QUEENSLAND
COMPETITION
AUTHORITY

Decision

DBCT Management Draft Amending Access Undertaking

Dalrymple Bay Coal Terminal Phase 1 Expansion – Forecast Costs

October 2007

Level 19, 12 Creek Street Brisbane Queensland 4000
GPO Box 2257 Brisbane Qld 4001
Telephone (07) 3222 0555
Facsimile (07) 3222 0599

general.enquiries@qca.org.au

www.qca.org.au

© Queensland Competition Authority 2007

The Queensland Competition Authority supports and encourages the dissemination and exchange of information. However, copyright protects this document. The Queensland Competition Authority has no objection to this material being reproduced, made available online or electronically but only if it is recognised as the owner of the copyright and this material remains unaltered.

PREAMBLE

The current access undertaking for the Dalrymple Bay Coal Terminal (DBCT) provides for actual capital expenditure to be incorporated into the DBCT reference tariff once capital works are commissioned.

DBCT Management's, debt financing arrangements for funding the phased terminal expansion currently underway do not provide for interest to be capitalised once commissioning has occurred. As a result, additional revenue will be required to service increased financing commitments after the commissioning of phase 1 of the expansion.

Accordingly, DBCT Management proposed a two-stage process to expedite the adjustment to the reference tariff following the commissioning of phase 1, as follows:

- a draft amending access undertaking (DAAU*)* submitted prior to the commissioning of the phase 1 expansion and seeking to amend the annual revenue requirement (ARR), revenue cap and terminal infrastructure charge (TIC) on the basis of the *forecast* phase 1 expansion costs, with the amendments to be effective on the first day of the month following commissioning; and

- a second DAAU to be submitted once the phase 1 expansion is commissioned, seeking to revise the ARR, revenue cap and TIC on the basis of the *actual* phase 1 expansion costs with the revision also to be effective from the first day of the month following commissioning. This second DAAU is required under the current access undertaking.

Accordingly, on 6 September 2007, DBCT Management submitted a voluntary DAAU under s. 142 of the *Queensland Competition Authority Act 1997*. The DAAU sought the Authority's approval of $590.5 million in forecast costs for phase 1, resulting in an increase in the TIC from $1.4977 to $2.0652.

The Authority published the DAAU on 7 September 2007 and provided interested parties with an opportunity to comment. No submissions were received.

The Authority's decision, consistent with section 142(2) of the QCA Act, is to approve the DAAU. The increased TIC will be effective from the first day of the month following the completion of the phase 1 expansion, which is expected to be 31 January 2008.

In approving the DAAU, the Authority notes that the forecast costs of the phase 1 expansion are broadly reasonable and that it is normal regulatory practice to provide a regulated business with an allowance for forecast capital expenditure. Furthermore, the Authority's approval of the forecast costs of the phase 1 expansion will not have an adverse impact on the interests of the terminal's users, as the DAAU incorporates an unders and overs mechanism that will ensure that DBCT Management receives no more than it should based on final actual costs, regardless of the level of forecast costs approved as part of this DAAU. The Authority will undertake a detailed review of the prudency of the actual costs of the phase 1 expansion when DBCT Management's second DAAU is submitted following commissioning of the expansion.

As there were no submissions objecting to DBCT Management's proposals and the decision on this first DAAU is part of a broader regulatory process, the Authority made this final decision without first releasing a draft decision.

TABLE OF CONTENTS

		PAGE
PREAMBLE		**II**
GLOSSARY		**IV**
1.	**INTRODUCTION**	**1**
1.1	**The Dalrymple Bay Coal Terminal**	**1**
1.2	**Declaration of Third Party Access**	**2**
1.3	**The DBCT 2006 Access Undertaking**	**3**
1.4	**DBCT Management's Proposed Two-Stage Approval Process**	**4**
1.5	**The Authority's Considerations**	**5**
1.6	**The Authority's Assessment Process**	**5**
2.	**UNDERS AND OVERS MECHANISM**	**6**
2.1	**DBCT Management's Proposal**	**6**
2.2	**Authority's Analysis and Decision**	**7**
3.	**FORECAST EXPANSION COSTS**	**9**
3.1	**Introduction**	**9**
3.2	**Construction Works' Forecast Costs**	**10**
3.3	**EPCM and Owner's Costs**	**14**
3.4	**Interest During Construction and Financing Costs**	**15**
3.5	**Conclusion**	**18**
4.	**REVENUE MODELLING**	**19**
4.1	**The Building Block Components**	**19**
4.2	**Annual Revenue Requirement, Revenue Cap and Pricing**	**22**
LIST OF SUBMISSIONS		**24**

GLOSSARY

ARR	Annual Revenue Requirement
Authority	Queensland Competition Authority
DAAU	Draft Amending Access Undertaking
DBCT, Terminal	Dalrymple Bay Coal Terminal
DBCT Management	BBI (DBCT) Management Pty Ltd
DORC	Depreciated Optimised Replacement Cost
EPCM	Engineering, Procurement and Construction Management
Holdings	DBCT Holdings Pty Ltd
IDC	Interest During Construction
Mtpa	million tonnes per annum
NPV	Net Present Value
PCQ	Ports Corporation of Queensland
PSA	Port Services Agreement
QCA Act	Queensland Competition Authority Act 1997
RAB	Regulatory Asset Base
TCMP	Tender and Contract Management Process
TIC, reference tariff	Terminal Infrastructure Charge
Tph	tonnes per hour
the undertaking	DBCT 2006 Access Undertaking
WACC	Weighted Average Cost of Capital

1. INTRODUCTION

The Dalrymple Bay Coal Terminal is being expanded in three phases. The first of these phases is scheduled for completion by the end of January 2008 and will increase terminal capacity from 60 mtpa to 68 mtpa.

In accordance with s.142 of the QCA Act, DBCT Management submitted, for the Authority's approval, a voluntary DAAU seeking an increase in its revenues and tariffs based on the forecast costs of the phase 1 expansion.

Following commissioning of the phase 1 expansion, DBCT Management is obliged to submit a DAAU that seeks the Authority's approval of the actual costs of the phase 1 expansion.

The current forecast cost DAAU proposes that, once an actual cost DAAU is approved revenues and tariffs will be revised and a payment will be made from DBCT Management to the terminal's users (or vice versa) to the extent that forecast costs are higher (lower) than actual expansion costs. This is designed to ensure that all parties are revenue neutral to the size of the forecast costs approved.

Because of the NPV neutral unders and overs proposal, a detailed analysis of forecast costs was not undertaken by the Authority. Rather, a review was undertaken of the general reasonableness of forecast costs and of the unders and overs process itself to ensure that it was in fact NPV neutral. A detailed assessment of costs will be undertaken when DBCT Management seeks approval of the actual costs of the expansion.

1.1 The Dalrymple Bay Coal Terminal

The Dalrymple Bay Coal Terminal (DBCT) is a coal export terminal located in central Queensland 40 kilometres south of Mackay. The terminal opened in 1983 as a common user coal export terminal, servicing mines in the Goonyella system of the Bowen Basin coal fields.

