



**Decision**

**DBCT Management Draft Amending  
Access Undertaking**

**Dalrymple Bay Coal Terminal Phase  
2/3 Expansion – Forecast Costs**

**November 2008**

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**PREAMBLE**

The access undertaking for the Dalrymple Bay Coal Terminal (DBCT) provides for *actual* capital expenditure to be incorporated into the regulated revenues and tariffs once capital works are commissioned.

DBCT Management has proposed to amend the access undertaking to allow it to increase its regulated revenues and tariffs on the basis of *forecast* capital expenditure in respect of the phase 2/3 expansion, following the expansion's completion. It has also proposed that revenues and tariffs would be subsequently adjusted, in a revenue neutral way, to reflect the efficient, *actual* capital expansion costs.

The Queensland Competition Authority (the Authority) has previously accepted such an approach in relation to the phase 1 expansion of the terminal to 68 million tonnes per annum (mtpa) that was commissioned in March 2008.

The advantage of this approach is that it allows DBCT Management to begin to earn a return on its new investments shortly after an expansion is commissioned, and not to have to wait until the actual capital costs are finalised with some precision. The subsequent readjustment of revenues and tariffs based on the difference between the forecast and actual expansion costs will ensure that the terminal's users are not disadvantaged by this amendment. The process is also reasonable given that, unlike most other regulatory access arrangements, no provision was made for forecast capital expenditure at the time the undertaking was approved, as the magnitude of the costs was too uncertain at that time.

DBCT Management anticipates that the phase 2/3 expansion will be commissioned in two steps: Step A to 72 mtpa in December 2008; and Step B to 85 mtpa in March 2009. As a result, DBCT Management has proposed to increase the regulated tariff:

- (a) from \$2.12 per tonne to \$2.38 per tonne on 1 January 2009; and
- (b) \$2.42 per tonne on 1 April 2009.

The Authority published DBCT Management's draft amending access undertaking on 7 October 2008 and invited interested parties to comment by 3 November 2008. No submissions were received.

The Authority has decided to approve the amendments to the DBCT access undertaking on the basis that:

- (a) the forecast expansion costs are reasonable in the circumstances, i.e. \$342 million for Step A and \$419 million for Step B;
- (b) the amendments to the regulated revenues and tariffs are reasonable as they have been calculated in a manner that is consistent with the forecast capital expenditure, the requirements of the undertaking and past regulatory practice;
- (c) there is a robust mechanism to adjust, in a revenue neutral way, future regulated revenues and tariffs on the basis of efficient, actual capital costs; and
- (d) stakeholders will have the opportunity to comment on the reasonableness of the terminal's actual capacity expansion costs and regulated revenues and tariffs when DBCT Management submits its actual cost draft amending access undertakings for phases 1 and 2/3 of the current expansion project.

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**GLOSSARY**

ARR	Annual Revenue Requirement
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
RAB	Regulatory Asset Base
TCMP	Tender and Contract Management Process
TIC, reference tariff	Terminal Infrastructure Charge
Tph	tonnes per hour
The Authority	Queensland Competition Authority
The QCA Act	Queensland Competition Authority Act 1997
The undertaking	DBCT 2006 Access Undertaking
WACC	Weighted Average Cost of Capital

## 1. INTRODUCTION

*The Dalrymple Bay Coal Terminal (DBCT) is being expanded in a number of phases. Phase 1 was completed on 3 March 2009 and increased terminal capacity from 60 million tonnes per annum (mtpa) to 68 mtpa. The phase 2/3 expansion will be commissioned in two steps: first, to 72 mtpa in December 2008; and second, to 85 mtpa in March 2009.*

*DBCT Management has submitted, for the Authority's approval, a voluntary draft amending access undertaking (DAAU) seeking to increase its revenues and tariffs based on the forecast costs of the phase 2/3 expansion. The proposed revenues and tariffs will be adjusted in a revenue neutral way once the actual costs of the expansion are known – the submitted DAAU includes details on how this adjustment will occur.*

*The approach to amending the regulated revenues and tariffs on the basis of the forecast costs of the phase 2/3 expansion, and their subsequent adjustment based on actual costs, is consistent with the approach approved for the phase 1 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 Bowen Basin.

The Queensland Government owns DBCT through a wholly Government owned entity, DBCT Holdings Pty Ltd (Holdings). BBI (DBCT) Management Pty Ltd (DBCT Management) has 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 regularly expanded to service the growth in coal exports. In recent years, the terminal's capacity has increased as a result of the completion of a number of expansion projects, to 56 mtpa in 2003, to 60 mtpa in late 2006 and to 68 mtpa in March 2008.

The expansion to 68 mtpa was the first phase of the DBCT 7X project that originally was to include three phases, the latter two of which were subsequently combined; i.e. the phase 2/3 expansion which is the subject of this application.

#### *Phase 2/3 Expansion*

The DBCT 7X project provides for expanding each of the three main terminal elements: in-loading, stockyard and out-loading. Phase 1 of that expansion involved creating a third in-loading station and associated conveyors as well as reconfiguring and expanding the stockyard. Phase 2/3 involves expanding the stockyard further as well as creating a third out-loading conveyor and a fourth berth.

All of the phase 2/3 works were originally planned to be commissioned by December 2008. However, due to delays in constructing the new third out-loading system, DBCT Management has indicated it now intends to commission the phase 2/3 expansion in two stages:

- (a) step A – the new fourth berth and stockyard works being commissioned by 31 December 2008; and
- (b) step B – the new third out-loading system being commissioned by 31 March 2009.

