



AUSTRALIAN RAIL TRACK CORPORATION LTD

## **2007-08 SUBMISSION**

to

### **THE INDEPENDENT PRICING AND REGULATORY TRIBUNAL**

in respect of

### **HUNTER VALLEY REGULATORY NETWORK**

### **ROLL FORWARD ASSET BASE CEILING TEST UNDERS AND OVERS ACCOUNT**



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# 1. Introduction

In accordance with the NSW Rail Access Undertaking (the "Undertaking"), the rail infrastructure owner must submit to the Independent Pricing and Regulatory Tribunal ("IPART") each financial year<sup>1</sup>:

- documentation demonstrating its compliance with the Asset Roll Forward Principles; and
- details as to the compliance with the Ceiling Test, including operation of the Unders and Overs Account.

The purpose of this submission is to demonstrate Australian Rail Track Corporation's compliance with the Undertaking as a rail infrastructure owner, as set out in Schedule 3 - *Pricing Principles*. Complete details of these requirements are set out in later sections of this submission, however, below is a summary of the details of this clause of the Undertaking:

1. The Asset Roll Forward Principles are defined in *clause 2.1* of Schedule 3 - *Definitions* and the provisions of *clause 3* of Schedule 3 - *Regulatory Asset Base*.
2. The Unders and Overs Account requirements are set out in *clause 4* of Schedule 3 - *Unders and Overs Account*.
3. The Ceiling Test requirement is set out in *clause 1* of Schedule 3 - *Pricing Principles*.
4. IPART is required under *clause 5(b)* of Schedule 3 - *Compliance* to determine whether the rail infrastructure owner has:
  - (i) complied with the asset valuation roll forward principles and if it does not so determine then it is to determine a closing regulatory asset base that does comply with these principles; and
  - (ii) complied with the Ceiling Test having regard to the operation of the Unders and Overs Account.

The rail infrastructure owner is obliged to revise a closing regulatory asset base and to manage its Unders and Overs Account in accordance with any determination by IPART pursuant to *clause 5(b)* of Schedule 3.

5. IPART is required under *clause 5(d)* of Schedule 3 to publish its findings on its web site and/or circulate its findings to operators.

This submission by ARTC for 2007-08 is provided to IPART having regard to IPART's assessments of the 2006-07 and 2005-06 submission.

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<sup>1</sup> *Clause 5 of Schedule 3 Pricing Principles of the Undertaking*

This submission is lodged contemporaneously and to be read in conjunction with the document entitled *2007-08 Capital Consultation*, which includes:

- a detailed description of the capital consultation process undertaken in 2007-08 and an explanation of how it met the requirements of the Undertaking;
- evidence of any Access Seeker's endorsement of any proposed capital expenditure, where relevant;
- the name, address, contact details (including email address) of stakeholders considered by Owners to be Access Seekers (noting which of those are Access Holders) and other parties consulted regarding compliance matters.

Information provided in this submission has been prepared in accordance with the IPART Guidelines of November 2006 (revised August 2007).

## 2. Roll Forward of the Regulatory Asset Base

### 2.1. Compliance Scope

Regulatory Assets are defined in *clause 2.1* of Schedule 3 of the Undertaking - *Definitions* as the facilities and associated assets used in the provision of access to the NSW rail network. The Regulatory Asset Base ("RAB") is defined in the same clause as the capital value of the Regulatory Assets as determined in accordance with *clause 3* of Schedule 3. This clause further states that the capital value of the RAB shall be based on an initial valuation of the RAB calculated using a depreciated optimised replacement cost ("DORC") methodology.

The Hunter Valley Coal Network is the only group of assets that currently has a RAB which is based on such an initial (independent) valuation and therefore compliance with the asset valuation roll forward principles is limited to this network. *Clause 3.2* of Schedule 3 - *Hunter Valley Coal Network*, contains specific RAB provisions for this network. It is proposed that those parts of the NSW Rail Network not forming part of the Hunter Valley Coal Network satisfy the requirements of *clause 5(f)* of Schedule 3 to be excluded from the provisions of *clause 5* of Schedule 3.

The initial valuation of the Hunter Valley Coal Network was carried out by IPART in 2001. In December 2001, based on IPART's report, the Minister of Transport advised RIC of the opening asset values to be used effective from 1 July 1999. As part of the IPART review conducted in 2003 and 2004, the above 1999 opening values were rolled forward to determine the closing values for 2003-04.

During 2004-05, IPART reviewed the remaining mine life in accordance with *clause 3.2(c)(iv)* of Schedule 3 and determined that the remaining mine life to be 35 years from 1 July 2004<sup>2</sup>. IPART advised ARTC of a closing value for 2004-05.

The scope of this submission therefore is the roll-forward of the 2006-07 asset values to determine the closing values for 2007-08. This submission provides relevant commentary and documentation demonstrating ARTC's compliance with the Asset Valuation Roll Forward Principles.

As confirmed in the 2004-05 submission, the ownership of the Hunter Valley Coal Network, as defined in Schedule 6 of the Undertaking, has been split into three different rail infrastructure owners - ARTC, RIC and RailCorp.

RailCorp is responsible for management of the rail infrastructure between Woodville Junction and Newstan Junction.

RIC is responsible for the management of the public overbridges that are currently included in the Regulatory Asset Base (RAB). ARTC manages these overbridges on behalf of RIC.

Australian Rail Track Corporation ("ARTC") by way of a 60 year lease is responsible for management of the remainder of the Hunter Valley Coal Network (the "Network").

This submission does not cover any sectors of the network that RailCorp is currently responsible for, which is consistent with the structure of the 2006-07 submission. For clarity, Appendix A contains the list of ARTC Hunter Valley Coal Network sectors listed within Schedule 6 of the Undertaking.

