule C. Interest is to be paid (charged) at DBCT Management's WACC on the balance of the unders and overs account. The Throughput Rebate Pool, being the amount available to be distributed proportionately to Access Holders who enter into an Access Agreement on Reference Terms through the Throughput Rebate component of the Reference Tariff, will be calculated as set out in Schedule C.
- ~~(i) The portion of the Throughput Rebate paid to each Access Holder who enters into an Access Agreement on Reference Terms will be calculated as set out in Schedule C.~~
- ~~(j) The Throughput Rebate will be paid annually in arrears.~~

~~(k)(i)~~ Where the QCA has approved a Reference Tariff, that Reference Tariff will be an acceptable means by which DBCT Management provides Access Seekers with information about the matters listed in s101(2)(a) to (c) of the Act as provided for in accordance with s101(4) of the Act.

~~(l)(j)~~ The Standard Access Agreement to be developed under Section ~~131.2~~ will provide that Access Charges will be reviewed to be consistent with changes over time in the applicable Reference Tariff.

9.411.4 Amendment of the Reference Tariff

(a) DBCT Management will amend the Reference Tariff on the occurrence of the following events:

- (1) a change in Reference Tonnage;
- (2) a change in Non-Reference Tonnage; and
- (3) capital expenditure at the terminal.

(b) The QCA ~~will~~may approve ~~an amended~~ a draft amending access undertaking seeking to amend the Reference Tariff in accordance with clause 11.4(a) only if it considers it appropriate having regard to the pricing principles in Part 11 of the Undertaking if the QCA is satisfied that the Reference Tariff is consistent with the principles and objectives established in this Part ~~119~~ and Schedule C.

(c) If DBCT Management, acting reasonably, believes that the Reference Tariff framework set out in Schedule C no longer satisfies the pricing principles and objectives set out in this Part ~~119~~, or could be structured to more effectively achieve them, it will submit a draft amending access undertaking incorporating an amended Reference Tariff framework to the QCA.

(d) The QCA ~~will~~may approve a draft amending access undertaking seeking to amend the Reference Tariff framework in accordance with clause 11.4(c) only if it considers it appropriate having regard to the pricing principles in Part 11 of the Undertaking and Schedule C. ~~an amended Reference Tariff framework if the QCA is satisfied that the Reference Tariff is consistent with the pricing principles and objectives established in this Part ~~119~~.~~

9.511.5 Operation & Maintenance Charge

(a) Terminal Operating Costs will be recovered from each Access Holder through the Operation & Maintenance Charge. The Operation & Maintenance Charge for each Access Holder will be calculated as a proportion of Terminal Operating Costs, in accordance with that Access Holder's usage of the Coal Handling Service (measured on a per tonne basis as outlined in Schedule B).

(b) DBCT Management will notify Access Holders of estimated Terminal Operating Costs annually in advance, recover such costs monthly or on such other regular basis advised by DBCT Management to Access Holders, and advise Access Holders of any applicable adjustment at the

end of each Contract Year to recover any shortfall or to reimburse Access Holders in the event of over-recovery by DBCT Management.

9.611.6 Limits on price differentiation

DBCT Management will not differentiate Access Charges between Access Seekers or between Access Seekers and Access Holders other than to reflect differences in costs (direct or indirect) or risks to DBCT Management of providing Access.

101 Capacity Expansion

10.11.1 Procedure for determining Terminal Capacity

- (a) DBCT Management will, from time to time, acting reasonably and after taking advice from an independent expert appointed by DBCT Management, determine (in consultation with Access Holders, the Operator and any Access Seekers) the optimal throughput capacity (measured in tonnes of coal per Contract Year) of the Terminal, having regard to:
- (1) DBCT Management's obligations and Access Holders' entitlements under Existing User Agreements and Access Agreements;
 - (2) DBCT Management's requirement to comply with Good Operating and Maintenance Practice;
 - (3) the Terminal Regulations;
 - (4) Demurrage Costs; and
 - (5) any other matter DBCT Management considers appropriate.

DBCT Management will disclose its decision making process in relation to its determination of Terminal Capacity and provide a copy of any independent expert report that DBCT Management receives in relation to determining Terminal Capacity to Access Seekers, Access Holders and the Operator.

- (b) Where a group of Access Holders whose combined Annual Contract Tonnage for the then current Contract Year is greater than 40% of the Aggregate Reference Tonnage for that Contract Year, dispute the determination of optimal throughput capacity under ~~10.12.1~~(a) above, those Access Holders may refer the matter for expert determination under the provisions of Section 5.8(c). If a dispute is so referred, the provisions of Section 5.8(c) shall apply to the dispute, except that if the amount determined by the expert as optimal throughput capacity is equal to or within 5% of DBCT Management's determination of the optimal throughput capacity under ~~10.12.1~~(a), then the Access Holders initiating the dispute must pay the expert's costs, and all DBCT Management's reasonable costs of participating in the expert determination process.
- (c) The capacity of the Terminal determined under ~~10.12.1~~(a) (or, if applicable ~~12.1~~(b)) above will constitute Terminal Capacity until it is next reassessed.

- (d) Terminal Capacity will be reassessed:
 - (1) upon completion of each Capacity Expansion; or
 - (2) if a Capacity Expansion has not occurred, at DBCT Management's discretion and in any event within 5 years of the last assessment.

10.21.2 Expansion of Terminal Capacity

Subject to Sections ~~12.6 10.4 and 10.5~~ of this Undertaking, DBCT Management will from time to time during the Term undertake Capacity Expansions at the Terminal as is necessary to:

- (a) accommodate the actual and reasonably anticipated future growth of demand for the use of the Terminal by Access Holders and Access Seekers;
- (b) ensure that the Terminal complies with world's best practice in respect of quality standards for such facilities, environmental best practice and applicable environmental standards;
- (c) comply with Approvals and applicable laws; and
- (d) be consistent with Good Operating and Maintenance Practice.

DBCT Management will submit a draft amending access undertaking to the Authority outlining its proposed capacity expansion costs in the following circumstances:

- (a) where Access Seekers have contractually committed to a set percentage (yet to be determined) of the next capacity expansion; or
- (b) where existing Access Holders with more than a set percentage (yet to be determined) of the existing contracted tonnage request a capacity expansion.

1.3 Assessment of Capacity Expansion Costs

- (a) In the event that a Capacity Expansion is required in accordance with Section 12.2, DBCT Management will submit a draft amending access undertaking. The draft amending access undertaking will relate solely to a request for a revision of the revenue cap and a recalculation of the Terminal Infrastructure Charge based on submitted capital expenditure costs and forecast tonnages associated with the impending Capacity Expansion; and
- (b) Where the draft amending access undertaking and expansion costs are approved by the QCA, the expansion costs will be rolled into DBCT Management's regulated asset base, the WACC approved for the relevant regulatory period would apply and the Terminal Infrastructure Charge will be re-calculated; and
- (e) Costs associated with a Capacity Expansion will be shared by all Access Holders on an average cost basis with the Terminal Infrastructure Charge recalculated upon Capacity Expansion. Interest during construction for a Capacity Expansion will accrue at the WACC rate on any capital expenditure until new tariffs are introduced.

1.4 Capacity Expansion Consultation

DBCT Management will hold meetings not less than twice yearly to consult Access Holders in good faith upon the following issues:

- (a) current capacity and throughput;
- (b) constraints on current capacity including impact on Demurrage Costs and Access Holder transport costs;
- (c) future contracts/forecasts that may impact on Terminal Capacity;
- (d) significant issues relevant to Terminal Capacity;
- (e) the timing and nature of the next Capacity Expansion and the impact on current capacity requirements, pricing and the Master Plan; and
- (f) proposed changes to Terminal Regulations.;

A copy of meeting minutes is to be distributed to all Access Holders, – DBCT Holdings and the Authority.