As provided for in the undertaking, DBCT Management has sought and accepted the advice of an independent expert, Sandwell Engineering Inc., on the expected terminal capacity resulting from the phase 1 and 2/3 expansions. Accordingly, DBCT Management has determined phase 2/3 step A and step B terminal capacity to be 72 and 85 mtpa respectively.

DBCT Management has forecast the total costs of the phase 2/3 expansion to be \$760.7 million including interest during construction (IDC) and project financing costs.

The expansion works relate to stockyard, out-loading and site-wide works, involving:

- (a) stockyard:
  - (i) installing new bund 4A and stacker (ST4); additional yard conveyors R8 and S8; additional dust control measures; and modifying and rebuilding old stacker/reclaimer SR3 (as SR6) on bund 6; and
  - (ii) completing row 8 development;
- (b) out-loading:
  - (i) installing new out-loading system (OL 3) to carry coal from stockyard to berths and installing new surge bin 3 (SB3); and
  - (ii) constructing new berth 4 and extending conveyor L17;
- (c) site-wide works:
  - (i) up-grading the terminal's electrical power supply;
  - (ii) extending the terminal operator's office space and warehousing; and
  - (iii) providing control and automation software systems for the new and upgraded facilities.

## 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* (the 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 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 (i.e. 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:

- (a) negotiation arrangements for new access applications, including priority of access applications and dispute resolution;
- (b) the scope and term of the undertaking;
- (c) reference tariffs linked to a revenue cap;
- (d) DBCT Management's public and regulatory reporting requirements; and
- (e) 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) (i.e. 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 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 reviewing on an on-going basis whether or not:

- (a) the design standards for the terminal's expansion are reasonable (i.e. not 'gold-plated') and the contract variation and escalation provisions accord with good commercial practice;
- (b) the contracts are selected and awarded in accordance with the approved tender and contract management process as certified by an independent external auditor; and

- (c) that contract variations are appropriate and, *inter alia*, accord with good commercial practice.

By the end of 2007-08, the Authority had considered around \$787 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 provides for 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: 65-66).

#### **1.4 DBCT Management's Two-Stage Approval Process for the Phase 1 Expansion**

Prior to the commissioning of the phase 1 expansion, the reference tariff did not reflect any forecast capital expenditure. This is because, under the access undertaking, the TIC reflected the regulatory asset base approved by the Authority at that time, 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.

However, DBCT Management indicated that, following commissioning of the phase 1 expansion, its debt financing arrangements would not provide for interest to be capitalised. As a result, DBCT Management indicated that it required additional revenue to service its increased financing commitments after commissioning.

Accordingly, DBCT Management 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:

- (a) *phase 1 forecast cost DAAU* – prior to the commissioning of the phase 1 expansion, amending 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
- (b) *phase 1 actual cost DAAU* – once the phase 1 expansion is commissioned, amending 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 was an unders and overs mechanism that sought to reconcile any

difference between forecast and actual costs in a revenue neutral manner. In other words, the mechanism sought to fully insulate both DBCT Management and users from variations between forecast and actual costs of the phase 1 expansion. The Authority accepted this approach in its decision dated 17 October 2007.

DBCT Management currently anticipates that a phase 1 actual cost DAAU will be submitted in the first half of 2009 by which time the phase 1 expansion contracts will be substantially finalised and closed out.

### **1.5 DBCT Management's Proposed Two-Stage Approval Process for the Phase 2/3 Expansion**

As with the phase 1 expansion, DBCT Management is seeking approval for the costs of the phase 2/3 expansion through the same two-stage process.

As the phase 2/3 expansion will be commissioned in two discrete stages, this forecast cost DAAU seeks two separate increases in the revenue cap and access charges, namely:

- (a) following completion of the new 4th berth and the expansion of the stockyard in December 2008; and
- (b) following completion of the out-loading works which complete the phase 2/3 expansion in March 2009.

On 6 October 2008, DBCT Management submitted its phase 2/3 forecast cost DAAU which included an unders and overs mechanism to reconcile any difference between forecast and actual costs in a revenue neutral manner.

### **1.6 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 objective of the access regime, namely; to promote the economically efficient operation of, use of and investment in, infrastructure services, with the effect of promoting effective competition in upstream and downstream markets;
- (b) the legitimate business interests of the owner of the service;
- (c) the public interest, including the public interest in having competition in markets (whether or not in Australia);
- (d) the interests of persons who may seek access to the service, including whether adequate provision has been made for compensation if the rights of users of the service are adversely affected;
- (e) the effect of excluding existing assets for pricing purposes;

- (f) prices that should:
  - (i) generate expected revenue for the service that is at least enough to meet the efficient costs of providing access to the service and include a return on investment commensurate with the regulatory and commercial risks involved;
  - (ii) allow for multi-part pricing and price discrimination when it aids efficiency;
  - (iii) not allow a vertically integrated access provider to set terms and conditions that discriminate in favour of its downstream operations, except to the extent the cost of providing access to any other operator is higher;
  - (iv) provide incentives to reduce costs or otherwise improve productivity; and
- (g) any other issues 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 2/3 expansion. This assessment will occur when the Authority considers the phase 2/3 actual cost DAAU, which DBCT Management is obliged to submit following commissioning of the phase 2/3 expansion.

### **1.7 The Authority's Assessment Process**

On 7 October 2008, the Authority issued a Notice of Investigation for DBCT Management's phase 2/3 forecast cost DAAU. The Authority published the DAAU and supporting information on the Authority's website ([www.qca.org.au](http://www.qca.org.au)) and invited submissions from interested parties by 3 November 2008.

No stakeholders responded to the invitation.

The Authority made this final decision without first releasing a draft decision as the Authority formed the view that the DAAU was 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.