## 2.2. 2006 - 07 Asset Roll Forward

ARTC advises that IPART is yet to finalise its decision in relation to 2006-07 compliance as there are two unresolved issues remaining. IPART is yet to make a decision in relation to reviews it is currently undertaking into the prudence of ARTC capital expenditure relating to the Sandgate Flyover and Train Control Consolidation projects in 2006-07.

It should be noted that the closing RAB values for 2006-07 include the amounts included by ARTC in relation to these projects in its 2006-07 submission. IPART has agreed to ARTC taking this approach for the purpose of completing this submission. It is expected that IPART will finalise its position in relation to these matters in the next few months, at which time ARTC will adjust the ceiling test calculations and unders and overs accounting as needed.

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<sup>2</sup> *Report on the Determination of the Remaining Mine Life and Rate of Return, IPART 2004.*

## 2.3. Regulatory Asset Base Formula

*Clause 3.1.1* of Schedule 3 - *Regulatory Asset Base - General* defines the RAB calculation formula as follows:

$$RAB_t = RAB_{t-1} + (RAB_{t-1} * CPI_t) + Add_t + Capex_t - Dep_t - Disp_t$$

Where:

$RAB_t$  is: the RAB in any given year  $t$  and represents the closing value of the RAB for that year.

$RAB_{t-1}$  is: the RAB in the year prior to year  $t$  and represents the closing value of the RAB for that year and is the opening value of the RAB in year  $t$ .

$CPI_t$  is: the percentage change in the CPI from year  $t-2$  to year  $t-1$ , calculated by using the average of the ABS Sydney All Groups Consumer Price Index for the four quarters to June in year  $t-1$  when compared to the average for the four quarters to June in year  $t-2$ .

$Add_t$  is: the addition of an existing sector or an existing group of sectors due to changes in demand in a common end market, valued at depreciated optimised replacement cost.

$Capex_t$  is: the actual capital expenditure for assets commissioned in relation to the RAB for the year  $t$ , where that capital expenditure is incurred in accordance with the provisions of *clause 3.3* of Schedule 3, less that proportion of any capital contribution which is to recover capital expenditure.

$Dep_t$  is: the depreciation allowance for year  $t$ .

$Disp_t$  is: the value of asset disposals in year  $t$  as determined by the written down value attributed to them in the RAB.

$Year_t$  is: the current year commencing on 1 July for which access charges are to apply.

ARTC confirms each component of the RAB has been calculated in accordance with this formula, as detailed in Section 2.4 below.

## 2.4. Calculation of the RAB

### 2.4.1. Opening Values (RAB<sub>t-1</sub>)

The roll forward of the RAB starts with the closing value of the relevant 2006-07 values. As noted IPART has yet to advise ARTC that the following values are compliant for the purpose of confirming the 2006-07 closing value.

Corridor	Total
All	509,332,905
Constrained	334,241,470 <sup>1</sup>

1. Represents the regulated asset value of the constrained sectors in 2006-07. All combinations of mines and sectors were tested again in 2007-08, the combination of mines and sectors forming the constrained group was modified in 2007-08. (refer to Section 3).

### 2.4.2. CPI

The CPI rate used in the roll forward process has been calculated in accordance with the formula prescribed in *clause 3.1* of Schedule 3 and is set out in Table 2.

The CPI change is calculated using the weighted average of the Sydney All Groups CPI using the average of the four quarters to June 2007 over the average of the previous years four quarters to June 2006.

Table 2

Quarter	2005-2006	2006-2007
September	150.50	156.10
December	151.00	155.80
March	152.20	155.60
June	154.70	157.40
Average	152.10	156.23
	06-07 Average / 05-06 Average	1.0271
	CPI %	2.71%

### 2.4.3. Additions

ARTC confirms there were no additions made to RAB in 2007-08

### 2.4.4. Capital Expenditure

The capital expenditure on new and existing assets to be included in the RAB for 2007-08 is set out in Appendix B. This appendix details the capital expenditure for each project commissioned in 2007-08, together with the sector that this capital expenditure relates to.

There was no capital expenditure commissioned in 2007-08 and to be included in the RAB for any other sector on the Network not shown in Appendix B.

Evidence of Access Seekers endorsement of this capital expenditure is provided in Attachment 2 of *2007-08 Capital Consultation*.

### 2.4.5. Depreciation

Clause 3.2 (c) of Schedule 3 - *Hunter Valley Coal Network* specifies that depreciation is to be calculated on a straight line basis based on the remaining mine life, which was determined by IPART to be 35 years from 1 July 2004<sup>3</sup>. The calculated depreciation rate for all existing assets from 1 July 2004, for any new assets during 2004-05, 2005-06, 2006-07 and 2007-08 is set out in Table 3 below. In accordance with this clause of the Undertaking, new assets are only depreciated for a period of half the year in 2007-08.

Table 3

Year	Remaining Mine Life	Depreciation %
2004-2005	35	2.857
2005-2006	34	2.941
2006-2007	33	3.030
2007-2008	32	3.125

### 2.4.6. Disposals

Certain assets of the RAB were disposed of for 14 of the 62 project items commissioned in 2007-08 (refer to Appendix B of this document (listing only projects requiring expenditure to be incurred) and also Appendix 2 of the 2007-08 Capital Consultation submission (listing all projects)). In all these instances, ARTC has calculated:

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<sup>3</sup> Report on the Determination of the Remaining Mine Life and Rate of Return, IPART 2004.



- the disposal values, based on the written down RAB values (with reference to the Booz Allen Hamilton DORC database); and
- ARTC's net loss on disposal, calculated as the written down RAB value less any recovery on disposal (either through an adjustment to inventory or recovery as scrap sales).

The 'net' loss on disposals is therefore included in the 'cost items' for 2007-08 (as detailed in Table 5 of Section 3.2). An electronic copy of the spreadsheet calculating the RAB disposal values and net loss on disposals referencing to the Booz Allen DORC database is confidentially provided to IPART as part of this submission.

Appendix C below provides a summary of the disposals and net loss on disposals for the constrained network.