10.31.5 Accommodation of Capacity

- (a) Subject to Sections ~~10.4 and 10.5~~ 12.6 of this Undertaking but without limiting Section ~~10.2–12.2~~ of this Undertaking, DBCT Management will use its best endeavours to ensure that:

- (1) as soon as practical after; and
- (2) in any event within 12 months after,

DBCT Management receives from a reasonably creditworthy Access Seeker a bona fide offer to enter into an Access Agreement that, on acceptance, will be unconditional and legally binding to obtain Handling of coal at the Terminal for a period in excess of 5 years, the Terminal is able to Handle that coal without a material and sustained increase in:

- (3) Demurrage Costs; or
- (4) the average net costs (after taking into account any discounts or rebates available to Access Holders) – across all Access Holders of transporting coal from the rail loading points at mine sites to the Terminal for Handling, over any period of three consecutive months,

attributable to delays caused ~~solely~~ by the provision of the Coal Handling Services in respect of the additional volume. DBCT Management will disclose to all Access Holders, Access Seekers and the Authority its process for determining the cost calculation regarding Demurrage eCosts and average net costs to Access Holders.

This Section ~~10.3~~ 12.5 does not require DBCT Management to undertake a Capacity Expansion at the Terminal if the outcome required by this Section ~~10.3–12.5~~ can be achieved without undertaking a Capacity Expansion.

- (b) Without limiting the circumstances in which DBCT Management may be taken to have received from a reasonably creditworthy Access Seeker a bona fide offer to enter into an Access Agreement, if DBCT Management

receives an offer from an Access Seeker to enter into an Access Agreement on the terms of a Standard Access Agreement, or receives an offer from an Access Seeker to enter into an Access Agreement where any departure of the terms of that offer from the terms of a Standard Access Agreement is not likely to materially prejudice DBCT Management, and:

- (1) the offer, if accepted by DBCT Management, will be legally binding on the Access Seeker; and
- (2) the Access Seeker has satisfied DBCT Management (acting reasonably) that the Access Seeker has the financial and other relevant resources to enable it to discharge its obligations under the relevant Access Agreement,

then for the purpose of Section ~~10.3(a)~~12.5(a), DBCT Management will be taken to have received from a reasonably creditworthy Access Seeker a bona fide offer to enter into an Access Agreement.

9.10 Unreasonable Capacity Expansion

If, having regard to:

- ~~(a) the actual or anticipated long-term demand for the services of the Terminal;~~
- ~~(b) the extent to which expansion or development work under the relevant stage of the Master Plan would produce a capacity in excess of that demand;~~
- ~~(c) the cost of such expansion and development;~~
- ~~(d) the extent to which DBCT Management is able to demonstrate on reasonable evidence that those costs in their entirety would be unlikely to be accepted by the QCA as forming part of DBCT Management's cost base for the purpose of determining the charges that DBCT Management may charge to Access Holders; and~~
- ~~(e) the long-term nature of DBCT Management's investment in the Terminal;~~

~~DBCT Management's compliance with Section 10.2 or 10.3 of this Undertaking would be unreasonable and uneconomic, DBCT Management may submit a written proposal to DBCT Holdings in accordance with Section 10.5(b).~~

10.51.6 Unreasonable and uneconomic

~~(a) Without limiting the circumstances in which compliance by DBCT Management with Sections 10.2 or 10.3 of this Undertaking would be unreasonable and uneconomic, DBCT Management will consider compliance with Section 10.2 or 10.3 of this Undertaking to be unreasonable and uneconomic, if:~~

- ~~(1) DBCT Management has in good faith, sought a formal decision by the QCA that the costs of the Capacity Expansion will be accepted by the QCA as forming part of DBCT Management's cost base in current and future regulatory periods for the purpose of determining the charges that DBCT Management may charge to Access Holders; and~~
- ~~(2) despite the reasonable endeavours of DBCT Management, the QCA has declined to approve the addition of those costs to the cost base in~~

accordance with (1) above, or has declined to make any decision;
and

~~(3) DBCT Management has not agreed an alternative arrangement for funding the Capacity Expansion with an Access Seeker such that the Capacity Expansion has become reasonable and commercially justifiable without increasing Access Charges paid by Access Holders.~~

~~(b)(a)~~ If DBCT Management's compliance with Sections ~~10.2~~ 12.2 -or ~~10.3~~ 12.5 of this Undertaking would be unreasonable and uneconomic, DBCT Management may submit to DBCT Holdings a written proposal that:

- (1) provides details of the above matters; and
- (2) proposes a modification to or a temporary delay in the Capacity Expansion and development that would otherwise be required to be undertaken under this Part ~~10.12~~, on terms and conditions that are not inconsistent with the objectives in clause 2.2 of the Port Services Agreement.

~~(e)(b)~~ DBCT Management will consult with DBCT Holdings, the State and Access Holders in good faith in respect of the proposal. DBCT Holdings will not unreasonably withhold or delay its agreement to such modification or delay.

10.61.7 Land for Capacity Expansion

If DBCT Management, despite its best endeavours is unable to procure a relevant tenure to or interest in land, or an approval in respect of the occupation or operation of the Terminal, that is required for DBCT Management to lawfully undertake any construction or development otherwise required by a Capacity Expansion under this Part ~~10.12~~, the obligations of DBCT Management under this Part ~~10.12~~ will be suspended to the extent affected by that inability while that inability continues. Subject to Sections ~~10.4 and 10.5~~ 12.6, DBCT Management will continue to use its best endeavours to procure that approval (including amending, resubmitting or substituting the application and amending the relevant design or work program for the construction or development to procure the approval), interest or tenure.

10.71.8 Master Plan

~~Subject to Sections 10.4 to 10.6 inclusive, if~~ DBCT Management is required to undertake a Capacity Expansion of the Terminal under this Part ~~10.12~~, it will do so by undertaking the next applicable stage or stages of development contemplated by the Master Plan that are necessary to at least provide the necessary relevant additional Handling capacity. Strict adherence to the Master plan is not required should it be deemed more appropriate to undertake a future stage before the next planned stage.

11.2 Terms and conditions of Access

11.12.1 Access Agreements

- (a) The granting of Access will be underpinned by an Access Agreement that will be developed and finalised during the negotiation process under Part 5 of this Undertaking.
- (b) The parties to the Access Agreement will be DBCT Management and the Access Holder.
- (c) The Access Agreement must, unless otherwise agreed between DBCT Management and the Access Seeker, be consistent with:
 - (1) where a Standard Access Agreement has been developed and approved by the QCA under this Part, the terms of that Standard Access Agreement; and
 - (2) where a Standard Access Agreement has not been developed and approved by the QCA under this Part, the principles outlined in the Standard Access Agreement summary that is contained in Schedule B, recognising that Schedule B does not provide an exhaustive list of the issues that may be included in an Access Agreement.
- (d) For services of a type for which a Standard Access Agreement has not been developed and approved by the QCA (for example, for a contract term of less than 10 years or without a take or pay charge), then the principles set out in Schedule B of this Undertaking and the terms of any Standard Access Agreement will provide guidance as to the terms and conditions that are to be included in the relevant Access Agreement, it being acknowledged that in these circumstances varied terms and conditions may then be required.
- (d)(e) Once an Access Seeker has notified DBCT Management that it is satisfied with the terms and conditions of the Access Agreement as drafted, DBCT Management will, as soon as reasonably practicable, provide a final Access Agreement to the Access Seeker for execution.
- (e)(f) The parties will use reasonable efforts to duly execute the final Access Agreement as soon as practicable after negotiations are finalised.

11.22.2 Development of Standard Access Agreement

- (a) DBCT Management will prepare and submit to the QCA for its approval a draft Standard Access Agreement within the first 3 months following the date of approval of this Undertaking.
- (b) The QCA must consider the draft Standard Access Agreement given to it under section 44.13.2(a) and either approve, or refuse to approve the draft Standard Access Agreement within 45 Business Days, or such longer period as advised in writing to DBCT Management by the QCA.
- (c) If the QCA refuses to approve the draft Standard Access Agreement in accordance with Section 44.13.2(b), it must give DBCT Management a written notice stating the reasons for the refusal and asking DBCT Management to, within 45 Business Days, amend the draft Standard

Access Agreement in the way the QCA considers appropriate and to submit this to the QCA.