The Queensland Government owns DBCT through a wholly Government owned entity, DBCT Holdings Pty Ltd (Holdings). BBI (DBCT) Management Pty Ltd (DBCT Management) have a lease of the terminal for 50 years (from 2001), with an option to extend this lease by a further 49 years.

Since its commissioning, the terminal has been expanded as necessary to service growth in demand. In June 2003, the stage 6 expansion was completed, which increased the terminal's capacity to 56.0 million tonnes per annum (mtpa). More recently, the commissioning of the short gain expansion and departure path dredging by the Ports Corporation of Queensland (PCQ) have increased the nominal terminal capacity to its current level of 60 mtpa.

In response to user demand for additional capacity, DBCT Management's terminal master plan established an expansion program known as the DBCT 7x Project. This project provides for expanding each of the three main terminal elements: inloading, stockyard and outloading. The DBCT 7x project initially involved three phases, the latter two of which were subsequently combined:

- *phase 1 expansion* – expected to increase nominal capacity from 60 to 68 mtpa; and
- *phase 2 & 3 expansion* – expected to increase nominal capacity from 68 to 85 mtpa.

Phase 1 Expansion

DBCT Management has indicated that the phase 1 expansion is expected to be completed by the end of January 2008 at a total forecast cost of $590.5 million, including interest during construction (IDC) and project financing costs. The expansion works primarily focus on inloading and stockyard upgrades involving:

- *a third in-loading system* – a new, third in-loading station and associated loading conveyor to the stockyard;
- *increased stockyard capacity* – new bunds 5A and 6; new yard conveyors S7 and R7 and extension to conveyor L1/L2; modification to sampling plant; new stockpile row 8 for storing recovered coal; upgrading stacking machines SR2/R3 and SR5 to 5,500 tonnes per hour (tph); and relocating and upgrading stacker/reclaimer SR4 to become reclaimer RL2 on bund 6;
- *new stockyard machines* – new stacker ST3 and new stacker/reclaimers SR3A and SR4A;
- *increased outloading capacity* – upgrading SB1 feeders and BF5 and BF7 drives; upgrading shiploader SL1 and SL2; increasing speed of out-loading conveyors L1 - L4 to accommodate higher reclaim rates from new reclaimers; and berth pocket dredging; and
- *engineering services* – upgrading site wide high voltage power supply; control and automation software; upgrading storage dams and stockyard dust suppression; and constructing services facilities for phase 1.

1.2 Declaration of Third Party Access

The service of the *handling of coal at DBCT by the terminal operator* has been declared under Part 5 of the *Queensland Competition Authority Act 1997* (QCA Act) for the purposes of third party access.

The effect of declaration under Part 5 of the QCA Act is that the access provider, in this case DBCT Management, is *inter alia* obliged to negotiate with, and provide information to, access seekers, and it is also prohibited from hindering or preventing access.

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 Queensland Competition Authority (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.

While Part 5 of the QCA Act imposes broad obligations on an access provider, it also provides for the development, and the Authority's approval, of an access undertaking.

Among other things, an access 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. At the same time, the parties to an access agreement may agree to terms and conditions of access that are inconsistent with an approved undertaking.

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). 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.

An approved undertaking also 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.

1.3 The DBCT 2006 Access Undertaking

On 15 June 2006, the Authority published its decision to approve the DBCT 2006 access undertaking as submitted by DBCT Management.

The undertaking sets out a range of matters including:

- negotiation arrangements for new access applications, including priority of access applications and dispute resolution;
- the scope and term of the undertaking;
- reference tariffs linked to a revenue cap;
- DBCT Management's public and regulatory reporting requirements; and
- capacity determination and capacity expansion procedures.

For the purposes of this application, the most relevant parts of the undertaking relate to capacity expansion and price review.

The undertaking provides for access charges to be determined with reference to a revenue cap, based on an Authority approved Annual Revenue Requirement (ARR). Each user makes constant monthly payments to DBCT Management at the rate of the terminal infrastructure charge (TIC) (ie the reference tariff) on one-twelfth of that user's annual reference tonnage regardless of the volume of coal actually shipped in each month.

DBCT Management is required to submit a draft amending access undertaking (DAAU) to revise the ARR and reference tariff in certain circumstances, including upon the commissioning of a capacity expansion.

The undertaking also provides for the Authority to approve certain aspects of a capacity expansion prior to the commissioning of the works and the submission of a DAAU. In particular, since November 2006, the Authority has been considering on a contract-by-contract basis whether or not: the design standards for the terminal's expansion are reasonable (ie not 'gold-plated'); the contract variation and escalation provisions accord with good commercial practice; and the contracts are selected and awarded in accordance with the approved tender and contract management process as certified by an independent external auditor. These reviews are ongoing and, by the end of 2006-07, the Authority had considered around $540 million of the expansion works to be undertaken.

Once an expansion is commissioned, clauses 11.3(d) and 12.5(o) of the undertaking require DBCT Management to submit a DAAU for the Authority's approval, in accordance with schedule C, part A, 4(g). The purpose of the DAAU is to amend the ARR, revenue cap, and/or reference tariff as a result of a 'Review Event', which includes:

(a) a change in Reference Tonnage;

(b) a change in non-Reference Tonnage;

(c) commissioning and handover to the Operator of the whole of a discrete phase of a Capacity Expansion; or

(d) receipt of insurance proceeds, damages or other compensation for loss, damage or destruction of an asset comprised in the Terminal, to the extent that those moneys are not applied in repair, reinstatement or replacement.

The undertaking also requires DBCT Management to submit a DAAU to alter revenues and tariffs to take account of any capital expenditure not included in an actual cost DAAU or sale of the terminal's assets during the preceding twelve months (refer to DBCT 2006 Access Undertaking, Schedule G, pp. 65-66).

The Authority's approval in June 2007 of DBCT Management's DAAU for the short gain expansion of the terminal was an outcome of this process. As a result, the ARR for 2007-08 is currently set at $91,811,561.

As the commissioning of the phase 1 expansion will constitute a 'Review Event' as defined in schedule G, it will also trigger DBCT Management's obligation under schedule C, part A, 4(g), to lodge a DAAU for the Authority's approval of the actual costs of the phase 1 expansion to be included in the DBCT regulatory asset base.

1.4 DBCT Management's Proposed Two-Stage Approval Process

While DBCT Management remains obliged to submit a DAAU following the commissioning of the phase 1 expansion, DBCT Management has noted that the current reference tariff does not reflect any forecast capital expenditure. This is because, under the access undertaking, the TIC reflects the regulatory asset base approved by the Authority to date, comprising the Depreciated Optimised Replacement Cost (DORC) of the initial assets as at 1 July 2004 and the actual cost of the commissioned short gain expansion.

DBCT Management has submitted that, to date, this arrangement has not adversely affected its funding for the phase 1 expansion, as financing costs are being capitalised into the expansion cost. However, following commissioning of the phase 1 expansion, DBCT Management indicated that its debt financing arrangements do not provide for interest to be capitalised. As a result, DBCT Management has indicated that it requires additional revenue to service its increased financing commitments after commissioning (DBCT Management, sub. no. 1, sec. 3: 3/1).