#### 2.4.7. RAB Roll Forward Results

Applying the roll forward formula and the relevant values for 2007-08, the closing values for the ARTC Hunter Valley Coal Network can be determined for the total network and for the constrained network.

The results are summarised in Table 4 below.

Table 4

Value		Total ARTC RAB	Constrained Network
Opening Value	RAB t-1	509,332,905	334,241,470
Additional Sectors / Segments	Add t / Subtract t		83,324,624
CPI Increase	RAB t-1 * CPI t	13,802,922	11,316,041
Capital Expenditure	Capex t	29,439,796	29,432,191
Depreciation	Dep t	16,644,871	13,703,292
Disposals	Disp t	2,566,180	2,566,180
Closing Value	RAB t	533,364,572	442,044,854
Average Value		521,348,738	429,805,474

Appendix D presents a summary of the roll forward of the RAB for the constrained sectors.

Appendix E presents the opening, average and closing values for each sector of the RAB in 2007-08, clearly specifying which sectors belong to the constrained network.

An electronic copy of the spreadsheet underpinning the calculations for the roll forward of the RAB will be provided to IPART on a confidential basis as part of this submission.

It is ARTC's view that the roll forward of the RAB has been calculated in accordance with the Undertaking.

## 2.5. Capital Expenditure Consultation Process

*Clause 3.4* of Schedule 3 of the Undertaking details a capital expenditure consultation process to be followed by the rail infrastructure owner. The capital consultation process undertaken by ARTC in 2007-08 is detailed in the document entitled *2007-08 Capital Consultation*.

## 3. Ceiling Test and the Unders and Overs Account

### 3.1. Compliance Scope

*Clause 1 (b)* of Schedule 3 requires that revenue received from Access Seekers must not exceed the Full Economic Cost of providing services to those Access Seekers. The Ceiling Test provides a framework for determining any variance or deviation from the Full Economic Cost, including the maximum rate of return on the relevant asset value contained within the RAB. To manage average deviations around the maximum rate of return, the infrastructure owner is required to establish an Unders and Overs Account (*Clause 4* of Schedule 3).

In practice, only access charges payable by coal traffic operators within the Hunter Valley Coal Network are affected by the Ceiling Test. This is because it is the only network in which access charges approach (or exceed) the stand alone cost of servicing the network. On this basis, ARTC applies the Ceiling Test to the access charges payable by Access Seekers on the Hunter Valley Coal Network only.

The scope of this review incorporates a determination as to whether the infrastructure owner has complied with the Ceiling Test, having regard to the operation of the Unders and Overs Account.

### 3.2. Ceiling Test

3.2.1. ARTC has conducted a Ceiling Test covering the period 1 July 2007 to 30 June 2008. The table below shows the additional calculation of the Ceiling Test for 2007-08.

*Table 5*

		ARTC TOTAL	ARTC TOTAL	ARTC TOTAL
		2005/06	2006/07	2007/08
<i>millions</i>		Actuals	Actuals	Actuals
<b>Net tonnes</b>				
	<i>Export</i>	70.39	67.91	80.75
	<i>Domestic</i>	2.10	1.50	3.59
	<b>Total Net tonnes</b>	<b>72.50</b>	<b>69.41</b>	<b>84.33</b>
<b>Revenue</b>				
	<b>Total Revenue</b>	<b>71.30</b>	<b>76.58</b>	<b>106.55</b>
<b>Costs</b>				
	<i>Maintenance Costs</i>	31.20	31.32	45.43
	<i>Finance Costs [Mangoola and Wollar]</i>		1.10	0.74
	<i>Network Control</i>	7.12	7.59	5.81
	<i>Corporate Overheads</i>	4.67	4.83	6.89
	<b>Total Operating Cost</b>	<b>42.99</b>	<b>44.84</b>	<b>58.87</b>
	Depreciation	6.96	8.75	13.70
	Net Loss on Disposal	1.01	3.71	2.36
	<b>Total Cost</b>	<b>50.96</b>	<b>57.30</b>	<b>74.93</b>
	<b>Profit/Loss</b>	<b>20.34</b>	<b>19.28</b>	<b>31.62</b>
	ROA	16.88	20.67	31.38
	<b>Full Economic Costs</b>	<b>67.84</b>	<b>77.97</b>	<b>106.31</b>
	<b>Revenue - Costs</b>	<b>3.46</b>	<b>-1.39</b>	<b>0.25</b>
	<b>Average Asset Base</b>	<b>231.19</b>	<b>283.18</b>	<b>429.81</b>

### 3.2.2. Constrained Group of Mines

The Ceiling Test model (provided to IPART as part of this submission on a confidential basis) was used to test a range of mine combinations to determine the 'constrained' group of mines and sectors. In particular, the model tested:

- whether the Ulan to Bengalla sectors formed part of the constrained group for the first time;
- whether Dartbrook to Muswellbrook sector will cease to form part of the constrained group; and
- whether the Main lines between Newcastle and the ARTC - RailCorp boundary formed part of the constrained group of mines.

The Ceiling Test indicated that the Constrained Group of Mines was varied in 2007-08. The Ulan and Wilpinjong mines were included in the constrained group in 2007-08.

The group of mines and therefore the sectors from Ulan to Bengalla, were included in the constrained group in 2007-08.

The Dartbrook mine ceased to operate in 2007-08 and subsequently is not part of the constrained group of mines.

The sectors between Newcastle Port and the RailCorp Boundary remain unconstrained. The Constrained Network in 2007-08 therefore includes the sectors from Newcastle Ports to Muswellbrook and Ulan.

All export hauls and domestic hauls operating fully within these bounds therefore constitute the constrained group of mines for 2007-08.

### 3.2.3. Revenue

The total revenue received and net tonnes transported from each mine within the Hunter Valley Network were obtained from ARTC's systems.