- (d) If DBCT Management amends the draft Standard Access Agreement and submits it to the QCA in accordance with the notice provided to it pursuant to Section 413.2(c), the QCA will approve the draft Standard Access Agreement.
- (e) Once a Standard Access Agreement has been developed and approved by the QCA in accordance with this Section 413.2, it will be taken to form part of this Undertaking.

123 Whole of supply chain efficiency

- (a) DBCT Management will, on a best endeavours basis, engage with other stakeholders to develop and implement mechanisms to improve the overall efficiency of the Goonyella export coal supply chain.
- ~~(b) DBCT Management believes that a staged approach is the most appropriate way to develop a sensible, pragmatic and non-disruptive evolution of the efficient pricing signals inherent in the Reference Tariff set out in Schedule C towards a whole of supply chain efficiency program.~~
- ~~(c) DBCT Management contemplates 3 stages over the Term, as illustrated in Schedule H:
 - (1) the pricing signals aimed at promoting efficient terminal utilisation which operate at the Throughput Rebate level (“Stage 1”);
 - (2) the pricing signals aimed at promoting efficient terminal utilisation which operate at the TIC and the Operation & Maintenance Charge level (“Stage 2”); and
 - (3) the pricing signals reflective of amended business, mining and transport practices which drive changed behaviour across the whole of the Goonyella export coal supply chain (“Stage 3”).~~
- (d)(b) DBCT Management foreshadows the establishment of a co-ordination body (i.e. the Goonyella Supply Chain Committee) to facilitate the organisation, data and information collection and collation, funding and reporting of the more broadly based initiatives in relation to improving the overall efficiency of the Goonyella Supply Chain, contemplated in Stages 2 and 3.—The Goonyella Supply Chain Committee will invite representation from DBCT Management, the Operator, Access Holders, relevant rail operators and the rail network manager.
- ~~(e) In respect of Stage 3, if DBCT Management and Access Holders are able to negotiate changes to existing arrangements that offer material savings in whole of coal chain costs, including an equitable sharing with DBCT Management of the benefits of those savings, DBCT Management will submit a draft amending access undertaking which encapsulates the proposed changes in arrangements to the QCA for approval.~~
- (f)(c) DBCT Management will meet with the QCA on an annual basis to report progress on the various initiatives agreed by the Goonyella Supply Chain Committee.

| ~~(g)~~(d) Nothing in this Part 142 will oblige DBCT Management to enter into any new arrangements with Access Holders not already provided for in this Undertaking.

Schedule A – Information required as part of an Access Application

Information to the satisfaction of DBCT Management, acting reasonably, including:

- (a) Access Seeker's name and contact details
- (b) Stockpiling requirements
- (c) Blending requirements
- (d) Number of products
- (e) Required term of Access Agreement
- (f) Date of commencement of delivery of coal to the Terminal
- (g) Description of each type of coal (including coal qualities such as moisture content, dust extinction moisture level, "stickiness", and contamination levels and any special requirements the Access Seeker has in relation to its coal, including any special equipment or particular Hhandling processes)
- (h) Net tonnes of coal per annum for each Contract Year
- (i) Origin of coal (e.g. mine origin)
- (j) The Access Seeker's contracted annual railing capacity, where known, subject to the consent of the contractor providing rail haulage services to the Access Seeker (which the Access Seeker will endeavour to obtain)
- (k) Proposed number of trains and wagons per train for each week from the proposed date of commencement of the delivery of coal to the Terminal to the end of the first full Contract Year
- (l) Proposed gross tonnes per wagon
- (m) To the extent possible, the number, type and respective gross and deadweight tonnages of vessels, on a month by month basis, expected to ship the Access Seeker's coal from the proposed date of commencement of the delivery of coal to the Terminal to the end of the first full Contract Year, including details of the numbers of single and part vessel consignments
- (n) Evidence of the solvency and creditworthiness of the Access Seeker and its guarantor
- (o) Requirements for trial shipments (if any)
- (p) any other information reasonably required by DBCT Management or the Operator

Schedule B – Principles for inclusion in Standard Access Agreement

1 Term & termination

- Each agreement will set out its commencement and termination dates.
- The termination date will be no less than 10 years after the commencement date.
- The agreement will provide the grounds on which DBCT Management or an Access Holder may suspend or terminate the agreement. DBCT Management must not terminate the agreement unless it has exercised its right to suspend first. Either party may terminate the agreement if a financial default is not remedied within 30 days, or a material non-financial default is not remedied within 60 days.
- Disputes regarding defaults which are not based on a failure to pay money must be ~~settled~~ referred for resolution through the dispute resolution process to be provided by the agreement.
- Except where a Dispute about the payment of financial obligations under the agreement is notified, ~~the~~ agreement will allow for the Access Holder's right to have its coal Handled to be suspended if the Access Holder is in default of a financial obligation which has not been remedied for 14 days. In this event, the Access Holder's obligations based on its Annual Contract Tonnage will be unchanged, but DBCT Management's obligations to Handle the amounts will be reduced proportionately.
- The agreement will provide for reasonable notice to be given prior to suspension or termination taking effect.

2 Shipping of coal

- The agreement will specify the Access Holder's Annual Contract Tonnage and Reference Tonnage in each Contract Year whereby the Reference Tonnage must be no less than 80% of Annual Contract Tonnage in any one Contract Year.
- The agreement will entitle Access Holders to have their Annual Contract Tonnage Handled in the relevant Contract Year. The Access Holder must use all reasonable endeavours to offer their Annual Contract Tonnage for Handling in the relevant Contract Year and to ship their Annual Contract Tonnage at an even rate throughout the Contract Year.
- In return for payment of the required fees and charges to DBCT Management, ~~Access Holders will be entitled to receive~~ DBCT Management will provide the Coal Handling Service within the Terminal. Access Holders will have no right of possession to any part of the Terminal nor will they have rights to dedicated stockpile. Coal is to be delivered to the Terminal by rail.

- Subject to:
 - (a) the Terminal Regulations;
 - ~~(b) contractual obligations to Access Holders under Existing User Agreements or Access Agreements;~~
 - ~~(c) the requirements of other Access Holders; and~~
 - ~~(d) the absolute discretion of the Operator;~~

the agreement will allow, at the request of the Access Holder, the transfer of the Access Holder's coal from the train unloading facility at the Terminal to the stockpile area requested by the Access Holder and the stockpile of the Access Holder's coal in that area.
- The agreement will set out the obligations of DBCT Management in the provision and operation of the Terminal. Primarily, DBCT Management must ~~make every reasonable effort to~~ ensure the Terminal is available and operating so as to enable the Contracted Tonnage to be Handled.
- The agreement will state that Access is provided subject to the Terminal Regulations, and that Access Holders must comply with the Terminal Regulations as in force from time to time. The Access Holder must advise both DBCT Management and the Operator of any issues relating to the Handling of its coal at the Terminal.
- DBCT Management will comply with, and ensure the Operator complies with, the Terminal Regulations in force from time to time. DBCT Management will not implement or consent to a proposed amendment to the Terminal Regulations without reasonable consultation with Access Holders. If, following such consultation, an Access Holder wishes to notify a dispute about the proposed amendment, it may do so in accordance with the dispute resolution provisions of the agreement. DBCT Management must not implement a proposed change to the Terminal Regulations until the outcome of any dispute has been determined. DBCT Management must notify Access Holders of any amendments to the Terminal Regulations and provide Access Holders with a copy of the revised Terminal Regulations.