## 2. UNDERS AND OVERS MECHANISM

*DBCT Management's DAAU proposes a two-stage process for approving the phase 2/3 capital expenditure, namely approving amendments to revenues and tariffs based on the forecast costs of the expansion followed by a subsequent revenue neutral adjustment based on the actual costs of the expansion to ensure that neither DBCT Management nor users are disadvantaged.*

*The Authority believes that the proposed revenue adjustment mechanism is reasonable as it insulates DBCT Management and users from variations between forecast and actual cost, 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 2/3 capital expenditure to ensure its revenues are amended close to the commissioning date, namely by submitting two DAAUs:

- (a) phase 2/3 forecast cost DAAU – submitted voluntarily prior to commissioning to increase the regulated revenues and tariffs on the basis of forecast capital expenditure; and
- (b) phase 2/3 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. 2: 8).

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 2/3 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 a single stage, approval process.

DBCT Management submitted that this mechanism is consistent with the mechanism approved by the Authority in the context of the phase 1 forecast cost DAAU.

The unders and overs mechanism is reflected in the proposed amendments (sections 4(j) to (q)) to Schedule C, Part A of the 2006 access undertaking, as set out in Appendix 4 of the DAAU and provides for:

- (a) calculating the difference between interim access charges based on forecast costs and access charges based on actual costs for the “Interim Reference Period”;
- (b) interest payable on the difference in access charges from the date the difference would have been payable to the date of payment of the difference;
- (c) interest to be payable at the WACC(3) rate for the expansion, which is defined as the sum of the risk-free rate (calculated over the 20 business days preceding the date of commissioning) plus 3.18%, where the latter is the WACC margin accepted in the Authority's June 2006 decision;
- (d) DBCT Management “to recover or repay” (as the case may be) in a single payment the calculated difference between forecast cost and actual cost access charges, including the interest on the difference; and
- (e) the repayment to occur in the month following the month in which the calculation of the difference takes place.

DBCT Management submitted that its clause is designed to ensure that neither DBCT Management nor users are disadvantaged by the approval of forecast costs. Nevertheless, DBCT Management has sought to amend the unders and overs clause introduced by the phase 1 forecast cost DAAU in two key respects.

Firstly, while the clause previously imposed an obligation for DBCT Management to promptly submit actual costs, there is now an additional requirement that, in any event, the actual cost DAAUs be lodged for phase 1 and 2/3 by end June 2009 and end February 2010 respectively. The clause also provides that DBCT Management can seek the Authority's approval to seek an extension to these time-frames.

Secondly, the clause provides flexibility for DBCT Management to seek approval for more than one actual cost DAAU to adjust regulated revenues and tariffs. DBCT has indicated that this is necessary as, at the time of submitting an actual cost DAAU for either phase 1 or phase 2/3, there may be outstanding contracts which have not yet been fully closed-out and therefore cannot be included in the submission.

## **2.2 Authority's Analysis and Decision**

The Authority accepts that an unders and overs mechanism is an essential component of the phase 2/3 forecast cost DAAU as it 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, a correctly functioning unders and overs mechanism will ensure that DBCT Management and users are 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 are appropriate.

In accepting that the proposed amendments are revenue neutral, the Authority has concluded that the amendments provide for the correct calculation of any under- or over-payment of access charges.

Further, 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 2/3 is completed until payment of any difference.

In this context, the Authority also notes that DBCT Management has correctly proposed that a WACC(3) rate apply to the calculation of interest on any additional payments or refunds. The Authority accepts this approach as the WACC(3) rate for an expansion reflects the return on capital applicable to that expansion.

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 proposed 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 120 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.

Given these factors, the Authority accepts that the proposed unders and overs mechanism is reasonable.

### 3. FORECAST EXPANSION COSTS

The phase 2/3 expansion of the terminal, from 68 to 85 mtpa, involves constructing a new 4<sup>th</sup> berth and additional stockyard works (phase 2/3 step A) as well as a third out-loading system (phase 2/3 step B). These works are forecast to cost \$760.7 million.

In considering the reasonableness of these forecast costs, the Authority has reviewed DBCT Management's forecasting methodology and the nature of these costs. On this basis, the Authority has concluded that the forecast costs represent a reasonable estimate given the current market conditions. Consistent with the approach to be adopted for the phase 1 expansion, the Authority will review in detail the prudence of the actual costs of the phase 2/3 expansion in accordance with clause 12.5 of the access undertaking as part of a subsequent actual cost DAAU.

#### 3.1 Introduction

DBCT Management has proposed a forecast phase 2/3 expansion cost of \$760.7 million (see Table 1) relating to:

- (a) construction works;
- (b) the coordination and management of the phase 2/3 works; and
- (c) financing costs and interest during construction (IDC) for the expansion project.

**Table 1: Phase 2/3 cost estimate**

Category	Phase 2/3 step A (\$m)	Phase 2/3 step B (\$m)	Estimated Total (\$m)
<i>Construction works</i>			
Owner-supplied equipment	13.2	23.1	36.2
Yard	103.9	-	103.9
Onshore works	-	97.9	97.9
Offshore works (including Berth 4)	140.8	184.5	325.3
Construction facilities and services	1.4	1.6	3.0
Site-wide	3.7	11.5	15.2
<i>EPCM and owner's costs</i>			
EPCM	34.1	38.5	72.6
Owner's costs	11.7	13.2	24.9
<i>IDC and financing costs</i>			
IDC	26	40.3	66.4
Financing costs	6.9	8.5	15.4
<b>TOTAL</b>			<b>760.7</b>

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.