The table also shows the constrained network, net tonnes transported in 2007-08 was 14.92 million higher than in 2006-07. This is due to three primary reasons:

- Inclusion of the tonnage from mines on the Ulan line
- Overall higher throughput in the system
- A reduction in 2006-07 due to a flood event

Total receipts were significantly higher than in 2006-07 and was increased by \$29.97 million. This has resulted from the increase in tonnage transported.

### 3.2.4. Operating Costs

#### Maintenance costs

Maintenance costs include major periodic maintenance ("MPM") and reactive corrective routine maintenance ("RCRM"). As in previous years actual MPM costs were used which has been verified as an acceptable approach following the IPART 2005-06 review. Both RCRM and MPM costs are reported for each sector and split between fixed and variable based upon an engineering assessment of the extent to which the activity varies in proportion with volume.

Total variable costs for each sector are divided by total GTK's (including non-coal and unconstrained GTKs) to derive a variable cost per GTK for each sector. Pursuant to the Ceiling Test as described in Schedule 3 of the Undertaking, the constrained group of mines are only required to pay the variable cost in respect of actual GTKs hauled from these mines fully within the constrained sectors.

All fixed maintenance costs for each sector that forms part of the constrained group is included in the Ceiling Test in accordance with the Undertaking.

In addition, 'maintenance overhead' costs (maintenance costs which are not directly chargeable to individual sectors and include management, project staff, office and support staff costs etc.) are allocated to sectors within the Hunter Valley Network on a GTK basis in the Ceiling Test.

The overall cost of maintenance work performed by ARTC in 2007-08 was greater than in 2006-07 by 13.76 million, due primarily to two reasons:

- The inclusion of mines on the Ulan line in the constrained group
- The inclusion of rectification costs following a flood event that occurred in June 2007.
- The flood rectification costs that are included in the cost of maintenance is limited by the deductible value of ARTC's Insurance Policy. [ie proportion of claim not recoverable by ARTC].

### Network Control

Network control includes labour and materials associated with the delivery of the following functions:

- train control and signalling
- train planning and programming
- operations and customer management

Network control costs are apportioned to the Hunter Valley on the basis of area of coverage of the train control and signalling function and where this is not relevant, on a train kilometre basis.

Network control also includes the terminal management costs associated with the delivery of:

- yard control
- signalling
- incident management

Network control costs in 2007-08 were \$1.785 million lower than in 2006-07.

This cost decrease was recorded despite the addition of the Ulan sectors significantly increasing the proportion of cost allocated to the constrained network. This was due primarily to the completion of the Train Consolidation Control ("TCC") in 2006-07. This project involved an investment in improved control and operational technology that allowed ARTC to deliver significant resource efficiencies in this area as well as providing safety and reliability benefits.

As Network Control is treated as a fixed cost the full benefit of this investment is passed through to coal customers as a reduction in the regulated cost base. ARTC estimates that Network Control/Terminal Management expenditure for the Hunter Valley network including constrained and unconstrained sectors reduced by around \$2.4m in 2007-08. This reduction has been allocated to the constrained and unconstrained parts of the network on the basis of train kilometres.

It should be noted that as previously referenced the treatment TCC project costs and benefits remains subject to IPART review.

ARTC was responsible for Terminal Management for the entire 2007-08 year following the transfer of this responsibility from Pacific National in June 2007.

Network control costs in 2007-08 were \$1.785 million lower than in 2006-07, and this included costs attributed to the Ulan line in 2007-08.

### Corporate Overheads

Corporate overhead includes labour and materials associated with the following functions:

- human resources
- property
- legal
- information technology
- finance
- procurement
- risk and safety
- CEO office

Corporate overheads are allocated to the Hunter Valley Network by train km, on the same basis to that used in 2006-07.

Total overhead costs have increased by \$2.062 million in 2007-08 compared to 2006-07. This is due primarily to the inclusion of the mines on the Ulan line.

### Other Costs

It should be noted that, at the time of submission, ARTC has been consulting with Access Seekers regarding the inclusion of reasonable financing costs incurred in relation to two capital projects being the new Wollar and Mangoola loops. In order to complete what was reasonably considered to be higher priority works at the time, commissioning of the projects relating to these loops was postponed by around 3 months from May 2008 to August 2008.

The cost associated with these works is substantial and, under the provisions of the NSW Rail Access Undertaking, the delay in commissioning will result in lost revenue to ARTC equivalent to depreciation and return on the capital expenditure over a twelve month period, which would not otherwise be able to be included in the RAB until 2008-09 (rather than 2007-08).

As a result, ARTC has included an amount in operating expenditure in 2007-08 to represent its financing costs associated with these works over the six month period, based on the current regulated rate of return.

It is generally considered reasonable, and accepted in other regulated industries and jurisdictions<sup>4</sup>, to include financing costs associated with approved capital expenditure in the regulated cost base.

When its consultation with Access Seekers has been completed, ARTC will make appropriate adjustments to the regulated cost base.

ARTC will undertake further consultation with access seekers in relation to this item

### 3.3. Unders and Overs Account

#### 3.3.1. 2007-08 Balance

Total revenue earned by ARTC from the constrained group of mines was compared to the Full Economic Cost of the constrained network, including the operating costs described in Section 3.2.3 above and depreciation, net loss on disposal and a permitted return of 7.3%<sup>5</sup> on the average RAB for 2007-08, as detailed in Section 2.

The difference between this Revenue and Full Economic Cost variation forms the Unders and Overs balance for 2007-08, as shown in the table below.

	<b>ARTC TOTAL</b>	<b>ARTC TOTAL</b>	<b>ARTC TOTAL</b>
	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>
<i>millions</i>	<b>Actuals</b>	<b>Actuals</b>	<b>Actuals</b>
<b>ARTC Unders/Overs</b>			
<i>Opening Value</i>	2.40	3.45	-1.39
<i>Refunds/Payments</i>	-2.40	-3.45	1.39
<i>Yearly adjustment</i>	3.46	-1.39	0.25
<i>Closing Value</i>	<b>3.46</b>	<b>-1.39</b>	<b>0.25</b>

It is ARTC's view that the Ceiling Test and determination of the Unders and Overs amount has been carried out on an efficient cost basis, and in accordance with the Undertaking.