3 Payment of charges and rebates

3.1 Access Holders

- The agreement will set out: the Capital Charge to apply, comprising a (the Terminal Infrastructure Charge (TIC)); take or pay liabilities; penalties for shipping Excess Tonnage; and obligations with respect to paying/receiving amounts to adjust for any under(over) recovery of DBCT Management's Revenue Cap. These charges will be, which will include a fixed component, and a Throughput Rebate. Access Holders must pay the TIC calculated in a manner consistent with Schedule C.
- The agreement will also set out the Operation & Maintenance Charge payable by the Access Holder and calculated in accordance with Part 4 below.

- The agreement will set out the terms for payment of Access Charges, including a provision for the payment of interest on any outstanding balances. Interest is to be paid/charged at DBCT Management's WACC on amounts held in the unders/overs account.

6.2 DBCT Management

- ~~DBCT Management will pay a Throughput Rebate to all Access Holders, calculated in a manner consistent with Schedule C.~~

4 Operation & Maintenance Charges

- Operation & Maintenance Charges will comprise:
 - (i) a fixed handling charge to be paid by monthly instalments in advance. It will be calculated on the Operator's total fixed operating costs, other expenditure incurred by the Operator for the operation and maintenance of the Terminal, and minor capital expenditure for the Terminal allocated across Access Holders according to Annual Contract Tonnage;
 - (ii) a variable handling charge per tonne Handled. The formula for calculating the variable charges is based on the total number of tonnes Handled at the Terminal, each Access Holder's proportion of the tonnes thereof and the Operator's total operating costs less the total fixed operating costs referred to in Section 4(i) hereof; and
 - (iii) reasonable charges for miscellaneous services provided at the Terminal, subject to agreement between the Access Holder and DBCT Management; ~~and~~
 - ~~(iv) additional reasonable handling charges, if the nature of the coal or if the Access Holder's requirements for Handling results in material additional costs or delays.~~
- Fixed and variable Operation & Maintenance Charges will initially be based on estimates of the relevant costs and tonnage Handled, with regular reconciliation to actuals and adjustments paid by or to the Access Holder as appropriate.

5 Review of charges

- The agreement will provide for amendment of Access Charges in line with changes in approved Reference Tariffs.
- An amendment to Access Charges may be retrospective to apply from the date of commencement of the revised Reference Tariff.

6 Recording of tonnage

- The agreement will set out the obligations of the Access Holder in relation to the recording of coal tonnage Handled.
- Access Holders must commission an independent surveyor to issue a certificate of weight of each shipment of the Access Holder's Coal loaded on a vessel at the Terminal. They must also promptly send the cargo manifest, including a statement of the certified weight of the shipment to DBCT Management (or as directed by DBCT Management) on completion of loading, and ensure a notice is attached to the cargo manifest stating the quantity of each product making up the shipment. The information will be used by DBCT Management to calculate the TIC and other relevant charges.
- ~~□ If it can be demonstrated that an account previously sent to or paid by an Access Holder was incorrectly calculated, or based on incorrect information, so that a party was disadvantaged, the agreement will provide for an adjustment.~~
- The agreement will provide that, where there is a bona fide disputed account, Access Holders are able to have access to the information used in the calculation of access charges, including cost and throughput details; and
- If an Access Holder has a bona-fide dispute regarding an account, it may notify DBCT Management of this. The agreement will provide a fair and reasonable process for resolution of bona-fide disputes.

7 Changes to Annual Contract Tonnage and Reference Tonnage

- An Access Holder's Reference Tonnage may only be reduced under the agreement in the following ways:
 - (i) If the Access Holder has arranged for the transfer of Reference Tonnage to or from another Access Holder or to an Access Seeker and the Access Holder or Access Seeker is acceptable to DBCT Management, acting reasonably, and is prepared to enter into a binding agreement in relation to the transferred Reference Tonnage on terms and conditions acceptable to DBCT Management, acting reasonably; ~~or~~
 - (ii) On giving DBCT Management five years' notice of the extent and period of the reduction required or as otherwise agreed with DBCT Management.
- An Access Holder's Non-Reference Tonnage may only be reduced under the agreement by giving DBCT Management one years' notice of the extent and period of the change required or as otherwise agreed with DBCT Management.
- An Access Holder may seek to a sustained increase its Reference Tonnage or Annual Contract Tonnage at any time but will be treated as

an Access Seeker and the provisions of the Access Undertaking will apply.

- The agreement will provide for the Handling of coal in excess of the Annual Contract Tonnage from time to time. An Access Holder may do this if it does not cause additional expense or unreasonable interference to another Access Holder, and it pays the additional TIC and Operation & Maintenance Charges in respect of each tonne so Handled.
- ~~□If, in the reasonable opinion of DBCT Management, an Access Holder is not using, or is unlikely to use, its Annual Contract Tonnage over a sustained period, the agreement will allow DBCT Management to reduce the Access Holder's Annual Contract Tonnage, subject to the Access Holder being able to satisfactorily demonstrate a case for retention of its Access Contract Tonnage.~~

8 Set-off

- Each party will have a power under the agreement to set-off any amount under the agreement which is due and payable to the other party. The amount set-off will be deemed to have been paid.

9 Remedies

- the agreement will establish the liabilities of the parties with respect to delays/failure to provide access;
- the agreement will set out the liabilities of the parties in the case of a force majeure event;
- the agreement will provide for insurances to be effected by the parties to appropriately provide for the relevant insurance risks; and
- the agreement will include provisions setting out the indemnities and liabilities of the parties with respect to product risk at the Terminal: liability for breach, negligence or intentionally wrong act or omission; and liability arising from inaccurate scheduling information.

12.1 Access Holders

- ~~□The Access Holders' remedies for a delay on the part of DBCT Management will be provided under the agreement. An Access Holder can recover costs, losses and damages to the extent of, but only to the extent of:~~
- ~~(i) any amounts DBCT Management receives from its insurers; plus~~
 - ~~(ii) any amounts DBCT Management recovers from the Operator or any third persons (or their insurers) for negligence or breach; less~~
 - ~~(iii) any costs incurred by DBCT Management in pursuing the above recoveries.~~

~~In the event that DBCT Management is solely or primarily (i.e. at least 95%) responsible for a delay, then an Access Holder can also recover (and is limited to recovering) that part of any claim against DBCT Management which is for a recovery of an amount equivalent to the fixed component of the TIC which would not have been payable had the delay not occurred.~~

12.2 DBCT Management

~~□ The agreement will provide that any delay on the part of the Access Holder to offer coal for Handling in accordance with the agreement, irrespective of cause, gives DBCT Management a right to charge for the duration of the delay:~~

~~(i) any relevant fixed component of the TIC; and~~

~~(ii) any fixed Operation & Maintenance Charges.~~

12.3 General

~~□ 'Delay' will be interpreted under the agreement as unscheduled or abnormal stoppage or delay in loading or unloading an Access Holder's coal at the Terminal resulting in a delay of more than 24 hours but will not include any delays required to ensure Good Operating and Maintenance Practice at the Terminal.~~

~~□ The agreement will also provide for a system of delay notices, which may be issued by either party in the event of a delay. Notices for each quarter will be reviewed by DBCT Management, the Access Holder and the Operator at the conclusion of the quarter. The review will address the extent to which delays occurred, and any need for redress.~~

10 Dispute resolution

- A dispute resolution procedure will be provided for in the agreement, involving compulsory negotiation and conciliation, followed by optional arbitration. A dispute arising out of, or in connection with an Access Holder agreement should be dealt with either party giving notice of the dispute to the other providing details. Court proceedings or arbitration are not to be commenced until the negotiation and conciliation procedure has been complied with.

11 Assignment

11.1 Access Holders

- The agreement will provide for the secondary trading of capacity entitlements.
- The agreement will provide for an Access Holder to assign all or part of rights and entitlements under the agreement (including all or part of its Annual Contract Tonnage) permanently or temporarily with the prior

written consent of DBCT Management, which must not be unreasonably withheld. The Access Holder may also, with DBCT Management's prior written consent, which must not be unreasonably withheld, permit a third party to offer coal for Handling through the Terminal using an Access Holder's Annual Contract Tonnage entitlement. Access holders are released from obligations under the access agreement on assignment (but not liabilities that may have arisen before assignment).