### 3.2 Construction Works' Forecast Costs

#### *DBCT Management's Proposal*

DBCT Management submitted that the forecast costs of \$581.6 million for major construction works, including direct and indirect costs for step A and step B, were reasonable (DBCT Management, sub. no. 1, sec. 5: 12). These costs were incurred in the following functional areas:

- (a) owner-supplied equipment;
- (b) yard;
- (c) onshore works;
- (d) offshore works (including berth 4);
- (e) construction, facilities and services; and
- (f) site-wide.

Owner-supplied equipment refers to equipment supplied to contractors undertaking works on site. Owner-supplied equipment, at a forecast cost of \$36.2 million, was primarily required for the new conveyor systems installed as a part of this expansion phase. Key owner-supplied equipment for the new conveyor systems includes conveyor belts, drives and idlers (DBCT Management, sub. no. 1, sec. 5: 14). DBCT Management had separately contracted for the supply of this equipment and considered that it was necessary to do so to maintain the construction schedule, the quality and specification of works and minimise overall construction costs. These items are not part of owner's costs (see section 3.3).

The phase 2/3 yard works involved constructing a new bund, a partial new row, a new stacker and conveyors at an estimated cost of \$103.9 million. All of the work associated with the yard expansion is part of step A of this expansion phase (DBCT Management, sub. no. 1, sec. 5: 15).

The onshore works primarily involve constructing the onshore component of the new third out-loading system, all of which is to be completed as part of the phase 2/3 step B expansion. These works include land reclamation, construction of the surge bin and onshore conveyors of the third out-loading system at an estimated cost of \$97.9 million.

The offshore works include the new 4<sup>th</sup> berth, jetty and conveyor system to complete the new third out-loading system at a forecast cost of \$325.3 million. This is the most significant component of the expansion, providing the majority of the capacity increase for this phase (DBCT Management, sub. no. 1, sec. 5: 15).

Construction work and additional facility services support the effective management of on-site construction works by DBCT Management at a forecast cost of \$3.0 million. These items include providing ambulance services, site vehicles, waste collection and cleaning services. (DBCT Management, sub. no. 1, sec. 5: 16).

Finally, site-wide works consist of works 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 \$15.2 million. Works include new road works, upgrades of

control systems, minor civil works and a new warehouse, with the majority of this work being a part of the phase 2/3 step B expansion (DBCT Management, sub. no. 1, sec. 5: 16).

#### Forecast methodology

DBCT Management's forecast methodology to establish the cost estimates for the aforementioned construction works involved:

- (a) scoping the construction works and detailing the engineering design;
- (b) developing a baseline construction estimate, comprising the budget for estimated contract award values and provisions for contract variations; and
- (c) determining an allowance for project contingencies.

DBCT Management submitted that its estimate for phase 2/3 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: 2).

DBCT Management also argued 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: 20).

Based on the defined scope and standard of the works, a forecast for the phase 2/3 expansion was developed using the budgeted award values as a starting point. A detailed risk assessment was undertaken prior to the award of each contract. This assessment was designed to identify specific and general risks associated with the contract and the most likely outcomes for each risk item were priced. Collectively, these risk values were used to develop a provision for contract variations. Together with the award value, this became the contract's forecast value (DBCT Management, sub. no. 1, sec. 5: 20). The forecast estimate was subsequently revised periodically as the project progressed.

In finalising its phase 2/3 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.

Broadleaf also independently assessed each contract taking into account the different risk factors relevant to each contract. These risk factors included:

- (a) *type of work (civil, electrical, mechanical, offshore)* – different work categories have unique characteristics which impact their risk profile. For instance, marine works are susceptible to various external factors (including weather conditions) which might affect their final cost. Accordingly, the risk profile attached to marine contracts would be higher.
- (b) *timing of the work* – especially if it was scheduled in the wet season. This is particularly the case with the offshore works contract where bad weather could significantly impact the installation of piles and therefore the work schedule, as well as the cost for items such as the self-elevating platform which remains on standby until the weather improves.

- (c) *type of contract* – such as supply only, engineered fabrication, earthworks and construction with each requiring independent analysis and, accordingly, a separate risk profile. For example, the key risk for a supply package for conveyor idlers used a standard "off-the-shelf" specification would relate to the delivery of the required number of idlers, rather than its design. The contract risk increases on an engineered item such for the supply of the new stacker ST4, where the machine design is unique, with complex specification and fabrication requirements.
- (d) *potential for ambit claims* – in particular, contracts linked to works with a high risk profile and one being managed by a contractor with a strong reputation in identifying and processing ambit claims.

Based on their analysis of the risk profiles of contract packages, Broadleaf developed contingency estimates which, when added to the baseline estimate, provided 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 an additional provision for contingency such that there is a 90% chance that the total estimate will not be exceeded (DBCT Management, sub. no. 1, sec. 5: 20).

DBCT Management does not consider it reasonable to provide a forecast that has a 50% chance of being too low.

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: 22). DBCT Management also submitted that the current market conditions make it difficult to assess realistic maximum values for projects.

Given this, DBCT Management submitted that a forecast at the P90 level reflects 'best estimating' practice.

DBCT Management submitted that the phase 2/3 cost forecast has progressively evolved since the initial estimate was prepared in May 2005. During this time, the detail design for the expansion has been completed, the bulk of the phase 2/3 scope has been committed as lump sum contracts and the project has advanced to the stage where construction is assessed as being substantially complete.

Two major forecast reviews have been carried out since the initial budget was established in May 2005. The first review was carried out in May 2006 and was used as the basis for DBCT Management's Capacity Expansion Application in September 2006 that sought the Authority's approval for the scope of the phase 2/3 works. The second major review was carried out in May 2007 and was used as a basis for establishing the debt funding facility for the expansion.