Accordingly, DBCT Management has proposed a two-stage process to expedite the adjustment to the reference tariff following the commissioning of the phase 1 expansion, namely by submitting two DAAUs:

- *phase 1 forecast cost DAAU* - prior to the commissioning of the phase 1 expansion, seeking to amend the ARR, revenue cap and TIC on the basis of the *forecast* phase 1 expansion costs with the change to be effective on the first day of the month following commissioning; and

- *phase 1 actual cost DAAU* – once the phase 1 expansion is commissioned, seeking to revise the ARR, revenue cap and TIC on the basis of the *actual* phase 1 expansion costs with the revision also to be effective from the first day of the month following commissioning.

On 6 September 2007, DBCT Management submitted its phase 1 forecast cost DAAU. A key element of this DAAU is an unders and overs mechanism that seeks to reconcile any difference between forecast and actual costs in a revenue neutral manner. In other words, the mechanism

seeks to fully insulate both DBCT Management and users from variations between forecast and actual costs of the phase 1 expansion.

DBCT Management has indicated that it intends to submit its phase 1 actual cost DAAU at the same time that it submits its annual review on 1 July, as provided for in the access undertaking (DBCT Management, sub. no. 1, sec. 3: 3/2).

1.5 The Authority's Considerations

Section 142 of the QCA Act requires the Authority to consider a DAAU submitted to it for the purpose of amending an approved access undertaking, and either approve, or refuse to approve, that DAAU.

The Authority's assessment criteria for considering a DAAU are the same as for considering a draft access undertaking.

Section 138(2) of the QCA Act states that the Authority may approve a draft access undertaking only if it considers it appropriate to do so having regard to:

(a) the legitimate business interests of the owner or operator of the service;

(b) the public interest;

(c) the interests of people who may seek access to the service; and

(d) any other matter the Authority considers relevant.

Under s. 138(3) of the QCA Act, the Authority may approve a draft access undertaking only if it has published the undertaking and invited persons to make submissions and has considered submissions received.

The Authority notes that its consideration of the submitted DAAU should not be construed as a substitute for a detailed assessment of the actual costs of the phase 1 expansion. This assessment will occur when the Authority considers the phase 1 actual cost DAAU, which DBCT Management is obliged to submit following commissioning of the phase 1 expansion.

1.6 The Authority's Assessment Process

On 7 September 2007, the Authority issued its Notice of Investigation of DBCT Management's DAAU. The Authority published DBCT Management's phase 1 forecast cost DAAU and supporting information on the Authority's web site (www.qca.org.au) and invited submissions from interested parties by 28 September 2007.

No stakeholders responded to the invitation.

As the Authority has formed the view that the DAAU appeared broadly reasonable, there were no submissions objecting to DBCT Management's proposals and the decision on this DAAU is part of a broader regulatory process that includes a NPV neutral unders and overs process, the Authority made this final decision without first releasing a draft decision.

2. UNDERS AND OVERS MECHANISM

DBCT Management's DAAU proposes a two-stage process for the approval of phase 1 capital expenditure, namely the approval of amendments to revenues and tariffs based on the forecast costs of the expansion followed by a subsequent approval based on the actual costs of the expansion.

To ensure that neither DBCT Management nor users are disadvantaged by this two-stage process, DBCT Management has proposed an unders and overs mechanism to reconcile any difference between forecast and actual costs in an NPV neutral manner.

The Authority accepts this mechanism because it fully insulates DBCT Management and users from variations between forecast and actual costs, and provides a transparent process for the form and timing of any repayment.

2.1 DBCT Management's Proposal

DBCT Management has proposed a two-stage approach to gaining approval for its phase 1 capital expenditure to ensure its revenues are amended close to the commissioning date, namely by submitting two DAAUs:

- *phase 1 forecast cost DAAU* – submitted voluntarily prior to commissioning to increase the regulated revenues and tariffs on the basis of *forecast* capital expenditure; and

- *phase 1 actual cost DAAU* – submitted after commissioning to revise the regulated revenues and tariffs on the basis of *actual* capital expenditure (DBCT Management, sub. no. 1, sec. 3: 3/2).

As part of this two-stage approval process, DBCT Management has proposed an unders and overs mechanism that seeks to reconcile any difference between forecast and actual costs in a revenue neutral manner. The purpose of this mechanism is to place DBCT Management and access holders in the same position that they would have been in had the phase 1 actual cost reference tariff originally applied; that is, neither DBCT Management nor access holders are better or worse off from following the two-stage, rather than single stage, approval process.

This mechanism is reflected in the proposed amendments (sections 4(j) to (o)) to Schedule C, Part A of the 2006 access undertaking, as set out in Appendix 4 of the DAAU. Subclauses (m) and (n) of these amendments provide for:

- the difference between the "Interim Access Charges" (the access charges payable under the reference tariff based on forecast costs) and the "Adjusted Access Charges" (the access charges to be payable on the basis of actual costs) to be calculated;

- the interest payable on the difference between "Interim Access Charges" and the "Adjusted Access Charges" to be calculated from the first day of the month following the commissioning of the phase 1 expansion to the day preceding the Authority's approval of the actual costs of the phase 1 expansion. A further interest charge is then included to take account of the time between the Authority's decision and the date of payment;

- interest to be payable at the WACC(3) rate;

- DBCT Management "to recover or repay" (as the case may be) in a single payment the difference between the "Interim Access Charges" and the "Adjusted Access Charges", including the interest on the difference; and

- the repayment to occur in the month following the month in which the calculation of the difference takes place.

Accordingly, DBCT Management submitted that its proposal provides for any required adjustment for an under- or over-payment of charges to be backdated to apply from the first day of the month following the month in which the expansion is commissioned (DBCT Management, sub. no. 1, sec. 3: 3/1 – 3/2).

2.2 Authority's Analysis and Decision

The Authority accepts that an unders and overs mechanism is an essential component of the phase 1 forecast cost DAAU.

The 2006 access undertaking that was agreed by all relevant stakeholders provided for capital expenditure to be recognised as and when expansions occurred and for reference tariffs to be amended after an expansion was commissioned. The phase 1 forecast cost DAAU seeks to amend this arrangement to allow for revenues and tariffs to be adjusted earlier than would otherwise be the case based on forecast capital expenditure.

The inclusion of an effective unders and overs mechanism ensures that DBCT Management is able to benefit from the timely adjustment of its revenues but that, in the longer term, no parties are adversely affected by the amendment. In particular, the unders and overs mechanism ensures that DBCT Management and users are fully insulated from any variations between forecast and actual costs.

Accordingly, in assessing the effectiveness of the proposed amendments, the Authority has focussed on whether the clause would operate in a revenue neutral manner as well as whether the method and timing of any repayment was appropriate.

In accepting that the proposed amendments are revenue neutral, the Authority notes that the amendments provide for the correct calculation of any under- or over-payment of access charges. In addition, the Authority notes that the proposed amendments correctly identify the time period over which interest is to be calculated on any difference; that is, from the first day of the month after the month in which phase 1 is completed until approval of the phase 1 actual cost DAAU. In addition, provision is made for a further interest adjustment from that latter date to the date on which the adjustment payment is made.