11.2 DBCT Management

- The agreement will provide that, in consultation with the Access Holders, DBCT Management may assign all or any part of its benefits under the agreement to any person who is responsible, and has the expertise and financial capacity to operate and maintain the Terminal and comply with DBCT Management's obligations.

12 Guarantees

- The agreement will provide that, in appropriate cases, DBCT Management may require, based on its reasonable assessment of the creditworthiness of the Access Holder, if required by DBCT Management, then and, within a time specified by the agreement, the Access Holder must provide guarantees, or any other security reasonably acceptable to DBCT Management, -which secure the obligations of the Access Holder to DBCT Management. Such guarantees should be from entities which are reputable and of good financial standing as determined by DBCT Management, acting reasonably.
- If either party reasonably considers its financial circumstances have changed such that a guarantee would no longer be required, the Access Holder may request a review of the need for the guarantee, and DBCT Management must undertake such a review, having regard to the creditworthiness of the Access Holder. The agreement will provide for the outcome of such a review to be subject to dispute resolution procedures.

13 Warranties

- DBCT Management will warrant, under the agreement, that subject to normal repairs and maintenance, each Terminal component will be maintained to be available to operate to at least its rated design capacity (as set out in the agreement); to at least its rated design capacity, provided that capacity is consistent with least cost operation of the facility over the long term.

14 Expansion of Terminal

- The agreement will provide that any decision of DBCT Management to expand the Terminal must be preceded by consultation with the Access

Holders as to the reasons, extent, timing and estimated cost of any proposed expansion.

- The agreement will provide that DBCT Management must use all reasonable endeavours to carry out expansion with minimal interference to the Handling of the Access Holder's coal.

15 Access Holder Committee

- DBCT Management and the Access Holder will agree, pursuant to the Access Agreement, to participate in a committee consisting of one representative of each of DBCT Management, the Operator, and each Access Holder – to be known as the Access Holder Committee.
- The purpose of the Committee will be to provide a forum for consultation between all participants on matters relating to the operation and performance of the Terminal (as per Part 12 (Capacity Expansion) of the Undertaking), any proposed enhancements for the Terminal (including any ~~expansions of Terminal Capacity Expansions~~), and any proposed changes to the Terminal Regulations.
- The agreement will set out the formal arrangements for the running of the Committee including meetings (which shall be held no less frequently than semi-annually) and appointment of a Chairman, and will provide for the distribution of minutes of the meetings to Access Holders.

Schedule C – Revenue Cap and Pricing Structure ~~Reference Tariff~~

C.1 Revenue Cap

The Revenue Cap will apply to Reference Tonnages only. As the Annual Revenue Requirement will be assessed on all relevant terminal costs, a proportion of these total costs are attributable to Non-Reference Tonnages. Consequently, the Revenue Cap for reference tonnage will be determined as:

$$\text{Revenue Cap} = \text{ARR} \times \frac{T^R}{T^T}$$

Where:

ARR = Annual Revenue Requirement.

T^R = Aggregate Reference Tonnage in the Contract Year.

T^T = Total Contracted Tonnage in the Contract Year (ie, Reference Tonnage plus Non-Reference Tonnage).

C.2 Terminal Infrastructure Charge

The Terminal Infrastructure Charge (TIC) rate to be applied to tonnes Handled under the Reference Terms will be calculated in accordance with the following formula:

$$\text{TIC} = \frac{\text{Revenue Cap}}{T^R}$$

The Terminal Infrastructure Charge in a Contract Year for an Access Holder's Reference Tonnages will be calculated in accordance with the following formula:

$$\text{TIC}_{\text{User},i} = \frac{\left[\begin{array}{l} \text{TIC} \times T_{\text{User},i} + \\ \text{TIC} \times 0.9 \times \text{MAX} \left[\left(T_{\text{User},i}^R \times 0.9 \right) - T_{\text{User},i}, 0 \right] + \\ \text{TIC} \times 1.25 \times \text{MAX} \left[\left(T_{\text{User},i} - \left(T_{\text{User},i}^R \times 1.1 \right) \right), 0 \right] + \\ \text{TIC} \times 0.25 \times \text{MAX} \left[\left(T_{\text{User},i} - \left(T_{\text{User},i}^R \times 1.25 \right) \right), 0 \right] \end{array} \right]}{T_{\text{User},i}}$$

Where:

TIC_{User,i} = An Access Holder's actual TIC rate after all take or pay or over haulage penalties are considered.

T_{User,i} = The actual Reference Tonnage throughput of an Access Holder in the Contract Year.

T_{User,i}^R = The contracted level of Reference Tonnage of a user in the Contract Year.

C.3 Unders/Overs Adjustment

An under/over recovery of revenue at the end of the Contract Year is to be collected/distributed from/to Access Holders and will be calculated in accordance with the following formula:

$$\text{Under/Over Recovery} = \frac{\text{Revenue Cap} - \left(\sum_{i=1}^n \text{TIC}_{\text{User},i} \times T_{\text{User},i} \right)}{\text{Potential revenue from defaulting Reference Tonnages}}$$

To the extent that the application of individual users' TICs generate a shortfall in the recovery of the Revenue Cap, ie,

$$\sum_{i=1}^n \text{TIC}_{\text{User},i} \times T_{\text{User},i} < \text{Revenue Cap}$$

the shortfall is to be recovered from all Access Holders in proportion to their contracted throughput. The amount to be recovered from each Access Holder will be calculated in accordance with the following formula:

$$\text{Recoverable Amount}_i = \frac{T_{\text{User},i}^R}{\sum_{i=1}^n T_{\text{User},i}^R} \times \text{Under Recovery}$$

To the extent that the application of individual Access Holders' TICs generate an over recovery of the Revenue Cap, ie,

$$\sum_{i=1}^n \text{TIC}_{\text{User},i} \times T_{\text{User},i} > \text{Revenue Cap}$$

analogous to the under recovery outcome, the excess is to be returned to Access Holders in proportion to their contracted throughput. The amount to be distributed to each Access Holder will be calculated in accordance with the following formula:

$$\text{Allocation Amount}_i = \frac{T_{\text{User},i}^R}{\sum_{i=1}^n T_{\text{User},i}^R} \times \text{Over Recovery}$$

Where:

Recoverable Amount_i = The amount to be recovered from a user in order to increase total revenue to align with the Revenue Cap.

Allocation Amount_i = The amount to be distributed to a user in order to decrease revenue to align with the Revenue Cap.

C.1 — Reference Tariff

The Reference Tariff in a Contract Year for an Access Holder who enters into an Access Agreement on Reference Terms (in this Schedule C, a “**New Access Holder**”) will comprise two components, a Terminal Infrastructure Charge and a Throughput Rebate, i.e.

$$RT_{\text{User}} = TIC_{\text{User}} - TR_{\text{User}} \dots\dots\dots (1)$$

Where:

RT_{User} = Reference Tariff for the New Access Holder in a Contract Year (in \$ per annum)

TIC_{User} = Terminal Infrastructure Charge for the New Access Holder in a Contract Year (in \$ per annum)

TR_{User} = Throughput Rebate for the New Access Holder in a Contract Year (in \$ per annum)

C.2 — Terminal Infrastructure Charge

The Terminal Infrastructure Charge in a Contract Year for a New Access Holder will be calculated in accordance with the following formula:

$$TIC_{\text{User}} = \frac{TIC \times T_{\text{User}} + \frac{TIC \times 0.3 \times \text{MAX}[(T_{\text{User}} - T_{\text{User}}^R), 0] + \frac{TIC \times 0.5 \times \text{MAX}[(T_{\text{User}}^R - T_{\text{User}}), 0]}{T_{\text{User}}}}{T_{\text{User}}} \dots\dots\dots (2)$$

The TIC rate to be applied to tonnes Handled under the Reference Terms will be calculated in accordance with the following formula:

$$TIC = \frac{ARR}{(T^e + 0.5 \times (T^R - T^e))} \dots\dots\dots (3)$$

Where:

TIC = The Terminal Infrastructure Charge rate applied to tonnes Handled under the Reference Terms in the Contract Year (in \$/tonne)

T_{User} = Actual tonnage of the New Access Holder Handled at the Terminal in the Contract Year

T_{User}^R = Reference Tonnage of the New Access Holder in the Contract Year

ARR = DBCT Management's Annual Revenue Requirement in the Contract Year

T^o = Throughput Rebate Threshold Tonnage in the Contract Year

T^R = Aggregate Reference Tonnage in the Contract Year

C.3 Throughput Rebate Pool

The Throughput Rebate Pool is the amount to be distributed proportionately to New Access Holders through the Throughput Rebate component of the Reference Tariff.