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<sup>4</sup> Approved costing principles applicable to the networks managed by QR and WestNet both contemplate expensing of costs incurred or financing costs during project construction.

<sup>5</sup> *Report on the Determination of the Remaining Mine Life and Rate of Return, IPART 2004.*

### 3.3.2. Operation of the Unders and Overs Account

ARTC is currently providing settlement on the 2005-06 Unders and Overs balance with relevant Access Seekers.

In August 2007 IPART confirmed the amount of \$3.45M as being the 'over' for 2005-06, and in 2008 confirmed the amounts to be allocated to the relevant access seekers.

As part of this submission ARTC has provided the allocation spreadsheet that allocates the total Unders and Overs amount for 2007-08 to applicable Access Seekers in accordance with the Unders and Overs Policy approved by IPART on 27 August 2008. This is being provided to IPART on a confidential basis.



## Appendix A - HUNTER VALLEY NETWORK SECTORS

SECTOR		DESCRIPTION	ROUTE KM (including crossing loops)
RIC	/ ARTC		
441	973	SANDY HOLLOW JCT TO ULAN COLLIERY JCT	103.42
418	956	CAMBERWELL JUNCTION TO GLENNIES CREEK	6.89
419	957	GLENNIES CREEK TO NEWDELL JUNCTION	8.59
448	970	MUSWELLBROOK TO BENGALLA	5.20
449	971	BENGALLA TO SANDY HOLLOW	37.98
460	944	TELERAH TO FARLEY	0.50
423	962	MUSWELLBROOK TO DARTBROOK JCT	7.53
422	961	DRAYTONS JCT TO MUSWELLBROOK	17.04
421	958	NEWDELL JCT TO DRAYTONS JCT	9.57
417	955	WHITTINGHAM TO CAMBERWELL JCT	12.66
428	948	BRANXTON TO WHITTINGHAM	18.57
416	947	FARLEY TO BRANXTON	21.59
415	946	MAITLAND TO FARLEY	1.29
510	937	THORNTON TO MAITLAND (VIA COAL)	10.40
509	936	SANDGATE TO THORNTON (VIA COAL)	12.33
504	926	HANBURY JCT TO SANDGATE (VIA COAL)	1.64
503	925	WARATAH TO HANBURY JCT (VIA COAL)	2.26
502	917	SCHOLEY ST JCT TO WARATAH (VIA COAL)	1.40
411	912	ISLINGTON JCT TO WARATAH	1.50
410	911	WOODVILLE JCT TO ISLINGTON JCT	0.87
500	915	ISLINGTON JCT TO SCHOLEY ST JCT	0.49
501	916	SCHOLEY ST JCT TO PORT WARATAH	4.94
506	931	KOORAGANG EAST JCT TO SANDGATE	0.87
505	927	HANBURY JCT TO KOORAGANG EAST JCT	1.11
507	930	KOORAGANG EAST JCT TO KOORAGANG ISLAND	9.20
532	951	WHITTINGHAM TO SAXONVALE JCT	7.97
534	952	SAXONVALE JCT TO MOUNT THORLEY	4.97
536	959	NEWDELL BRANCH	2.66
451/456/457	312	TELERAH TO CRAVEN (Formerly 941, 942, 943)	96.84
450	940	MAITLAND TO TELARAH	2.16

## APPENDIX B - 2007-08 CAPITAL EXPENDITURE TO BE INCLUDED IN THE RAB

### Appendix B:

Sector / Segment #	Line Segment	Activity	PROJECT	Capital Expenditure \$M	Written Down Value \$M	Constrained Network (Yes / No)
448 / 970	Muswellbrook To Bengalla Jct	Bridge Replacement / Modification / Strengthening - Underbridge	Muscle Creek Bridge 4	0.260	0.040	Yes
		Rerailing	Rerailing	0.114		Yes
		Level Crossing Upgrade / Renewal (Civil)	Level Crossing Upgrade	0.007		Yes
		Level Crossing Upgrade / Renewal (Civil)	Level Crossing Upgrade - One lane only	0.042		Yes
		Bridge End Track Upgrade	Muswellbrook - ballast logs	0.049		Yes
449 / 971 & 972	Bengalla Jct To Sandy Hollow Jct	Level Crossing Upgrade / Renewal (Civil)	Level Crossing Upgrade	0.017		Yes
		Ulan Signalling & CTC	Signalling & CTC Upgrade	4.088		Yes
441 / 973 & 974	Sandy Hollow Jct To Ulan Colliery Jct	Turnout Upgrade	Wilpinjong to Ulan Colliery Jct	0.903		Yes
		Level Crossing Upgrade / Renewal (Civil)	Sandy Hollow Jct to Wilpinjong	0.230		Yes
		Level Crossing Upgrade / Renewal (Civil)	Sandy Hollow Jct to Wilpinjong	0.006		Yes
		Level Crossing Upgrade / Renewal (Civil)	Sandy Hollow Jct to Wilpinjong	0.198		Yes
		Level Crossing Upgrade / Renewal (Civil)	Sandy Hollow Jct to Wilpinjong	0.004		Yes
		Ulan Signalling & CTC	Signalling & CTC Upgrade	10.723		Yes
423 / 962	Muswellbrook To Dartbrook Jct	Bridge End Track Upgrade	Muswellbrook to Dartbrook - Sandy Creek - ballast logs	0.008		No
422 / 961	Draytons Jct To Muswellbrook	Major Capital	Loop extension	4.071		Yes
		Power Supply Upgrade	Power Supply Upgrade	0.030		Yes
		Power Supply Upgrade	Power fully installed and all demolition complete	0.247		0.552