The Authority also notes that DBCT Management has proposed applying the appropriate WACC rate. In particular, the undertaking provides for the WACC for calculating the return on capital for capital expenditure to be based on the risk-free rate over the twenty days preceding commissioning – this WACC is known as the 'WACC(3) rate'. DBCT Management has proposed that this WACC(3) rate also apply to the calculation of interest on any refunds or additional payments.

In accepting the method of repayment, the Authority notes that DBCT Management must recover or repay any amounts through a single payment. This is the simplest and, therefore, most transparent approach available for settling any difference.

In accepting the timing of any repayment, the Authority notes that the amendments provide for clear and defined time periods for settling the repayment. Specifically, the amendments provide for DBCT Management to advise any relevant access holder and the Authority of the amount of the repayment within sixty days following the date that the Authority approves the reference tariff based on actual costs. The amendments then provide for DBCT Management to recover, or repay, that amount in the following month. These amendments provide certainty to parties as to when amounts must be recovered or repaid.

In summary, therefore, the Authority accepts that the proposed unders and overs mechanism will ensure that neither DBCT Management nor users are disadvantaged by the proposed amendments.

3. FORECAST EXPANSION COSTS

The phase 1 expansion of the terminal, from 60 to 68 mtpa, involves supplying and installing equipment and construction works to all three areas of the terminal's operations, namely inloading, stockyard and outloading. These works are coordinated and managed by both DBCT Management and the EPCM contractor. Additional expenses have been incurred in financing the expansion project. The total forecast cost of these works is $590.5 million.

In considering the reasonableness of these forecast costs, the Authority has reviewed DBCT Management's forecasting methodology and has considered these costs against costs in similar projects. On this basis, the Authority has concluded that DBCT Management's forecast phase 1 expansion costs represent a reasonable estimate given the current market conditions. The Authority will review the prudency of the actual costs of the phase 1 expansion in detail following its commissioning.

3.1 Introduction

DBCT Management has proposed a forecast phase 1 expansion cost of $590.5 million (see Table 1) relating to:

- construction works on all aspects of the terminal (eg inloading, stockyard and outloading);
- the coordination and management of the phase 1 works; and
- interest and financing costs.

The Authority's consideration of these aspects of the expansion costs is detailed in sections 3.2, 3.3 and 3.4 of this chapter.

Table 1: Phase 1 Cost Estimate

Area	***Estimated cost ($m)***	***Estimated cost ($m)***
Construction works		
Inloading	141.9	
Stockyard	158.3	
Outloading	23.1	
Construction facilities and services	12.1	
Site wide	31.8	367.2
EPCM and owner's costs		
EPCM	120.0	
Owner's costs	43.2	163.2
IDC and financing costs		
IDC	48.2	
Financing costs	11.9	60.1
TOTAL		590.5

3.2 Construction Works' Forecast Costs

DBCT Management's Proposal

DBCT Management submitted that the forecast costs of $367.2 million for major construction works were reasonable (DBCT Management, sub. no. 1, sec. 5: 5/1). DBCT Management incurred this cost across the following functional areas:

- inloading;
- stockyard;
- outloading;
- construction facilities and services; and
- site wide.

The inloading works primarily involve constructing a new inloading system (IL3) at a forecast cost of $141.9 million. The works comprise a rail receival pit (RRP3), new inloading conveyor systems (IL3) at 7,500 tph and an associated S11 conveyor tunnel to transfer coal from the unloading point at the rail track to the stockyard. The works also include upgrading the two existing inloading conveyor systems (IL1 and IL2) and constructing an additional stockyard conveyer (S7) on bund 5A (DBCT Management, sub. no. 1, sec. 5: 5/1, appx. 2: 2).

The stockyard expansion involves constructing new bunds, installing and refitting stackers and stacker / reclaimers and constructing a new operational row at an estimated cost of $158.3 million. Specifically, the construction works involve the addition of new bunds 5A and 6, yard conveyor R7 on bund 6 and the extension of existing conveyors L1 and L2. The works also include two new rail-mounted stacker / reclaimers, SR3A and SR4A, a new rail-mounted stacker ST3, the upgrade and refurbishment of existing stacker / reclaimer SR5 and the upgrade and relocation of SR4 to become RL2 on bund 6 (DBCT Management, sub. no. 1, sec 2: 2/2, sec. 5: 5/1).

The outloading expansion works involve conveyor and shiploader upgrades to increase the coal transportation capacity from the stockyard, along the length of the jetty to the berths, at an estimated cost of $23.1 million. The conveyor upgrades are designed to increase the speed of the existing outloading conveyors L1, L2, L3 and L4 while upgrading belt feeders BF5 and BF7 on surge bin SB1 will improve controllability. Shiploader SL1 will be upgraded to increase its long travel speed (ie the rate at which it moves along the wharf) while SL2 upgrades include installing new boom luffing drives to increase the shiploader's boom speed and consequent outloading capacity. Other outloading works for phase 1 include berth pocket dredging (DBCT Management, sub. no. 1, sec 2: 2/2, appx. 3: 56, 60).

The phase 1 works also include construction work and additional facility services to enable the effective management of on-site construction works by DBCT Management at a forecast cost of $12.1 million. These items include transportable site buildings, provision of ambulance services, site vehicles, security, waste collection and cleaning services (DBCT Management, sub. no. 1, sec. 5: 5/4).

Site wide works involve works necessary to ensure that the project meets its statutory environmental obligations and necessary upgrades to cater for the planned increase in terminal capacity, at a forecast cost of $31.8 million. Works include upgrade of the high voltage power supply, stockyard water reticulation, expansion and further development of the storage dams in the rail receival area to comply with environmental approval requirements, upgrade of site wide

control and automation software to cater for the phase 1 system upgrades and provision for anti-collision systems for yard machines and shiploaders (DBCT Management, sub. no. 1, sec. 2: 2/2, sec. 5: 5/3).

Forecast methodology

DBCT Management used the same forecast methodology to establish the cost estimates for the aforementioned functional areas as it did for the EPCM and owner's supplies. (See section 3.3 for a discussion of the latter two cost elements). This forecast methodology involved:

- comprehensive scoping of the construction works and detailed engineering design;
- developing a baseline construction estimate, comprising the budget for estimated contract award values and provisions for contract variations; and
- determining an allowance for project contingencies.

DBCT Management submitted that its estimate for phase 1 was based on a scope of works consistent with the approved DBCT master plan and with its obligations under the access undertaking. For example, DBCT Management indicated that the capacity generated by the expansion was the subject of binding offers from users, which is consistent with its obligations under clause 12.3(a) of the access undertaking that requires it to undertake expansions as necessary to accommodate actual and reasonably anticipated demand (DBCT Management, sub. no. 1, sec. 1: 1/3).

DBCT Management also noted that the works reflected standards and specifications consistent with the requirements of clause 12.1 of the Port Services Agreement (PSA) (DBCT Management, sub. no. 1, sec. 5: 5/5).