The Throughput Rebate Pool (TR_{Pool}) has three components:

- i. Rebate for the Reference Tonnage Handled at the Terminal in the Contract Year exceeding the Throughput Rebate Tonnage Threshold (TR_A);
- ii. Rebate for Actual Tonnage Handled at the Terminal in the Contract Year exceeding the Reference Tonnage (TR_B); and
- iii. Additional revenue above the TIC earned from Excess Tonnage (TR_C).

That is,

$$TR_{Pool} = \text{MAX}[TR_A + TR_B + TR_C, 0] \dots\dots\dots (4)$$

$$TR_A = 0.5 \times \text{TIC} \times (\text{MIN}[T^R, T^A] - T^o) \dots\dots\dots (5)$$

$$TR_B = 0.75 \times \text{TIC} \times \text{MAX}[\text{MIN}[T_{Cap}, T^A] - T^R, 0] + \dots\dots\dots (6)$$
$$\dots\dots\dots 0.5 \times \text{TIC} \times (\text{MAX}[T^A - T_{Cap}, 0] \dots\dots\dots$$

$$TR_C = \sum (\text{for all New Access Holders}) 0.3 \times \text{TIC} \times \text{MAX}[(T_{User} - T^R_{User}), 0] \dots\dots\dots (7)$$

Where:

T_{Cap} = the Terminal Capacity as determined from time to time

T^A = Aggregate Tonnes Handled at the Terminal in the Contract Year

C.4 Throughput Rebate paid to each Access Holder

The Throughput Rebate payable to a New Access Holder will be calculated according to the following formula:

$$TR_{User} = (TR_{Pool} / T^X \times (1 - E_{Wt}) + TR_{Pool} / T^X \times E_{User} \times E_{Wt}) \times T^X_{User} \dots\dots\dots (8)$$

Where:

TR_{Pool} = Pool of revenue that would be distributed to New Access Holders as Throughput Rebate, assuming that all Access Holders were New Access Holders

E_{User} = Efficiency factor applied to the New Access Holder (User)

T^X = Rebatable Tonnes, calculated as T^A less the sum of tonnes not delivered to the Terminal as a consequence of trains cancelled by Access Holders (to be calculated as the product of the number of cancelled trains and the net tonnes of coal per cancelled train).

E_{Wt} = Efficiency Weighting (ranging from 0 – 100% over the Term)

T^X_{User} = Rebatable Tonnage of the Access Holder, calculated as the Actual tonnage of the New Access Holder Handled at the Terminal in the Contract Year less the sum of tonnes not delivered to the Terminal as a consequence of trains cancelled by the New Access Holder (to be calculated as the product of the number of cancelled trains and the net tonnes of coal per cancelled train).

C.5 Efficiency Factor

The resource consumption cost of each New Access Holder in the Contract Year is calculated by the following formula:

$$R_{User} = (I_{hrs} * I_{Bench} + O_{hrs} * O_{Bench} + C_{m/day} * C_{Bench}) / T_{User} \quad (9)$$

The relative efficiency of the New Access Holder (P_{User}) is calculated according to the following formula:

$$P_{User} = R_{Min} / R_{User} \quad (10)$$

And the Efficiency Factor of each New Access Holder in the Contract Year is calculated by the following formula:

$$E_{User} = P_{User} * T^X / (\sum (P_i * T^X_i)) \quad (11)$$

Where:

R_{User} = is the resource consumption cost of the New Access Holder (in \$/tonne)

I_{hrs} = is the utilisation of the inloading system, measured in hours, attributed to the inloading of the New Access Holder's coal in the Contract Year

I_{Bench} = is the resource price attributed to inloading, measured in \$/hour

O_{hrs} = is the utilisation of the outloading system, measured in hours, attributed to the outloading of the New Access Holder's coal in the Contract Year

O_{Bench} = is the resource price attributed to outloading, measured in \$/hour

$C_{m/day}$ = is the number of metres of cargo assembly area used to store a New Access Holder's coal, in circumstances where the New Access Holder has cancelled or delayed loading onto a ship, multiplied by the number of hours the coal remains in storage.

C_{Bench} = is the resource price attributed to storage in the cargo assembly area (\$/metre/hour)

R_{Min} = The resource consumption cost of the New Access Holder with the lowest resource consumption cost in the Contract Year

$\sum (P_i * T^X_i)$ = the sum of the product of P_{User} and T^X_{User} for New Access Holders in the Contract Year

C.6 Pricing Parameters

The relevant reference pricing parameters approved by the QCA are provided in the Table below.

Parameter	Aeronym Abrev.	FY2005 2004-05	FY2006 2005-06	FY2007 2006-07	FY2008 2007-08	FY2009 2008-09	FY2010
Annual Revenue Requirement (\$m)	ARR	TBA 137.5 72.8	138.9 TBA 74.6	138.9 TBA 76.5	138.4 TBA 78.4	138.4 TBA 80.4	138.4 TBA
Terminal Capacity (million tonnes)	T _{Cap}	54.5	54.5	54.5	54.5	54.5	54.5
Aggregate Reference Tonnage (million tonnes)	T ^R	53.0	54.0	54.0	53.5	53.5*	53.5*
Aggregate Non-Reference Tonnage (million tonnes) Throughput Rebate Threshold Tonnage (million tonnes)	$\frac{T^T}{T^R + T^{\Theta}}$	46.4TBA	46.4TBA	46.4TBA	46.4TBA	46.4TBA	46.4TBA
Aggregate Reference Tonnage (million tonnes)	T ^R	53.0	54.0	54.0	53.5	53.5*	53.5*
TIC rate (\$/tonne)	TIC	2.77 TBA 1.35	2.77 TBA 1.35	2.77 TBA 1.39	2.77 TBA 1.44	2.77 TBA 1.47	2.77 TBA
Efficiency Weighting Capacity Expansion (\$m)	Capex E _{we}	0	200	500	750	750	1000

* projected Aggregate Reference Tonnage

The resource prices (I_{Bench} , O_{Bench} and C_{Bench}) applied in formula (9) above, will be agreed with the Access Holder Committee informed by the advice of the Operator. In the absence of agreement within 60 days prior to the Commencement Date, the resource consumption prices will be as determined by DBCT Management acting reasonably.

Schedule D – Confidentiality Deed

This confidentiality deed

is made on _____ between the following parties:

1. **Prime Infrastructure (DBCT) Management Pty Limited**
ACN 097 098 916
of Level 26, Waterfront Place, 1 Eagle Street, Brisbane QLD 4000
(DBCT Management)
2. [insert name of receiving party]
[insert ABN/ACN/ARBN]
of [insert address]
(Access Seeker)

Recitals

- A. DBCT Management and the Access Seeker wish to negotiate the terms of an Access Agreement under which DBCT Management will provide Access to the Coal Handling Service.
- B. The parties have agreed to the disclosure of certain Confidential Information to each other in order to assist them to reach a negotiated outcome on the terms and conditions of Access to the Coal Handling Service.
- C. The parties have agreed that any Confidential Information is provided on the terms of this deed and that they will not use or disclose the Confidential Information except as provided in this deed.