Sector / Segment #	Line Segment	Activity	PROJECT	Capital Expenditure \$M	Written Down Value \$M	Constrained Network (Yes / No)
421 / 958	Newdell Jct To Draytons Jct	Signalling System Upgrade	Signalling System Upgrade	0.166		Yes
		Power Supply Upgrade	Power fully installed and all demolition complete	0.095	0.038	Yes
419 / 957	Glennies Creek To Newdell Jct	Power Supply Upgrade	Power fully installed and all demolition complete	0.108	0.034	Yes
418 / 956	Camberwell Jct To Glennies Creek	Rerailing	Rerailing	0.626	0.294	Yes
		Power Supply Upgrade	Power fully installed and all demolition complete	0.173	0.027	Yes
417 / 955	Whittingham To Camberwell Jct	Rerailing	Rerailing	0.143	0.057	Yes
		Bridge End Track Upgrade	Hunter River - Singleton	0.127		Yes
		Signalling System Upgrade	Telemetry	0.088		Yes
		Signalling System Upgrade	Rollers	0.056		Yes
		Power Supply Upgrade	Power fully installed and all demolition complete	0.281	0.050	Yes
		Signal / Level Crossing Lamp Upgrade	Signal / Level Crossing Lamp Upgrades	0.074		Yes
428 / 948	Branxton To Whittingham	Bridge End Track Upgrade	Gowrie Gates - Bridge ends (concrete slab)	0.176		Yes
		Rerailing	Rerailing	1.136	0.406	Yes
		Turnout Upgrade	Turnout Upgrade	0.018		Yes
		Power Supply Upgrade	Power fully installed and all demolition complete	0.254	0.701	Yes
416 / 947	Farley To Branxton	Major Capital	80 Klm running - Minimbah	0.600		Yes
		Power Supply Upgrade	Power fully installed and all demolition complete	0.114		Yes
415 / 946	Maitland To Farley	Power Supply Upgrade	Power fully installed - demolition to be completed	0.160		Yes

Sector / Segment #	Line Segment	Activity	PROJECT	Capital Expenditure \$M	Written Down Value \$M	Constrained Network (Yes / No)
510 / 937	Thornton To Maitland (Via Coal)	Property	Property	0.146	0.132	Yes
		Rerailing	Rerailing	0.431		Yes
		Bridge Replacement / Modification / Strengthening - Underbridge	Walkway - Melbourne Street	0.055		Yes
		Culvert - New, replacement or modification	Culvert - New, replacement or modification	0.067		Yes
		Bridge End Track Upgrade	Melbourne Street - concrete slab plus ballast logs	0.084		Yes
		Power Supply Upgrade	Power fully installed	0.015		Yes
		Power Supply Upgrade	Power fully installed - demolition to be completed	0.316		Yes
509 / 936	Sandgate To Thornton (Via Coal)	Concrete Resleeping	Concrete Resleeping	0.257	0.163	Yes
		Power Supply Upgrade	Power fully installed - demolition to be completed	0.489		Yes
		Signalling System Upgrade	Power supply alarms	0.058		Yes
		Signalling System Upgrade	Signalling System Upgrade	0.055		Yes
		Signalling System Upgrade	Power supply alarms	0.042		Yes
504 / 926	Hanbury Jct To Sandgate (Via Coal)	Power Supply Upgrade	Power fully installed - demolition to be completed	0.294		Yes
503 / 925	Waratah To Hanbury Jct (Via Coal)	Rerailing	Rerailing	0.165	0.065	Yes
		Power Supply Upgrade	Power fully installed - demolition to be completed	0.246		Yes
502 / 917	Scholey St Jct To Waratah (Via Coal)	Power Supply Upgrade	Power fully installed - demolition to be completed	0.274		Yes
501 / 916	Scholey St Jct To Port Waratah	Level Crossing Upgrade Signals	Enclosure renewal	0.143		Yes
		Power Supply Upgrade	Power fully installed	0.035		Yes

Sector / Segment #	Line Segment	Activity	PROJECT	Capital Expenditure \$M	Written Down Value \$M	Constrained Network (Yes / No)
507 / 930	Kooragang East Jct To Kooragang Is.	Turnout Upgrade	Deep HH switches	0.030	0.007	Yes
		Concrete Resleepering	Concrete Resleepering	0.075		Yes
534 / 952	Saxonvale Jct To Mount Thorley	Signalling System Upgrade	Telemetry	0.126		Yes
536 / 959	Newdell Branch	Bridge Replacement / Modification / Strengthening - Underbridge	Guard rails	0.011		Yes
			<b>TOTAL Network</b>	<b>28.806</b>	<b>2.566</b>	
			<b>TOTAL CONSTRAINED</b>	<b>28.798</b>	<b>2.566</b>	

## APPENDIX C - 2007-08 DISPOSALS \*

### Appendix C:

Sector / Segment #	Line Segment	Activity	PROJECT	2007/08 RAB Value \$M	2007/08 Written Down Value \$M	Disposal Recovery \$M	Net Loss on Disposal \$M	Constrained Network (Yes / No)
448 / 970	Muswellbrook to Bengalla Jct	Rerailing	Rerailing	0.050	0.040	0.007	0.033	Yes
422 / 961	Draytons Jct to Muswellbrook	Power Supply Upgrade	Power fully installed and all demolition completed	0.690	0.552	0.000	0.552	Yes
421 / 958	Newdell Jct to Draytons Jct	Power Supply Upgrade	Power fully installed and all demolition completed	0.047	0.038	0.000	0.038	Yes
419 / 957	Glennies Creek to Newdell Jct	Power Supply Upgrade	Power fully installed and all demolition completed	0.042	0.034	0.000	0.034	Yes
418 / 956	Camberwell Jct to Glennies Creek	Rerailing	Rerailing	0.367	0.294	0.052	0.241	Yes
		Power Supply Upgrade	Power fully installed and all demolition completed	0.034	0.027	0.000	0.027	Yes
417 / 955	Whittingham to Camberwell Jct	Rerailing	Rerailing	0.071	0.057	0.012	0.045	Yes
		Power Supply Upgrade	Power fully installed and all demolition completed	0.062	0.050	0.000	0.050	Yes
428 / 948	Branxton to Whittingham	Rerailing	Rerailing	0.507	0.406	0.089	0.317	Yes
		Power Supply Upgrade	Power fully installed and all demolition completed	0.877	0.701	0.000	0.701	Yes
510 / 937	Thornton to Maitland (via Coal)	Rerailing	Rerailing	0.165	0.132	0.033	0.098	Yes
509 / 936	Sandgate to Thornton (via Coal)	Concrete Resleepering	Concrete Resleepering	0.204	0.163	0.000	0.163	Yes