Given the defined scope and standard of the works, DBCT Management developed a baseline forecast estimate for the phase 1 expansion using the budgeted contract award values as a starting point. DBCT Management then identified risks associated with individual contracts and budgeted an additional amount for each contract to cater for potential contract variations (DBCT Management, sub. no. 2, attach. A: 4-1, 4-2). For example, for civil contracts, DBCT Management's provision for variations totalled about 11% of the contract value (DBCT Management, sub. no. 2, attach. A: 4-3).

In finalising its phase 1 cost estimate, DBCT Management engaged Broadleaf Capital International Pty Ltd (Broadleaf) to undertake a quantitative capital cost risk assessment to determine an appropriate project contingency. This process involved Broadleaf identifying a range of major project risk events and assigning probabilities and costs to each possible event to derive a forecast cost / risk profile.

This profile was used to develop contingency estimates which, when added to the baseline estimate, provides a specific level of confidence that the total estimate will not be exceeded. For example, a P50 estimate includes a contingency amount such that there is a 50% chance that the total estimate will not be exceeded, while a P90 estimate includes additional contingency amounts such that there is a 90% chance that the total estimate will not be exceeded (DBCT Management, sub. no. 1, sec. 5: 5/18-19).

DBCT Management indicated that its proposed estimate of $530.4 million (excluding IDC and financing costs) reflects a budget estimate at the P90 level. DBCT Management submitted that a forecast at the P90 level reflects 'best estimating' practice. In this regard, DBCT Management indicated that other major infrastructure owners have now moved from P75 or P80 estimates to

a P90 estimate as a result of intense cost pressures in the current construction market (DBCT Management, sub. no. 1, sec. 5: 5/20).

Independent Review of Forecast Costs

As part of its financing arrangements for phase 1, DBCT Management engaged an independent technical consultant to provide potential financiers with independent advice, including an opinion as to whether the cost estimate of the expansion was adequate and the level of contingency was appropriate. DBCT Management engaged Kellogg, Brown & Root Pty Ltd (KBR) as this independent technical consultant.

As part of its brief, DBCT Management engaged KBR to review its phase 1 project delivery strategy, including, *inter alia*, the:

- scope of work;
- budget for expected contract award value plus provisions for contract variations; and
- provision for project contingency.

KBR reviewed the scope of the project on the basis of both its definition and completeness and determined that the proposed works were in accordance with the Master Plan and access undertaking. KBR also indicated that the major contract packages were consistent with the proposed works (DBCT Management, sub. no. 2, attach. A: v-vi, 4-3).

In addition, KBR assessed the baseline construction cost estimate by reviewing each awarded contract package comprising the base estimate value against the actual awarded amount. With the exception of minor variances, KBR concluded that DBCT Management had accurately included the awarded value of the contracts in the construction estimate (DBCT Management, sub. no. 2, attach. A: 4-1, 4-2).

In assessing the provisions for contract variations, KBR reviewed each awarded contract package in detail, taking into account terms and conditions of contract, comparison to historical relationships by contract type, variations awarded to date and current progress. KBR indicated that, based on its experience with the type of work and associated risks with civil contracts, the allowance for variations should be in the range of 15% to 20% and that DBCT Management's allowances were on the low side of this range. However, no adjustment was considered necessary to the provision for variations in individual contracts as KBR was also of the view that the project contingency estimate included adequate provision for contract variations (DBCT Management, sub. no. 2, attach. A: 4-3).

KBR also assessed DBCT Management's estimate for project contingency by adopting an alternative modelling approach where it itemised the base estimate into categories of similar source and then applied percentages based on experience relating to the quality of the underlying scope and pricing definition. Based on this benchmarking exercise, KBR confirmed that the contingency amounts in the estimate were reasonable and in line with industry practice (DBCT Management, sub. no. 2, attach. A: 4-5).

In conclusion, KBR stated that:

> …. KBR has carried out the review of the estimate and has formed the view that the estimated contract sums, capital estimates and proposed contingency are appropriate and in line with industry practice (DBCT Management, sub. no. 2, attach. A: 4-5).

Authority's Analysis and Decision

The Authority accepts that DBCT Management's proposed cost is a forecast and, as such, it represents DBCT Management's 'best estimate' at the time of submitting the DAAU. The Authority also notes that, ultimately, the forecast costs will be irrelevant to the prices paid by terminal users as they will be supplanted by actual costs with an NPV neutral adjustment mechanism.

In this context, the Authority's review has focused principally on DBCT Management's methodology for building up that forecast in order to form a view on the reasonableness of the forecast cost. In doing so, the Authority has not sought to review the prudency of the procurement of equipment or of the management of the construction works. The Authority will consider those matters as part of its review of the phase 1 actual cost DAAU.

Accordingly, the Authority's assessment has focussed on the three primary components of DBCT Management's forecasting methodology, namely:

- defining the scope of the works;
- developing the budget for estimated contract values and variations; and
- quantitative risk assessment to determine project contingencies.

The Authority's assessment was informed by reference to KBR's review of the phase 1 expansion delivery strategy. While DBCT Management engaged KBR, the Authority accepts that a significant degree of reliance can be placed on the independence of KBR's advice as its engagement was on behalf of the equity holders and financiers.

In August 2006, the Authority reviewed and accepted that the scope of the phase 1 works was consistent with DBCT's master plan and clause 12.1 of the PSA. Relevantly, KBR also formed this view in its review of the phase 1 expansion.

In analysing the baseline estimate of the forecast cost build-up, the Authority is satisfied that DBCT Management's methodology involved developing a budgeted value for contracts and making appropriate allowances for contract variations. In the latter regard, the Authority notes that DBCT Management's forecast for variations represents about 20% of the original contract values.

While a 20% allowance appears to be on the high side, the Authority considers that allowances for contract variations may differ across both functional areas and contracts based on the relevant risk profile for the type of work. In this regard, the Authority notes that in its DORC valuation of the initial DBCT assets, Maunsell considered civil works to be particularly prone to variation given the unique nature of the site-specific work involved.[1]

[1] Maunsell, *DORC Valuation for Dalrymple Bay Coal Terminal: Final Report*, April 2005, p.8.

The Authority also notes KBR's conclusion that an appropriate variation for major civil works in phase 1 falls within the range of 15% to 20%. Indeed, 20% for contract variations seems to reflect experience to date on the phase 1 expansion (DBCT Management, sub. no. 2, attach. A: 4-3).

As a result, the Authority considers that the forecast for contract variations has been derived in a reasonable manner.

In addition, the Authority accepts the contingency estimate at the P90 level as reasonable. In doing so, the Authority notes that DBCT Management's contingency estimates were informed by Broadleaf's analysis, which modelled a range of possible events, their probabilities of occurrence and costs. In this regard, the Authority considers it relevant that KBR arrived at similar estimates for project contingencies using an alternative modelling approach, concluding that the estimates were reasonable and in line with industry standards (DBCT Management, sub. no. 2, attach. A: 4-5).

In considering this matter further, the Authority notes that, while a P50 estimate may be a more appropriate budget estimate under 'normal' construction market conditions, the intense cost pressures of the current construction market have resulted in significant cost increases in labour rates and key materials and components. The Authority considers that it is also a relevant factor that other major construction projects are also currently experiencing cost pressures that justify using P90 cost estimates.