This deed witnesses

that in consideration of, among other things, the mutual promises contained in this deed, the parties agree:

1 Definitions and interpretation

1.1 Definitions

In this deed:

Access Undertaking means the Dalrymple Bay Coal Terminal Access Undertaking prepared in accordance with the requirements of the Queensland Competition Authority Act 1997 (Qld) and approved on [_____] as varied or replaced from time to time;

Confidential Information means any information, data or other matter disclosed to a party by or on behalf of another party where:

- (a) the disclosure of the information, data or other matter by the Recipient might reasonably be expected to affect the commercial affairs of the owner of the Confidential Information; or

- (b) the information, data or other matter is marked or otherwise clearly identified as confidential by a party when disclosed, provided that such information, data or other matter:
- (1) is not already in the public domain;
 - (2) does not become available to the public through means other than a breach of this confidentiality deed or of the confidentiality provisions of the Undertaking;
 - (3) was not in the other party's lawful possession prior to such disclosure; and/or
 - (4) is not received by the other party independently from a third party free to disclose such information, data or other matter;

and provided further that the information, data or other matter will cease to be Confidential Information if the information has ceased to retain its confidential nature, for example:

- (A) the disclosure of the information, data or other matter by the Recipient would no longer reasonably be expected to affect the commercial affairs of the owner of the information, data or other matter;
- (B) the information, data or other matter is now in the public domain through means other than a breach of this confidentiality deed or of the confidentiality provisions of the Undertaking; or
- (C) the information, data or other matter has been received by the Recipient independently from a third party free to disclose the information, data or other matter.

Corporations Act means the Corporations Act 2001 (Cth);

Discloser means a person who discloses Confidential Information to a Recipient pursuant to negotiations for Access to the Coal Handling Service under Part 5 of the Access Undertaking;

Document includes any note, memorandum, record, report, financial information, summary, analysis, calculation, strategic assessment, market survey, business plan, computer program, computer record, circuit, circuit layout, drawing, specification, material or any other means by which information may be stored or reproduced;

Express Purpose means to assist the Recipient to reach a negotiated outcome with the Discloser as to the terms and conditions of Access;

Recipient means a person who receives Confidential Information pursuant to negotiations for Access to the Coal Handling Service under Part 5 of the Access Undertaking; and

Specified Person means an officer, employee or adviser of a Recipient or of a related body corporate who has a specific need to have access to the Confidential Information for the Express Purpose.

1.2 Interpretation

- (a) Terms defined in the Access Undertaking have the same meaning in this deed unless otherwise defined.
- (b) Headings are for convenience only and do not affect interpretation.
- (c) In this deed, unless the context otherwise requires:
 - (1) words importing the singular include the plural and vice versa;
 - (2) a reference to any thing (including, but not limited to, any right) includes a part of that thing but nothing in this clause 1.2(c)(1) implies that performance of part of an obligation constitutes performance of the obligation;
 - (3) the term “related body corporate” has the meaning given to that term under the Corporations Act;
 - (4) the term “associate” has the meaning given to that term in section 15 of the Corporations Act;
 - (5) an expression importing a natural person includes any company, partnership, joint venture, association, corporation or other body corporate and any government agency; and
 - (6) a reference to a person includes that person’s successors and legal personal representatives.

2 Confidentiality

The Recipient must:

- (a) hold the Confidential Information in strict confidence and not disclose, or cause or permit the disclosure of, the Confidential Information, except as permitted under this deed or with the prior written consent of the Discloser;
- (b) not disclose, or cause or permit the disclosure to any person of, any opinion in respect of the Confidential Information or a Document created in accordance with clause 3(c), except as permitted under this deed;
- (c) keep the Confidential Information and any Documents created in accordance with clause 3(c) ~~secure and~~ in a way such that it is reasonably protected from any use, disclosure or access which is inconsistent with this deed;
- (d) promptly notify the Discloser if it suspects, or becomes aware of, any unauthorised use, storage, copying or disclosure of the Confidential Information
- (e) do anything reasonably required by the Discloser to prevent or stop a breach or threatened breach of this deed or an infringement or threatened infringement of the Discloser’s rights arising out of this deed by any person, whether by court proceedings or otherwise; and
- (f) maintain such procedures as are reasonably necessary to ensure compliance with this deed by the Recipient and each Specified Person and, upon request, provide the Discloser details of the procedures adopted.

3 Permitted use and disclosure

The Recipient may:

- (a) only use the Confidential Information for the Express Purpose;
- (b) not make use of the Confidential Information to the commercial, financial or competitive disadvantage of the Discloser (but this does not preclude the Recipient from using the Confidential Information in negotiations with the Discloser or in any dispute proceedings, submissions to the Queensland Competition Authority or other proceeding contemplated in the Access Undertaking or the Queensland Competition Authority Act 1997 (Qld));
- (c) create, or cause or permit to be created, a Document which reproduces, is based on, utilises or relates to Confidential Information only if that creation is solely for the Express Purpose; and
- (d) only disclose Confidential Information (including as contained in a Document created in accordance with clause 3(c) to a Specified Person, and may only make such disclosure solely for the Express Purpose.

4 Return and destruction of information

- (a) If requested by the Discloser, the Recipient must ~~immediately~~ promptly return to the Discloser, or destroy or delete as the Discloser directs, all original Documents and copies which:
 - ~~(a)(1)~~ are or contain Confidential Information; and
 - ~~(b)(2)~~ reproduce, are based on, utilise or relate to Confidential Information.
- (b) If a document or a copy referred to in clause 4(a) contains information which is Confidential Information of the Recipient, then the Recipient is not required to return that document but must destroy or delete the portion of the document containing the Confidential Information of the Discloser.

5 Operation of this deed

- (a) This deed continues without limitation in time but, subject to clause 5(b), does not apply to any Confidential Information that:
 - (1) the Recipient or a Specified Person is required to disclose by any applicable law or legally binding order of any court, government, semi-government authority, administrative or judicial body, or a requirement of a stock exchange or regulator;
 - (2) is in the public domain other than as a result of a breach of this deed;
 - (3) was at the time of disclosure already in the lawful possession of the Recipient; or

- (4) is received by the Recipient from a person (other than a Discloser or any employee, officer, agent or adviser of a Discloser) legally entitled to possess that information and provide it to the Recipient.
- (b) If the Recipient or a Specified Person must make a disclosure referred to in clause 5(a)(1):
 - (1) the Recipient must only disclose, and must ensure that the Specified Person only discloses ~~only~~ the minimum Confidential Information required to comply with the applicable law, order or requirement; and
 - (2) before making such disclosure, the Recipient must:
 - (A) give the Discloser reasonable written notice of:
 - (i) the full circumstances of the required disclosure; and
 - (ii) the Confidential Information which it, or the Specified Person, proposes to disclose; and
 - (B) consult with the Discloser as to the form of the disclosure.

6 Acknowledgment

The Recipient acknowledges that:

- (a) the Confidential Information is secret and highly confidential to the Discloser;
- (b) ~~the Confidential Information is the exclusive property of the Discloser and~~ this deed does not convey any proprietary or other interest in the Confidential Information to the Recipient or any Specified Person;
- (c) disclosure of Confidential Information in breach of this deed could cause considerable commercial and financial detriment to the Discloser;
- (d) damages may be inadequate compensation for breach of this deed and, subject to the court's discretion, the Discloser may restrain by an injunction or similar remedy, any conduct or threatened conduct which is or would be a breach of this deed; and
- (e) some or all of the Confidential Information may be relevant to the price or value of securities of the Discloser. The Recipient undertakes that it will not deal in those securities in breach of the insider trading provisions of the Corporations Act.