For each of the major forecast cost reviews, DBCT Management indicated that Broadleaf conducted formal risk assessments to develop the necessary levels of contingency for each major forecast.

In addition to conducting these two major reviews, DBCT Management indicated that it has undertaken a series of monthly forecast updates to ensure that any changes are identified and reflected in the monthly cost forecasts.

The estimate for the phase 2/3 works of \$679 million was included in DBCT Management's October 2008 monthly report and reflects a revised budget estimate at the P90 level.

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### Independent Review of Forecast Costs

As part of its financing arrangements for phase 2/3, DBCT Management engaged a technical consultant, Kellogg, Brown & Root Pty Ltd (KBR), to provide potential financiers with independent advice on the cost estimates, including the adequacy of the cost forecast and the appropriateness of the level of contingency.

As part of its brief, KBR was required to review the phase 2/3 project delivery strategy, including, *inter alia*, the:

- (a) scope of work;
- (b) budget for expected contract award value plus provisions for contract variations;
- (c) provision for project contingency; and
- (d) monthly reviews of project progress, quality, forecast costs and schedule, which were required as a condition precedent to drawing down funds for the project.

In relation to the scope of works, KBR reviewed the definition and completeness of the phase 2/3 scope. At the time of KBR's initial assessment in May 2007, the phase 2/3 works overall were 21% complete, including 99% complete in engineering design. KBR accepted the scope of works, concluding that:

*The proposed Project works are in accordance with the Master Plan and Access Undertaking. Based on KBR's understanding of the regulatory processes we are of the view that all costs incurred should be included in the RAB [Regulatory Asset Base]... (DBCT Management, sub. no. 1, appx. 8, executive summary: vi).*

In addition, KBR assessed the baseline construction cost estimate by reviewing the base estimate value for each contract awarded against the actual awarded amount. With some minor exceptions, KBR concluded that DBCT Management had accurately included the awarded value of the contracts in the construction estimate.

In regard to the provisions for variations on awarded contracts, KBR's assessment took into account the award documentation for the corresponding package, including analysis for the provision for variations, the nature as well as the terms and conditions of contract, comparison to historical relationships by contract type, and actual variations awarded to date and current progress. KBR concluded that contingencies and other growth allowances provided in the contracts were appropriate.

KBR assessed project contingency by reviewing the methodology used and undertaking a separate check by an independent methodology, taking into account the status of works to date, findings from the project strategy review and historical risk exposure of each cost category.

Based on its assessment, KBR concluded that the remaining contingency included in the overall construction costs was adequate in recognition of the advanced state of contract commitments. Overall, 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 for the phase 2/3 component of the DBCT 7X Project are appropriate and in line with industry practice (DBCT Management, sub. no. 1, appx. 8, 4-7).*

Subsequent to the May 2007 review, KBR also independently reviewed and certified DBCT Management's updated monthly forecasts as required by the loan agreement for debt drawdown.

KBR accepted the current forecast estimate of \$679 million for construction works as submitted by DBCT Management in its October 2008 monthly update.

#### *Authority's Analysis and Decision*

In considering DBCT Management's phase 2/3 forecast cost DAAU, the Authority has not sought to assess in detail the efficiency of the forecast cost. Rather, the Authority has sought to establish the reasonableness of DBCT Management's forecasting methodology. The main reason for adopting this approach is that, ultimately, the forecast costs will not have a bearing on the prices paid by terminal users as they will be supplanted by actual costs with an NPV neutral adjustment mechanism.

The Authority will consider the prudence of the procurement of equipment and the management of the construction works as part of its review of the phase 2/3 actual cost DAAU.

In this context, the Authority's review has focused principally on DBCT Management's methodology for developing the forecast in order to form a view on the reasonableness of the forecast cost. In particular, the Authority's assessment has focussed on the three primary components of DBCT Management's forecasting methodology, namely:

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

The Authority's assessment was informed by reference to KBR's review of the phase 2/3 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 2/3 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 2/3 expansion.

In analysing the baseline estimate of the forecast cost build-up, the Authority is satisfied that DBCT Management's methodology was robust with periodic reviews of all costs.

In developing a budgeted value for contracts, DBCT Management's forecasting methodology involved a well defined scope and standard of works. The Authority also notes that the forecast budget costs were not inconsistent with the value of awarded expansion contracts to date. Further, in making allowances for contract variations, DBCT Management has sought to take into account the risks associated with individual contracts.

The Authority also notes KBR reviewed DBCT Management's forecasts and considered the baseline construction cost estimate prudent, and the forecast for variations reasonable given the advanced state of contract commitments.

The Authority accepts the contingency estimate at the P90 level as reasonable given the cost pressures of the current construction market. 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 expected 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.1, sec. 5: 23).

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 \$97.4 million for:

- (a) engineering procurement and construction Management (EPCM) services; and
- (b) owner's costs.

EPCM services comprise design, engineering, construction and project management, as well as contract and commissioning management, at an estimated cost of \$72.6 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. 1, sec. 5: 17).

In relation to EPCM costs, DBCT Management indicated that the forecast cost of \$72.6 million represents about 12.5% of direct forecast costs for the phase 2/3 expansion. DBCT Management noted that this figure is below the expected range of 14% to 30% for major infrastructure projects of this type (DBCT Management, sub. no. 1, sec. 5: 17).

However, DBCT Management submitted that the EPCM costs need to be considered in the context of the entire project as a whole. This is because the entire design component of the engineering costs was included in phase 1, rather than split across all phases. DBCT Management considered that this was justified as phase 2/3 engineering needed to be well under way in expectation of the phase 2/3 expansion approval, which was received some time after phase 1.