3.3 EPCM and Owner's Costs

DBCT Management's Proposal

In addition to the estimate for major construction works, DBCT Management proposed an estimate of $163.2 million for:

- Engineering Procurement and Construction Management (EPCM) services; and
- owner-supplied equipment.

EPCM services comprise design, engineering, construction and project management, as well as contract and commissioning management, at an estimated cost of $120.0 million. For the DBCT 7x project, DBCT Management appointed engineering and construction firm Connell Hatch as the EPCM managing engineer due to its extensive experience with large infrastructure projects, and its recent direct experience working on the DBCT site (DBCT Management, sub. no. 1, sec. 2: 2/1).

In relation to EPCM costs, DBCT Management indicated that the forecast $120.0 million represents about 17.1% of direct forecast costs for the phase 1 expansion. As this figure falls within the expected range of 12% to 25% for major infrastructure projects of this type, DBCT Management considered this estimate to be reasonable (DBCT Management, sub. no. 1, sec. 5: 5/15).

Owner-supplied equipment refers to specialist equipment supplied to contractors undertaking on-site works. Owner supply ensures that key pieces of equipment are on-site for the contractors and purchased at a cost without any mark-up. For phase 1, owner-supplied equipment includes, for example, bucket wheel and boom for reclaimer RL2, conveyor components, transformers, circuit breakers and cable for site wide electrical works, and rail track along which the yard machines move.

DBCT Management indicated that the industry standard for owner's costs, as a percentage of total forecast costs, ranges from 5% to 10%. As the phase 1 owner's forecast costs are approximately 5%, DBCT Management maintained that this represented a reasonable outcome for the project (DBCT Management, sub. no.1, sec. 5: 5/16).

DBCT Management engaged KBR to review both EPCM services and owner's costs. In both cases, KBR reviewed detailed 'first principles' build-ups of these costs and concluded these costs were reasonable (DBCT Management, sub. no. 2, attach. A: 4-4).

Authority's Analysis and Decision

The Authority accepts that DBCT Management's forecasts for the EPCM and owner's supply costs represent a reasonable estimate.

In assessing the EPCM services estimate, the Authority accepts that the forecast 17.1% of direct costs is within a reasonable range for infrastructure projects of this type. The Authority notes that it is also relevant that KBR concluded that the EPCM services cost component of the estimate appears valid and consistent with industry standards (DBCT Management, sub. no. 2, attach. A: 4-4).

In regard to owner's supply costs, the Authority considers that the 5% proportion of total forecast costs is within an acceptable range. In this regard, the Authority notes that KBR reviewed the owner's cost component on a historical relationship to direct works, including checks of the individual cost items, and concluded that the owner's cost component of the estimate appeared adequate and consistent with industry standards (DBCT Management, sub. no. 2, attach. A: 4-4).

The Authority will undertake a detailed assessment of DBCT Management's EPCM and owner's costs as part of its consideration of the prudency of the actual costs of the phase 1 expansion.

3.4 Interest During Construction and Financing Costs

In addition to major construction, EPCM and owner's cost estimates of $530.4 million, DBCT Management has proposed:

- $48.2 million for interest during construction (IDC); and
- $11.9 million for equity and debt financing costs.

These two matters are discussed in turn in the remainder of this section.

Interest During Construction

DBCT Management's Proposal

DBCT Management has proposed an allowance of $48.2 million for IDC. In estimating this allowance, DBCT Management indicated that it has adopted standard regulatory assumptions by:

- applying the regulatory (benchmark) debt / equity ratio (in the case of DBCT, 60% debt and 40% equity) to the forecast;

- allocating the $530.4 million of forecast costs into the construction profile (ie 'S-curve');
- assuming a progressive (ie at the same time) draw down of debt and equity in the 60% / 40% benchmark proportion; and
- rolling forward (ie capitalising) these payments over the construction period at the regulatory weighted average cost of capital (WACC) of 9.02% until the expected commissioning date (DBCT Management, sub. no. 1, sec. 6: 6/2-6/3).

In adopting this approach, DBCT Management noted that the progressive draw down of equity assumption is not consistent with contemporary capital raising practices where an expansion like phase 1 requires the equity to be raised and utilised first. Consequently, DBCT Management reserved its position on this particular matter (DBCT Management, sub. no. 1, sec. 6: 6/3).

Authority's Analysis and Decision

Given the proposed forecast cost of $530.4 million, the Authority has undertaken a broad review of DBCT Management's IDC estimate of $48.2 million and concluded that it is based on standard regulatory practice in that it:

- applies the regulatory benchmark of 60% debt and 40% equity to the forecast capital expenditure of $530.4 million;
- allocates this expenditure into the construction profile in an appropriate manner;
- assumes that debt and equity are drawn down progressively in the benchmark 60% / 40% proportion to finance construction costs; and
- applies a WACC of 9.02%.

In applying a WACC of 9.02%, the Authority notes that this WACC reflects the regulatory WACC applied to the initial assets.

However, the Authority also notes that DBCT Management's approach for calculating the WACC is not consistent with the 2006 access undertaking, which benchmarks the risk-free rate in the WACC with reference to the earlier of: the first draw down date on floating rate construction debt financing or the interest rate set date on fixed rate construction debt financing.

Nevertheless, the approach adopted by DBCT Management is consistent with standard regulatory practice. It is also consistent with the approach that DBCT Management adopted for the short gain expansion, which was not debt financed so the relevant provisions of the undertaking did not apply in that case.

While the Authority does not know what the relevant date is, it is likely that the calculation of the risk-free rate in accordance with the undertaking would result in a lower WACC and a lower IDC calculation than the one proposed by DBCT Management in its submission.

It is probable, therefore, that the terminal's revenues and prices will be marginally higher than what they otherwise should be. However, this impact will not be enduring given the impact of the unders and overs mechanism.

Consequently, the Authority considers the forecast IDC allowance to be reasonable for the purpose of assessing this DAAU, even though it has not been calculated in a manner that is entirely consistent with the undertaking. The Authority will undertake a detailed assessment of

the prudency of DBCT Management's IDC proposal as part of the Authority's subsequent consideration of the phase 1 actual cost DAAU. However, the Authority is prepared to accept this approach, at this time, given that it will not have an enduring adverse impact on the terminal's users.

Nevertheless, as DBCT Management relied, in part, on debt finance for the phase 1 expansion, the Authority expects DBCT Management to update the WACC for IDC purposes in its phase 1 actual cost DAAU, consistent with the 2006 access undertaking.

The Authority also notes DBCT Management's comments in relation to the assumption in relation to the progressive draw down of equity. The Authority will consider any submissions made in the future on this matter on their merits. At the same time, though, the Authority notes that a number of simplifying assumptions are made in IDC calculations, of which this is one. The Authority would need to consider the package of simplifying assumptions should DBCT Management seek to reopen one of them.

Financing Costs

DBCT Management's Proposal

DBCT Management has proposed an allowance of $11.9 million for financing costs.