7 Recipient to ensure others comply

The Recipient must:

- (a) inform each Specified Person of the Recipient's obligations under this deed;
- (b) procure that each Specified Person strictly observes all of the Recipient's obligations under this deed as if those obligations were imposed on that person; and

- (c) generally ensure that no officer, employee, adviser or agent of the Recipient does anything which, if done by the Recipient, would be inconsistent with this deed.

8 Indemnity

The Recipient indemnifies the Discloser in respect of any claim, action, damage, loss, cost, charge, expense, outgoing or payment which the Discloser suffers, incurs or is liable for in respect of:

- (a) any breach of this deed by the Recipient;
- (b) any failure by the Recipient to ensure compliance by any Specified Person with the terms of this deed; or
- (c) any infringement of the Discloser's rights in respect of the Confidential Information by the Recipient or a Specified Person.

9 Disclaimer

- (a) Neither the Discloser, nor any of its related bodies corporate nor any of their respective officers, employees or advisers:
 - (1) makes any representation or warranty:
 - (A) as to the accuracy or completeness of the Confidential Information;
 - (B) that the Confidential Information has been audited, verified or prepared with reasonable care; or
 - (C) that the Confidential Information is the totality of the information that a prospective Access Seeker may require in order to negotiate an Access Agreement;
 - (2) accepts any responsibility for any interpretation, opinion or conclusion that the Recipient or a Specified Person may form as a result of examining the Confidential Information;
 - (3) accepts any responsibility to inform the Recipient of any matter arising or coming to the Discloser's notice which may affect or qualify any Confidential Information which the Discloser provides to the Recipient; and
 - (4) is liable, and the Recipient covenants not to make any claim or commence or pursue any proceedings against any of them, for any loss of any kind (including, without limitation, damages, costs, interest, loss of profits, or special loss or damage) arising from:
 - (A) an error, inaccuracy, incompleteness or similar defect in the Confidential Information; or
 - (B) any default, negligence or lack of care in relation to the preparation or provision of the Confidential Information.

- (b) The Recipient acknowledges that it is making an independent assessment of the Confidential Information and that it will carry out, and rely solely on, its own investigation and analyses in relation to the Confidential Information.
- ~~(1) carry out, and rely solely on, its own investigation and analyses in relation to the Confidential Information; and~~
- ~~(2) verify all information on which it intends to rely to its own satisfaction.~~
- (c) Any reliance by the Recipient, or any Specified Person, on any Confidential Information, or any use of any Confidential Information, is solely at its own risk.

10 Governing law and jurisdiction

- (a) This deed is governed by the laws of Queensland.
- (b) The parties irrevocably submit to the exclusive jurisdiction of the courts of Queensland.

11 Waivers

- (a) Waiver of any right, power, authority, discretion or remedy arising on default under this deed must be in writing and signed by the party granting the waiver.
- (b) A failure or delay in exercise, or partial exercise, of a right, power, authority, discretion or remedy created or arising on default under this deed does not result in a waiver of that right, power, authority, discretion or remedy.

12 Variation

Any variation of this deed must be in writing and signed by the parties.

13 Entire agreement

This deed is the entire agreement between the parties in respect of its subject matter.

Executed as a deed:

Signed sealed and delivered by
DBCT Management
by:

Director/Secretary

Director

Name (please print)

Name (please print)

Signed sealed and delivered by
[insert Access Seeker]
by:

Director/Secretary

Director

Name (please print) Name (please print)

Schedule E – Terminal Regulations

Schedule F – Master Plan

Contained separately as Volume 2

Schedule G – Coal Handling Service

~~Subject to the Access Holder complying with the Access Agreement and DBCT Management's obligation to comply with applicable laws and Approvals:~~ The Coal Handling Service to be provided under an Access Agreement will, subject to the terms of the Access Agreement, include:

1. Train Scheduling

DBCT Management will co-ordinate, ~~or procure the Operator to co-ordinate,~~ the scheduling of trains at the Terminal to ensure that ~~to the extent practical (and subject to availability of trains or other factors beyond the control of DBCT Management),~~ trains are scheduled and sufficient unloading capacity is made available at the Terminal to allow the Access Holder to ship the Annual Contract Tonnage of coal in each Contract Year.

2. Train Unloading

If a train carrying the Access Holder's coal arrives at the Terminal ~~as scheduled,~~ DBCT Management will subject to:

- (i) The Terminal Regulations;
- (ii) Contractual obligations to the Access Holders under Existing User Agreements or Access Agreements; and
- ~~(iii)~~ The requirements of other Access Holders; and
- ~~(iv)~~ (iii) No force-majeure event prevailing

ensure that the train is unloaded at a rate (consistent with the type and condition of the coal) consistent with achieving shipment of the Annual Contract Tonnage of coal for the Access Holder.

3. Storing

DBCT Management will provide stockpiling and cargo assembly areas ~~from time to time after consultation with the Operator,~~ and in accordance with the Terminal Regulations.

Subject to:

- (i) the Terminal Regulations;
- (ii) contractual obligations to the Access Holders under Existing User Agreements or Access Agreements; and
- ~~(vi)~~ the requirements of other Access Holders; and
- ~~(iv)~~ (iii) no force majeure event prevailing,

DBCT Management will transfer the Access Holder's coal from the train unloading facility at the Terminal to the nominated stockpile area or a cargo assembly area and stockpile the Access Holder's coal in that area (except to the extent that a quality plan under the Terminal Regulations has been agreed to which provides for direct loading from train to ship).

4. Reclaiming and Ship Loading

DBCT Management will, subject to

- (i) the Terminal Regulations;
 - (ii) contractual obligations to the Access Holders under Existing User Agreements or Access Agreements; and
 - ~~(ix) the requirements of other Access Holders; and~~
 - ~~(iv)~~(iii) no force-majeure event prevailing
- (a) make the Terminal available for berthing by vessels nominated by the Access Holder, such that not less than the Annual Contract Tonnage can be shipped by the Access Holder in each Contract Year (as long as the vessel mix required by the Access Holder does not in DBCT Management's reasonable opinion unreasonably impact on the efficiency of the Terminal); and
 - (b) load the Access Holder's coal into a vessel which is nominated by the Access Holder and is available for loading so as to achieve the objective in Section 4(a) hereof.

5. Prevention of Contamination

DBCT Management will take all practicable measures to maintain the integrity of the Access Holder's coal at the Terminal, including by:

- (a) avoiding contamination of the Access Holder's coal, including contamination with other coal or waste material; and
- (b) minimising handling and associated degradation of the Access Holder's coal. However, DBCT Management is not obliged to undertake any measure which in its reasonable opinion will unreasonably impact on the efficiency of the Terminal.

6. Compliance with Laws

In unloading, stockpiling, reclaiming and loading the Access Holder's coal and in discharging any of its other obligations in the performance of the Coal Handling Service, DBCT Management will comply with all applicable laws and Approvals.

7. Co-ordination

Subject to the Access Holder providing relevant information to DBCT Management and where relevant the Operator within a reasonable time, DBCT Management will ensure (subject to factors beyond the control of DBCT Management), ~~as far as practicable~~, that it discharges its obligations to provide the Coal Handling Service in accordance with the requirements of the Access Holder's reasonable quality plans and shipping programs as notified to DBCT Management and the Operator from time to time consistent with Terminal Regulations, and (having regard to equity amongst Access Holders) use its best endeavours to minimise the aggregate cost to Access Holders arising out of shipment through the Terminal (including demurrage and rail freight).

8. Other Services

DBCT Management will provide all other services from time to time requested by an Access Holder in relation to coal Handling at the Terminal, (including transportation within the terminal, blending, assembly of shipments, dozing, surfactant treatment, moisture adding, compacting, sampling and survey services) and other services incidental to coal handling (eg. vessel monitoring, ship agents, co-ordination with masters, crew disembarkation, co-ordination with customs, wharfage), provided that, in DBCT Management's reasonable opinion, the provision of such services will not unreasonably impact on the efficiency of the terminal-

Schedule H – Efficiency Incentives: Development Stages