DBCT Management submits that, as the overall EPCM forecast cost represents 15.9% of forecast direct costs for the 7X expansion, this is reasonable as it falls on the lower side of the benchmark range.

Owner's costs are costs incurred by DBCT Management (the owner's team) in managing and coordinating the expansion. DBCT Management advises that the owner team's forecast cost is based on the organisation chart for the project and related staffing plan to provide the cost for labour, expenses and facilities. DBCT Management noted that other costs such as project insurance and statutory requirements (of which portable long service leave component is the most significant component) are non-discretionary.

Overall, the forecast phase 2/3 owner's costs are \$24.9 million, about 4% of total forecast direct costs. DBCT Management maintained that this represented a reasonable outcome for the project (DBCT Management, sub. no. 1, sec. 5: 18).

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. 1, sec. 5: 23).

### *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 cost estimate, the Authority accepts that the forecast EPCM cost estimates are within a reasonable (but broad) range for infrastructure projects of this type.

The Authority also notes that it is relevant that KBR reviewed the EPCM estimate as part of reviewing the overall estimate and considered it to be reasonable. In particular, KBR noted in their Project Strategy Report that:

*A detailed first principles estimate build up of the EPCM costs was provided for review which appeared to be well structured and complete (DBCT Management, sub. no. 1, appx. 8, 4-6).*

The Authority also 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. In particular, KBR stated that:

*The revised cost build up of the DBCT Owners Costs estimate was reasonably detailed; separately identify staffing costs, external consultants, project overheads and expenses. The projected forecast has reduced by \$2.0M from the previous review. After looking at the build up and the associated costs, KBR believe that these are consistent with projects of this size. All costs and allowances appear to be adequate (DBCT Management, sub. no. 1, appx. 8, 4-7).*

The Authority will undertake a detailed assessment of DBCT Management's EPCM and owner's costs as part of its consideration of the prudence of the actual costs of the phase 2/3 expansion.

### **3.4 Interest During Construction and Financing Costs**

In addition to major construction, EPCM and owner's cost estimates of \$309 million for phase 2/3 step A, and \$370 million for phase 2/3 step B, DBCT Management has also proposed:

- (a) \$66.4 million in interest during construction (IDC), comprising \$26.0 million and \$40.3 million for phase 2/3 step A and 2/3 step B respectively; and
- (b) \$15.4 million in financing costs, comprising \$6.9 million for phase 2/3 step A, and \$8.5 million for phase 2/3 step B.

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

#### *Interest During Construction (IDC)*

##### DBCT Management's Proposal

DBCT Management has proposed a combined allowance of \$66.4 million in IDC for the phase 2/3 (steps A and B) expansion. In estimating this allowance, DBCT Management indicated that it had adopted standard regulatory assumptions by:

- (a) applying the regulatory (benchmark) debt / equity ratio (in the case of DBCT, 60% debt and 40% equity) to the forecast;
- (b) allocating the \$679 million of forecast costs into the construction profile (i.e. 'S-curve');

- (c) assuming a progressive (i.e. at the same time) draw down of debt and equity in accordance with the 60% / 40% benchmark proportion; and
- (d) rolling forward (i.e. capitalising) these payments over the construction period at the regulatory weighted average cost of capital (WACC) of 9.34% until the expected commissioning date (DBCT Management, sub. no. 1, sec. 5: 5.4).

In adopting this approach, DBCT Management noted that, in its view, the progressive draw down of equity assumption is not consistent with contemporary capital raising practices, where an expansion like phase 2/3 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 \$679 million for the phase 2/3 expansion, the Authority has undertaken a broad review of DBCT Management's IDC estimate of \$66.4 million and notes that it:

- (a) applies the regulatory benchmark of 60% debt and 40% equity to the forecast capital expenditure of \$679 million;
- (b) allocates this expenditure into the construction profile in an appropriate manner;
- (c) assumes that debt and equity are drawn down progressively in the benchmark 60% / 40% proportion to finance construction costs; and
- (d) applies a WACC of 9.34%.

Further, the Authority notes that DBCT Management's approach to calculating the WACC for IDC purposes (i.e. the WACC2 rate) is consistent with the relevant provisions of the 2006 access undertaking. Specifically, DBCT Management has averaged the yield of the 10 year Commonwealth government bond over the 20 business days preceding the first draw down date on floating rate construction debt financing which occurred on 12 February 2008.

While the IDC estimate has been calculated in a manner consistent with the 2006 access undertaking, it is based on forecast costs, and as a result, will need to be updated once the phase 2/3 actual cost submission is received.

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 \$15.4 million for financing costs for the phase 2/3 step A and B expansions.

DBCT Management submitted that, as the phase 2/3 expansion represents a significant proportion of the 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, sec 5: 5.4).

In estimating the proposed allowance of \$15.4 million for these transaction costs, DBCT Management indicated that it adopted the debt and equity financing benchmarks applied by the Authority in determining the DORC of the initial DBCT assets in its April 2005 decision, namely by applying:

- (a) an up front debt raising fee of 1% to the phase 2/3 benchmark debt requirement (60%); and
- (b) an up front equity raising fee of 3.55% to the phase 2/3 benchmark equity requirement (40%) (DBCT Management, sub. no. 1, sec. 5: 5.4).

#### 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 from the 12.5 basis point uplift to the debt margin in 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, in its June 2007 decision, the Australian Energy Regulator (AER) allowed Powerlink to include equity raising costs for future forecast capital expenditure for the 2007-08 to 2011-12 regulatory period.