Sector / Segment #	Line Segment	Activity	PROJECT	2007/08 RAB Value \$M	2007/08 Written Down Value \$M	Disposal Recovery \$M	Net Loss on Disposal \$M	Constrained Network (Yes / No)
503 / 925	Waratah to Hanbury Jct (via Coal)	Rerailing	Rerailing	0.082	0.065	0.014	0.051	Yes
507 / 930	Kooragang East Jct to Kooragang Is.	Concrete Resleepering	Concrete Resleepering	0.009	0.007	0.000	0.007	Yes
			TOTAL Network	3.208	2.566	0.207	2.359	
			TOTAL CONSTRAINED	3.208	2.566	0.207	2.359	

Table excludes \$4,000 recovery from assets not forming part of the 1999 RAB

# APPENDIX D - 2007-08 RAB ROLL FORWARD SUMMARY

## RAB "Roll Forward"

### 2007 / 2008 ARTC

	Total	Constrained
CPI	2.71%	2.71%
Depreciation - 'Existing & 2004/05'	2.8571%	2.8571%
Depreciation - '2005/06'	2.9412%	2.9412%
Depreciation - '2006/07'	3.0303%	3.0303%
Depreciation - 'New'	3.1250%	3.1250%
<b>Opening Total RAB</b>	<b>509,332,905</b>	<b>334,241,470</b>
<b>Additions / Deletions - Line Segments</b>		<b>83,324,624</b>
<b>Existing assets 2003-2004</b>		
<b>Gross assets:</b>		
Opening Balance	428,569,454	239,505,923
<b>Additions / Deletions - Line Segments</b>		<b>91,439,084</b>
CPI	11,614,232	8,968,610
Original Balance plus CPI	440,183,686	339,913,617
Less Disposals	-3,207,723	-3,207,723
<b>Adjusted Net Balance</b>	<b>436,975,963</b>	<b>336,705,894</b>
<b>Depreciation:</b>		
% of year	100.0%	100.0%
Depreciation CY	-12,485,027	-9,620,168
CPI on Depreciation PY	-983,971	-759,543
Less Disposal Acc Depn	641,543	641,543
<b>Accumulated Depreciation</b>	<b>-49,136,359</b>	<b>-37,765,591</b>
<b>Closing Balance</b>	<b>387,839,611</b>	<b>298,940,310</b>
<b>New assets 2004-2005</b>		
<b>Gross assets:</b>		
Opening Balance	2,110,676	2,110,676
CPI	57,199	57,199
Original Balance plus CPI	2,167,875	2,167,875
Less Disposals	0	0
<b>Adjusted Net Balance</b>	<b>2,167,875</b>	<b>2,167,875</b>
<b>Depreciation:</b>		
% of year	100.0%	100.0%
Depreciation CY	-61,939	-61,939
CPI on Depreciation PY	-4,086	-4,086
Less Disposal Acc Depn		
<b>Accumulated Depreciation</b>	<b>-216,787</b>	<b>-216,787</b>
<b>Closing Balance</b>	<b>1,951,088</b>	<b>1,951,088</b>



<b>New assets 2005-2006</b>		
<b>Gross assets:</b>		
Opening Balance	4,687,225	4,377,303
<b>Additions / Deletions - Line Segments</b>		<b>-928,788</b>
CPI	127,024	93,455
Original Balance plus CPI	4,814,249	3,541,970
Less Disposals		
<b>Adjusted Net Balance</b>	4,814,249	3,541,970
<b>Depreciation:</b>		
% of year	100.0%	100.0%
Depreciation CY	-141,596	-104,176
CPI on Depreciation PY	-5,604	-4,123
Less Disposal Acc Depn		
<b>Accumulated Depreciation</b>	-353,989	-260,439
<b>Closing Balance</b>	4,460,260	3,281,531
<b>New assets 2006-2007</b>		
<b>Gross assets:</b>		
Opening Balance	112,334,029	107,777,879
<b>Additions / Deletions - Line Segments</b>		<b>3,297,292</b>
CPI	3,044,252	3,010,137
Original Balance plus CPI	115,378,281	114,085,308
Less Disposals		
<b>Adjusted Net Balance</b>	115,378,281	114,085,308
<b>Depreciation:</b>		
% of year	100.0%	100.0%
Depreciation CY	-3,496,312	-3,457,131
CPI on Depreciation PY	-46,125	-45,608
Less Disposal Acc Depn		
<b>Accumulated Depreciation</b>	-5,244,468	-5,185,697
<b>Closing Balance</b>	110,133,814	108,899,612
<b>New assets 2007-2008</b>		
<b>Gross assets:</b>		
Opening Balance	29,439,796	29,432,191
CPI	0	0
Original Balance plus CPI	29,439,796	29,432,191
Less Disposals		
<b>Adjusted Net Balance</b>	29,439,796	29,432,191
<b>Depreciation:</b>		
% of year	50.0%	50.0%
Depreciation CY	-459,997	-459,878
CPI on Depreciation PY	0	0
Less Disposal Acc Depn		
<b>Accumulated Depreciation</b>	-459,997	-459,878
<b>Closing Balance</b>	28,979,799	28,972,313