DBCT Management submitted that, as the phase 1 expansion represents approximately 70% of the $850 million initial asset base, it cannot be financed from the recurring cash flows of the business. DBCT Management therefore indicated that, as it must access the capital markets for debt and equity finance, it should be compensated for the associated transaction costs that it incurred in securing that finance (DBCT Management, sub. no. 1, appx. 9: 3).

In estimating the proposed allowance of $11.9 million for these transaction costs, DBCT Management indicated that it adopted the debt and equity financing benchmarks applied by the Authority in determining the Depreciated Optimised Replacement Cost (DORC) of the initial DBCT assets in its April 2005 decision, namely by applying:

- an up front debt raising fee of 1% to the phase 1 benchmark debt requirement (60%); and
- an up front equity raising fee of 3.55% to the phase 1 benchmark equity requirement (40%) (DBCT Management, sub. no. 1, appx. 9: 3).

Authority's Analysis and Decision

The Authority has not previously provided regulated businesses with allowances for project financing costs for future capital expenditure. At the same time, it is accepted that, generally, the capital expenditure involved has been for incremental, organic growth. Therefore, the size of the required investment has generally been small relative to the overall regulatory asset base and the view has been taken that the regulated business is capable of funding its capital expenditure from its retained earnings and through the 12.5 basis point uplift to the debt margin of the WACC.

DBCT Management considers that the 12.5 basis point uplift is insufficient to compensate it for the debt and equity transaction costs associated with financing an expansion of this size.

The approach adopted to date by the Authority is consistent with the approach generally adopted by other Australian regulators. However, there does appear to be some movement in this regard, possibly caused by the substantial capital expenditures now being undertaken in

many regulated industries. As an example, the Australian Energy Regulator has allowed equity raising costs in respect of Powerlink's proposed capital expenditure.

Given the interim status of this DAAU, and the lack of responses from stakeholders because of this, the Authority proposes to reserve its position on this matter at this time and fully consider it when the actual cost DAAU is submitted. This will also allow time to further research the issue.

Given the relatively small sum involved in the context of the total expansion cost, the Authority proposes to accept the amount proposed by DBCT Management for the purposes of considering the DAAU. However, this should not be taken to imply acceptance or otherwise of DBCT Management's proposal. The Authority has taken this course of action in an effort to deal with this DAAU expeditiously and particularly in the knowledge that the NPV adjustment mechanism will ensure that users are not disadvantaged even if the Authority subsequently decides not to approve the proposed fees, in whole or in part.

3.5 Conclusion

In summary, DBCT Management proposed a total forecast cost of $590.5 million (as at 1 February 2008) for the DBCT phase 1 expansion, comprising forecast capital expenditure of $530.4 million and IDC and financing costs of $60.1 million.

In accordance with s. 138(2) of the QCA Act, the Authority has considered DBCT Management's DAAU having regard to the interests of DBCT Management, existing and future terminal users and the public interest.

In considering these interests, the Authority has focused on the prudency of the forecast capital expenditure and concluded that the forecast estimate of $590.5 million represents a reasonable estimate of the forecast costs of the phase 1 expansion.

In reaching its conclusion, the Authority emphasises that it has not conducted an assessment of the prudency of the costs of the phase 1 expansion, including the prudency of the way the expansion has been managed. As such, the Authority notes that its consideration of the submitted DAAU should not be construed as a substitute for a detailed assessment of the actual costs of the phase 1 expansion.

This assessment will occur when the Authority considers the phase 1 actual cost DAAU which DBCT Management is obliged to submit following commissioning of the phase 1 expansion. The Authority will then assess that DAAU consistent with its obligations in the QCA Act and the 2006 access undertaking.

4. REVENUE MODELLING

Based on a forecast $590.5 million of capital expenditure, DBCT Management has requested the Authority to approve an increase in:

- *the ARR of $20,191,169 to $112,002,730 for the 2007-08 financial year* (*as at 1 February 2008*);
- *the revenue cap of $19,954,716 to $110,268,535 for the 2007-08 financial year* (*as at 1 February 2008*); *and*
- *the reference tariff from $1.4977/tonne to $2.0652/tonne for the 2007-08 financial year* (*as at 1 February 2008*).

The Authority considers that these changes to the terminal's regulated revenues and tariffs are consistent with the forecast capital cost, based on the Authority's own modelling of the terminal's revenue requirements.

4.1 The Building Block Components

The Authority employs a nominal, post-tax 'building blocks' financial model to assess whether proposed revenues and prices are sufficient to ensure that DBCT Management is able to cover its costs and earn an adequate return on capital invested. The model's principal building blocks include:

- *return on capital* – a rate of return on assets, including capital expenditure, that compensates investors for the opportunity cost of their investment, taking into account the risks involved;
- *return of capital* – an allowance for depreciation of the assets that compensates investors for their loss in value over time;
- *operating expenditure* – an allowance for efficient operating and administrative costs required to provide the regulated service; and
- *tax payable* – an allowance for the expected tax liability arising from the revenue.

In applying the building blocks model to assess the proposed ARR for the phase 1 expansion, the Authority notes that DBCT Management is not seeking to increase its existing operating cost allowance.

Moreover, DBCT Management's proposed allowance for tax payable is based on the same approach applied by the Authority in its April 2005 decision (ie a benchmark statutory corporate tax rate of 30% and a 'gamma' of 0.50 for the value of dividend imputation credits).

The other major components of the building block model and the adjustments to reflect the timing of the receipt of revenues are discussed in more detail below.

Return on Capital

The Authority's April 2005 and June 2006 decisions provided for a WACC of 9.02% based on a risk-free rate of 5.84%[2] and a WACC margin above the risk-free rate of 3.18%. The undertaking provides for recalculating the WACC on capital expenditure (not the existing asset base) on the basis of the risk-free rate applying on the first day of the month immediately following the commissioning of the expansion.

DBCT Management's Proposal

The return on capital component of DBCT Management's proposed ARR is based on a WACC of 9.20%. DBCT Management indicated that this WACC comprises a WACC margin of 3.18% and a risk-free rate of 6.02%, with the latter reflecting the average daily yield of 10-year Commonwealth nominal bond rates over the 20 days preceding DBCT Management's formal submission of the DAAU to the Authority. In applying this risk-free rate, DBCT Management submitted that it intends to update this estimate following commissioning of the phase 1 expansion (DBCT Management, sub. no. 1, sec. 6: 6/2).

Authority's Analysis and Decision

The Authority has reviewed DBCT Management's proposal and has confirmed that DBCT Management has calculated the WACC correctly and applied it in an appropriate manner to determine the return on capital.

The Authority accepts DBCT Management's estimate of the risk-free rate, as the expansion has yet to be commissioned. However, the Authority notes that, when DBCT Management re-calculates the risk-free rate, and accordingly the WACC, for the phase 1 actual cost DAAU, the calculation will need to be made with reference to the commissioning date as provided for in clause 12.6 of the access undertaking.