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 an actual cost DAAU is submitted.

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 phase 2/3 forecast cost DAAU. This is consistent with the approach the Authority took in considering DBCT Management's phase 1 forecast 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 unders and overs 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 \$760.7 million for the DBCT phase 2/3 expansion, comprising forecast capital expenditure of \$679 million and IDC and financing costs of \$81.7 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 concluded that the forecast estimate of \$760.7 million represents a reasonable estimate of the costs of the phase 2/3 expansion.

In reaching its conclusion, the Authority emphasises that it has not conducted an assessment of the prudence of the costs of the phase 2/3 expansion, including the prudence 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 2/3 expansion.

This assessment will occur when the Authority considers the phase 2/3 actual cost DAAU which DBCT Management is obliged to submit following commissioning of the phase 2/3 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 cost of \$761 million for the phase 2/3 expansion, DBCT Management has requested the Authority to approve an increase in:

- the revenue cap by \$13,764,421 to \$157,653,654 from 1 January 2009, and to \$166,238,804 million from 1 April 2009; and
- the reference tariff to \$2.3808 from 1 January 2009, and to \$2.4207 from 1 April 2009.

The Authority considers that these changes to the terminal's regulated revenues and tariffs are consistent with the forecast capital cost and are reasonable 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:

- (a) *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;
- (b) *return of capital* – an allowance for depreciation of the assets that compensates investors for their loss in value over time;
- (c) *operating expenditure* – an allowance for efficient operating and administrative costs required to provide the regulated service; and
- (d) *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 2/3 expansion, DBCT Management has not sought to alter its existing operating cost allowance. In particular, the proposed tax allowance is consistent with the approach applied by the Authority in its phase 1 forecast decision and in its April 2005 decision (i.e. 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 return on capital component of DBCT Management's proposed ARR is based on a WACC, comprised of the risk free rate plus a fixed WACC margin.

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 9.62%. DBCT Management indicated that this WACC comprises a WACC margin of 3.18% and a risk-free rate of 6.44%, with the latter reflecting the average daily yield of 10 year Commonwealth nominal bond rates over the 20 days preceding the data cut off period of 31 July 2008 prior to DBCT Management's formal submission of the DAAU to the Authority. (DBCT Management, sub. no. 1, appx. 7, sec. 6: 8).

### Authority's Analysis and Decision

The Authority has reviewed DBCT Management's proposal and has confirmed that DBCT Management has calculated the WACC correctly. In particular, it has taken the average 10 year government bond yield over the 20 days preceding the submission of the DAAU using the 31 July 2008 as a cut off date.

The Authority notes that this approach is reasonable as it represents the most recent data available prior to the submission. The Authority also confirms that DBCT Management has also added the correct fixed WACC margin of 3.18%, and applied it to the aggregated costs in an appropriate manner to determine the return on capital. The WACC margin was accepted by the Authority in its June 2006 decision on the 2006 DBCT draft access undertaking.

The Authority also 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 2/3 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 for phase 2/3 A & B

The return of capital components of DBCT Management's proposed ARRs for phase 2/3 step A and phase 2/3 step B are \$4.0 million and \$2.6 million respectively for the 2008-09 financial year. The amounts are based on the following assumptions:

- (a) an average asset life of 40 years for assets in the in-loading, out-loading, site-wide and owner-supplied equipment work areas;
- (b) an average asset life of 45.5 years for the stockyard assets for phase 2/3 step A and 45.25 years for the stockyard assets for phase 2/3 step B, 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 45.5 and 45.25 years respectively;
- (c) applying depreciation on a straight-line basis; and
- (d) 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.

### Authority's Analysis and Decision

The Authority has reviewed DBCT Management's proposal and determined that, in general, it is consistent with the Authority's approach to depreciation in its DBCT April 2005 decision, and

its phase 1 forecast decision. Moreover, the Authority notes the proposed methodology also reflects standard regulatory practice for depreciation of regulated assets.

However, the Authority notes that it previously adopted a small positive scrap value for some of the terminal's assets when establishing the depreciation profile for the initial asset base. DBCT Management's proposed scrap value of zero for the phase 1 and phase 2/3 assets clearly differs from this earlier treatment of the assets scrap value.

In relation to this alternative approach, 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.

#### DBCT Management's Proposal

DBCT Management's proposed ARR for the phase 2/3 expansion reflects a standard approach to addressing the matter of revenue timing, namely:

- (a) discounting the end-of-year ARR to the midpoint to proxy revenues and expenses occurring at a constant rate over the financial year; and
- (b) reassessing the risk-free rate to take into account the fact that the published daily yields for 10 year nominal Commonwealth bonds need to be converted from six month to 12 month estimates to obtain the annualised rate required for regulatory purposes (DBCT Management, sub. no.1, appx. 7, sec. 6: 8).

#### 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 October 2007 DBCT phase 1 forecast cost decision, and in its earlier Queensland Rail (QR) December 2005 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*

DBCT Management has sought approval to increase the ARR by \$22.3 million for the 2008-09 financial year (see Table 2 for details). This is based on forecast costs of \$342 million for phase 2/3 step A and \$419 million for phase 2/3 step B and the modelling methodology set out in section 4.1.

DBCT Management has proposed that the respective ARR increments for the phase 2/3 step A and step B expansions, when approved, become effective from the first day of the month following commissioning (i.e. the effective dates are expected to be 1 January 2009 and 1 April 2009). DBCT Management's proposed ARR increments for 2008-09 represent the two-step delivery of the phase 2/3 expansion.