## APPENDIX D - 2007-08 RAB ROLL FORWARD SUMMARY

<b>Total Closing RAB</b>	533,364,572	442,044,854
<b>Average RAB value</b>	521,348,738	429,805,474
<b>Depreciation</b>	-16,644,871	-13,703,292
<b>RABsys</b>	533,364,572	442,044,854
<b>Net CPI Increase</b>	13,802,922	11,316,041

## APPENDIX E - 2007-08 RAB VALUES BY SECTOR

Segment Code	Sector Code	Description	Constrained	CLOSING 2006-07 RAB Value (\$)	Constrained	OPENING 2007-08 RAB Value (\$)	CLOSING 2007-08 RAB Value (\$)	Average 2007-08 RAB Value (\$)
970	448	Muswellbrook To Bengalla Jct	Yes	6,132,379	Yes	6,132,379	6,528,661	6,330,520
971_972	449	Bengalla Jct To Sandy Hollow Jct	No	23,754,083	Yes	23,754,083	27,849,810	25,801,946
973_974	441	Sandy Hollow Jct To Ulan Colliery Jct	No	67,333,259	Yes	67,333,259	79,327,359	73,330,309
962	423	Muswellbrook To Dartbrook Jct	Yes	7,762,717	No	7,762,717	7,734,943	7,748,830
961	422	Draytons Jct To Muswellbrook	Yes	23,036,301	Yes	23,036,301	26,673,011	24,854,656
958	421	Newdell Jct To Draytons Jct	Yes	12,426,903	Yes	12,426,903	12,587,047	12,506,975
957	419	Glennies Creek To Newdell Jct	Yes	12,881,082	Yes	12,881,082	12,891,039	12,886,061
956	418	Camberwell Jct To Glennies Creek	Yes	9,483,407	Yes	9,483,407	9,914,177	9,698,792
955	417	Whittingham To Camberwell Jct	Yes	28,201,629	Yes	28,201,629	28,889,097	28,545,363
948	428	Branxton To Whittingham	Yes	37,328,663	Yes	37,328,663	38,052,535	37,690,599
947	416	Farley To Branxton	Yes	27,383,787	Yes	27,383,787	27,360,089	27,371,938
946	415	Maitland To Farley	Yes	3,097,586	Yes	3,097,586	3,239,707	3,168,647
940	450	Maitland To Telarah	No	2,275,881	No	2,275,881	2,264,521	2,270,201
941	451	Telarah To Martins Creek	No	15,274,493	No	15,274,493	15,198,263	15,236,378
942	456	Martins Creek To Dungog	No	13,293,508	No	13,293,508	13,227,197	13,260,352
943	457	Dungog To Craven	No	41,881,737	No	41,881,737	41,672,653	41,777,195
937	510	Thornton To Maitland (Via Coal)	Yes	23,191,951	Yes	23,191,951	24,048,404	23,620,177
936	509	Sandgate To Thornton (Via Coal)	Yes	95,846,033	Yes	95,846,033	96,139,739	95,992,886
926	504	Hanbury Jct To Sandgate (Via Coal)	Yes	2,439,342	Yes	2,439,342	2,716,449	2,577,895
925	503	Waratah To Hanbury Jct (Via Coal)	Yes	3,156,919	Yes	3,156,919	3,483,436	3,320,177
0	405	Newstan Jct To Cockle Creek	No	3,243,387	No	3,243,387	3,227,180	3,235,283
0	406	Cockle Creek To Sulphide Jct	No	2,471,520	No	2,471,520	2,459,170	2,465,345
0	490	Sulphide Jct To Adamstown	No	3,766,858	No	3,766,858	3,748,036	3,757,447
0	407	Adamstown To Broadmeadow (Via Main)	No	4,342,592	No	4,342,592	4,320,893	4,331,742
0	497	Broadmeadow To Woodville Jct	No	2,322,933	No	2,322,933	2,311,325	2,317,129
911	410	Woodville Jct To Islington Jct	No	5,017,150	No	5,017,150	4,992,083	5,004,617
912	411	Islington Jct To Waratah	No	1,757,376	No	1,757,376	1,748,601	1,752,989
915	500	Islington Jct To Scholey St Jct	No	1,709,376	No	1,709,376	1,700,840	1,705,108
917	502	Scholey St Jct To Waratah (Via Coal)	Yes	2,701,065	Yes	2,701,065	2,957,324	2,829,195
916	501	Scholey St Jct To Port Waratah	Yes	7,840,835	Yes	7,840,835	7,978,794	7,909,814
931	506	Kooragang East Jct To Sandgate	Yes	622,065	Yes	622,065	619,166	620,615
927	505	Hanbury Jct To Kooragang East Jct	No	1,642,783	No	1,642,783	1,634,583	1,638,683
930	507	Kooragang East Jct To Kooragang Island	Yes	18,979,488	Yes	18,979,488	18,981,847	18,980,668
951	532	Whittingham To Saxonvale Jct	Yes	5,653,900	Yes	5,653,900	5,626,514	5,640,207
951	533	Saxonvale Branch	No	0	No	0	0	0
952	534	Saxonvale Jct To Mount Thorley	Yes	2,064,869	Yes	2,064,869	2,178,722	2,121,796
959	538	Ravensworth Washery Loop	No	0	No	0	0	0
959	536	Newdell Branch	Yes	4,010,547	Yes	4,010,547	4,001,926	4,006,237
959	547	Newdell Balloon Loop	Yes	0	Yes	0	0	0
944	460	Telarah To Farley	No	1,151,789	No	1,151,789	1,146,034	1,148,911

TOTAL (ARTC + RC)	525,480,195	525,480,195	549,431,175	537,455,684
Constrained	334,241,470	417,566,094	442,044,854	429,805,474
TOTAL (ARTC only)	509,332,905	509,332,905	533,364,571	521,348,738

**Note:** The two (2) columns are for whether the segment is 'Constrained', Yes or No!  
The reason this year for there having to be two (2) is that the Line Segments being 'Constrained' changed between the closing balance of last year and the opening balance of this year.