Return of Capital

DBCT Management's Proposal

The return of capital component of DBCT Management's proposed ARR is $5.7 million for the 2007-08 financial year and $14.0 million for the 2008-09 financial year, based on its depreciation approach, which is based on:

- assuming an average asset life of 40 years for assets in the inloading, outloading, site wide and owner-supplied equipment work areas, reflecting the asset lives applied by the Authority in its April 2005 decision;
- assuming an average asset life of 46.4 years for the stockyard assets, on the basis that the 30 June 2054 economic constraint on the terminal's life constrains the remaining life of these assets from 50 years to 46.4 years;
- applying depreciation on a straight-line basis; and

[2] Estimated on the basis of the average daily yield of the 10-year Commonwealth bond over the 20 days preceding 1 July 2004.

- applying a scrap value of zero for these assets, which reflects DBCT Management's recent experience where the scrap proceeds of the collapsed reclaimer RL1 were only sufficient to compensate DBCT Management for RL1's site removal costs.

DBCT Management noted that, for its phase 1 actual cost DAAU, it intends to use individual asset lives rather than the key work area average asset lives given above (DBCT Management, sub. no. 1, sec. 6: 6/6).

Authority's Analysis and Decision

The Authority has reviewed DBCT Management's proposal and determined that, in general, it is consistent either with the Authority's approach to depreciation in its DBCT April 2005 decision or with standard regulatory practice in this area. In particular, the Authority has confirmed that the average asset lives applied by DBCT Management for the key work areas are consistent with the Authority's April 2005 decision.

However, the Authority notes that it previously adopted a positive scrap value for some of the terminal's assets when establishing the depreciation profile for the initial asset base. While DBCT Management's proposed scrap value of zero for the phase 1 assets differs from the value previously adopted by the Authority, the Authority notes the recent experience with the site removal of the collapsed RL1 machine. On that occasion, the site removal costs were broadly equivalent to the scrap value proceeds. Accordingly, for the purposes only of considering this DAAU, the Authority accepts DBCT Management's proposal. The matter will be further considered in the context of the actual cost DAAU.

Revenue Timing

Calculations for the revenue cap are based on end of year numbers. However, facility owners generally raise revenue over the course of the year. If left unadjusted, this will mean that the net present value of the flow of revenues recovered over the course of a year will exceed that of the revenue cap. To address this issue, regulators have adopted a number of approaches to ensure that the value of the cash flows matches the benchmark revenue cap.

DBCT Management's Proposal

DBCT Management's proposed ARR for the phase 1 expansion reflects a standard approach for addressing the matter of revenue timing, namely:

- discounting the end-of-year ARR to the midpoint to proxy revenues and expenses occurring at a constant rate over the financial year; and

- reassessing the risk-free rate to take into account that the published daily yields for 10-year nominal Commonwealth bonds need to be converted from 6 month to 12 month estimates to obtain the annualised rate required for regulatory purposes (DBCT Management, sub. no. 1, appx. 9: 4).

Authority's Analysis and Decision

The Authority has reviewed DBCT Management's approach and notes that it reflects one of several standard options available to regulators to address the revenue timing issue. The Authority further notes that it adopted this approach in its QR December 2005 decision and most recently in its June 2007 DBCT short gain expansion decision. In considering the details of this matter, the Authority has confirmed that DBCT Management applied an appropriate

methodology to discount the ARR to a midpoint estimate and to convert the published bond yields to an annual estimate.

4.2 Annual Revenue Requirement, Revenue Cap and Pricing

DBCT Management's Proposal

Based on $590.5 million of phase 1 forecast costs, as at 31 January 2008, and the modelling methodology summarised in section 4.1, DBCT Management has sought approval for an increase in the ARR of $20.2 million for the 2007-08 financial year (see Table 2 for details).

DBCT Management has proposed that the ARR for the phase 1 expansion, when approved, become effective from the first day of the month following commissioning (ie the effective date is expected to be 1 February 2008). As a result, DBCT Management's proposed 2007-08 ARR is only a part year amount (ie for the five months from 1 February 2008). While DBCT Management is not seeking approval for the 2008-09 ARR in this DAAU, the building blocks for the 2008-09 financial year are provided for comparative purposes as they reflect a full financial year's revenue requirement.[3]

Table 2: Phase 1 Expansion Annual Revenue Requirement

ARR Building Block	2007-08 ($000)	2008-09 ($000)
Return on Capital	21,588.9	52,527.3
Inflationary Gain	(7,732.8)	(18,502.1)
Return of Capital	5,728.1	13,971.1
Tax Payable	607.0	1,582.6
Raw ARR	20,191.2	49,578.8

Authority's Analysis and Decision

The Authority has assessed DBCT Management's proposal and concluded that DBCT Management's underlying ARR modelling assumptions and calculations are consistent with an appropriate building blocks methodology. In undertaking this review, the Authority has also confirmed that DBCT Management has determined the associated impacts on the revenue cap and tariff in an appropriate manner.

In assessing the impact of the forecast capital expenditure on the revenue cap and tariff, the Authority notes that the undertaking provides for the revenue cap to apply to the revenues that DBCT Management earns for shipping reference tonnage; that is, tonnage contracted on terms materially the same as those of the approved Standard Access Agreement (SAA). In other words, the revenue cap does not apply to tonnage contracted on other (ie 'non-reference') terms.

[3] The 2008-09 indicative ARR and building blocks exclude the costs associated with the Phase 2/3 expansion and the annual CPI adjustment.

Accordingly, in order to obtain the revenue cap, the ARR must be apportioned to reflect only that portion of total contracted tonnage that is reference tonnage (ie the reference tonne ratio).

For the pre-phase 1 assets, this reference tonne ratio is 98.37%. However, the commissioning of the phase 1 expansion introduces new tonnes, and it slightly increases the reference tonne ratio to 98.53%.

As a result, the post-phase 1 revenue cap for the final five months of 2007-08 is $57,585,474, which is calculated by summing:

- $37,691,584: five-twelfths of the existing 2007-08 ARR (ie $91,811,561) multiplied by the new reference tonne ratio (98.53%); and

- $19,893,890: adjusting the 2007-08 new assets ARR ($20,191,169) by the new reference tonne ratio (98.53%).

This gives a total 2007-08 revenue cap of $110,268,535, comprised of $52,683,061 (pre-phase 1) plus $57,585,474 (post-phase 1).

Therefore, DBCT Management's proposed increase in the 2007-08 revenue cap of $19,954,716 (ie from $90,313,819 to $110,268,535) is correct.

The resulting impact on the TIC for 2007-08 is to increase it from $1.50/tonne (for the period 1 July 2007 to 31 January 2008) to $2.07/tonne for the remainder of the 2007-08 financial year.

Accordingly, the Authority's decision is to accept DBCT Management's proposal to:

- increase the ARR by $20,191,169 to $112,002,730 for the 2007-08 financial year;

- increase the revenue cap by $19,954,716 to $110,268,535 for the 2007-08 financial year; and

- increase the reference tariff from $1.4977/tonne to $2.0652/tonne for the 2007-08 financial year.

The increases are to be effective from the first day of the month following the commissioning of the phase 1 expansion (ie the effective date is currently anticipated to be 1 February 2008).

LIST OF SUBMISSIONS

Organisation/Individual	Submission Number
DBCT Management	1
DBCT Management	2