While DBCT Management is not seeking approval for the 2009-10 ARR in this DAAU, the building blocks for the 2009-10 financial year are provided for comparative purposes as they reflect a full financial year's revenue requirement.

**Table 2: Increase in the Annual Revenue Requirement due to Phase 2/3 Expansion**

<i>ARR Building Block</i>	<i>2008-09 step A (\$000)</i>	<i>2008-09 step B (\$000)</i>	<i>2009-10 step A and step B (\$000)</i>
Return on Capital	15,669.0	9,660.4	70,701.27
Inflationary Gain	(6,240.4)	(3,873.3)	(27,764)
Return of Capital	4,015.8	2,606.1	18,696.7
Tax Payable	640.1	383.7	3,139.5
Less Imputation Credits	(320.0)	(191.9)	(1,569.7)
<b>Raw ARR</b>	<b>13,764.4</b>	<b>8,585.2</b>	<b>63,203.8</b>

*Note 1: Step A – 6 months – (1 Jan – 30 June 09)  
Step B – 3 months – (1 Apr – 30 June 09)  
Step A and step B – 12 months – (1 Jul 09 – 30 June 10).*

*Note 2: The 2009-10 ARR is provided for comparison purposes only, and reflects a reference tariff of \$2.4950.*

#### *Authority's Analysis and Decision*

The Authority has assessed DBCT Management's proposal and concluded that the 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 handling reference tonnage; that is, tonnage contracted on terms materially the same as those of the approved Standard Access Agreement. In other words, the revenue cap does not apply to tonnage contracted on other (i.e. 'non-reference') terms.

Since 1 July 2008, all of the terminal's contracted tonnes have been 'reference' tonnes. Accordingly, the ARR is equal to the revenue cap. Consequently, for the purpose of deriving the Terminal Infrastructure Charge (TIC), there is now no adjustment made to the ARR to take account of 'non-reference' tonnes when calculating the revenue cap.

DBCT Management proposes to allocate the total ARR for 2008-09 financial year into three periods to reflect the expected commissioning dates of the phase 2/3 step A and B expansions. The TIC for each of the periods is derived by dividing the relevant revenue by the relevant tonnage (see Table 3 for details):

**Table 3: Terminal Infrastructure Charges (TICs) for 2008-09 Financial Year**

Phase	Financial Year 2008-09		
	Pre Phase 2/3	Post Phase 2/3 step A	Post Phase 2/3 step B
ARR / Revenue Cap	\$143,889,233	\$157,653,654	\$166,238,804
Annualised Reference Tonnage (tpa)	67,920,000	72,000,000	85,000,000
Pro Rata ARR	\$71,944,617	\$42,854,516	\$51,439,668
Pro Rata Reference Tonnage (tpa)	33,960,000	18,000,000	21,250,000
Terminal Infrastructure Charge (TIC)	\$2.1185	\$2.3808	\$2.4207

Note 1: Pre phase 2/3 step A – (1 Jul 08 – 31 Dec 08)

Post Phase 2/3 step A - (1 Jan 09 – 31 Mar 09)

Post Phase 2/3 step B - (1 Apr 09 – 30 Jun 09).

Note 2: Figures are pro rated on a monthly basis to coincide with the monthly billing cycle between BBI and Users.

In deriving the TIC to apply during each of the three 2008-09 reference tariff periods indicated in Table 3, the 2008-09 revenue cap is calculated based on the number of months that fall into each respective time period as follows:

- pre phase 2/3 step A - \$71,944,617*: this is a six month revenue cap for the existing assets which is divided by the six month tonnage capacity of 33,960,000 tonnes, resulting in a TIC of \$2.1185.
- post phase 2/3 step A - \$42,854,516*: this is a three month revenue cap for the existing assets plus the revenue cap for phase 2/3 step A; divided by a three month tonnage capacity of 18,000,000, resulting in a TIC of \$2.3808.
- post phase 2/3 step B - \$51,439,668*: this is a three month revenue cap for the existing assets plus the revenue cap for phase 2/3 steps A and B; divided by a three month tonnage capacity of 21,250,000, resulting in a TIC of \$2.4207.

This gives a (total) 2008-09 revenue cap of \$166,238,804, which is the sum of the three revenue tranches indicated above (i.e. \$71,944,617 + \$42,854,516 + \$51,439,668). As the proposed increase in the revenue cap is \$13,764,421 for step A, and \$8,585,150 for step B, DBCT Management's proposed increase in the revenue cap from \$143,889,233 to \$166,238,804 is correct.

The Authority also notes that this TIC calculation methodology is consistent with Schedule C of the June 2006 access undertaking.

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

- increase the ARR/revenue cap by \$13,764,421 to \$157,653,654 from 1 January 2009, and increase the TIC from \$2.1185 to \$2.3808 from the same date; and

- (b) increase the ARR/revenue cap by \$8,585,150 to \$166,238,804 from 1 April 2009, and increase the TIC from \$2.3808 to \$2.4207 from the same date.

These changes will be effective from the first day of the month following the commissioning of the relevant step of the 2/3 expansion (i.e. the effective dates are currently anticipated to be 1 January and 1 April 2009). If commissioning of either step of the expansion is delayed, then the approved TIC values will not come into effect until the first day of the month, after the month in which the commissioning actually took place. Any differences in revenues will be reconciled on approval of the actual cost DAAU.

Further, upon the approval of an actual cost DAAU, the TICs indicated above will be recalculated to reflect the updated costs in that DAAU and the unders and overs mechanism will operate to ensure that all parties are in the same revenue position as if the actual costs had been known from the outset.

**LIST OF SUBMISSIONS**

<b>Organisation/Individual</b>	<b>Submission Number</b>
DBCT Management	1

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