

Hunter Valley Coal Network Access Undertaking  
2022 Compliance Assessment

Submission To

Australian Competition & Consumer Commission

27 March 2024

PUBLIC VERSION

ARTC



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## 1. INTRODUCTION & BACKGROUND

This submission to the Australian Competition and Consumer Commission (**ACCC**) relates to compliance by Australian Rail Track Corporation (**ARTC**) with a voluntary access undertaking, the Hunter Valley Coal Network Access Undertaking (HVAU) for calendar year 2022.

The HVAU was varied 1 July 2021 with the 2021 compliance assessment covering both HVAU version 7 for the period 1 January 2021 – 30 June 2021 (H1 2021) and HVAU Version 8 for the period 1 July-31 December 2021 (H2 2021).

For the period 1 January 2022 to 31 December 2022 (**2022 compliance period**), the provisions of HVAU Version 8 apply to the full calendar year.

The compliance assessment for 2022 will be carried out in accordance with the provisions of Schedule J of HVAU Version 8 as indicated in section 4A.1(c) of HVAU Version 8.

The main changes in HVAU Version 8 that are relevant to the 2022 compliance year are:

- Section 4J.3 (d)(iii) of version 8 details that for H2 2021, 50% of ad hoc revenue (**ARTC's Ad Hoc Revenue Share**) is not included in the reconciliation against the ceiling limit. For the 2022 compliance period this provision does not apply, that is, Ad Hoc revenue will be considered access revenue for the purpose of reconciliation against the Ceiling Limit.
- Section 4J.9(g) capitalised losses in Pricing Zone 3 are required to be set to zero as at 31 December 2022. ARTC is required to determine the Final Capitalised Losses Amount and refund/collect any outstanding amounts owing to/from Access Holders as per 4J.9(g)(iv). The end of the loss capitalisation mechanism on 31 December 2022 will mean Pricing Zone 3 will become constrained in 2023 and therefore be subject to the ceiling limit.

From 1 January 2023, Pricing Zone 3 Access Holders will contribute 33% of their share of fixed costs in Pricing Zone 1, before increasing their contribution to 100% from 2024 onwards.

- Section 9.11 requires ARTC to prepare and present to customers an annual Maintenance Plan starting with the 2022 year. It will detail, amongst other things, the 10 largest maintenance activities per zone, the 10-year asset management strategy linked to ARTC strategies, the proposed structure of maintenance possessions and the indicative scope and budget of work and key deliverables.

The purpose of this submission is to demonstrate ARTC's compliance with the requirements of HVAU Schedule J section 4J.10 for the 2022 compliance period and to specifically address the information requirements detailed in HVAU Schedule G clause 2.

ARTC is submitting the 2022 Compliance Assessment within 4 months of the ACCC's Final Determination for 2021 as required under HVAU section 4J.10(a).

A copy of the HVAU and associated documents can be downloaded from ACCC's website at: <https://www.accc.gov.au/regulated-infrastructure/rail/artc-hunter-valley-access-undertaking>.

Terms used in this submission are as per the HVAU unless otherwise indicated by the context.



## 1.1 Hunter Valley Coal Network Access Undertaking Requirements

The HVAU requires that ARTC submit to the ACCC for each calendar year<sup>1</sup>:

- documentation detailing the roll forward of the regulatory asset base (**RAB**) (with respect to Pricing Zone 3) and the RAB Floor Limit (all Pricing Zones), and comparisons between RAB and RAB Floor Limit with respect to Pricing Zone 3;
- documentation detailing calculations relevant to reconciliation of Access revenue with the applicable Ceiling Limit and any allocation of the total unders and overs amount including in Pricing Zone 3, where RAB is at or below RAB Floor Limit; and
- a copy of the Final Audit Report relating to the True Up Test.

The documentation requirements are set out in detail in HVAU Schedule G. ARTC has also continued to provide the additional documentation requested by the ACCC for previous Compliance Assessment submissions as well as additional information relevant to this 2022 submission.

## 1.2 Form Of This Submission

In order to ensure compliance with the information requirements set out at HVAU Schedule G, ARTC has sought to prepare this submission broadly in line with the prescribed order at Schedule G clause 2.

This submission for the 2022 compliance period generally follows the same format as the submission for the 2021 compliance period however with the notable difference that the 2021 Compliance Assessment Submission (and the associated attachments) included additional tables to recognise the split into two half years for the RAB related aspects in the document to account for the different rate of return and mine life for the H1 2021 and H2 2021 periods, in accordance with HVAU Version 8, respectively.

Table 1 sets out the sections in this submission together with the relevant information requirement under Schedule G.

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<sup>1</sup> HVAU Version 8 Schedule J section 4J.10

**Table 1: Submission Layout**

Section	Title	Relevant requirement at HVAU Schedule G clause 2
1	Introduction & Background	
2	Operating Costs	
3	RAB Roll Forward <ul style="list-style-type: none"> <li>▪ Component calculation</li> <li>▪ Component values</li> <li>▪ Outcome and closing values</li> <li>▪ Spreadsheet model (confidential)</li> </ul>	2(b)(i) 2(b)(ii) 2(b)(iii) 2(b)(vi)
4	RAB Floor Limit Roll Forward <ul style="list-style-type: none"> <li>▪ Component calculation</li> <li>▪ Component values</li> <li>▪ Outcome and closing values</li> <li>▪ Spreadsheet model (confidential)</li> <li>▪ Pricing Zone 3 RAB/RAB Floor Limit comparison</li> </ul>	2(b)(i) 2(b)(ii) 2(b)(iii) 2(b)(vi) HVAU section 4.10(a)
5	Capital Expenditure <ul style="list-style-type: none"> <li>▪ RCG endorsement</li> </ul>	2(b)(iv)
6	Disposals <ul style="list-style-type: none"> <li>▪ RCG endorsement</li> <li>▪ References</li> <li>▪ Determining current value</li> </ul>	2(b)(v) 2(b)(v) 2(b)(v)
7	Contact Details (stakeholders) <ul style="list-style-type: none"> <li>▪ Industry stakeholders</li> </ul>	2(b)(vii)
8	Ceiling Test <ul style="list-style-type: none"> <li>▪ Access revenue</li> <li>▪ Full Economic Cost by item</li> <li>▪ Total unders &amp; overs amount</li> <li>▪ 2021 comparison</li> <li>▪ Assumptions &amp; methodology</li> <li>▪ Spreadsheet model (confidential)</li> </ul>	2(c)(i)(A) 2(c)(i)(B) 2(c)(i)(C) 2(c)(i)(D) 2(c)(ii) 2(c)(iii)
9	Unders & Overs Allocation <ul style="list-style-type: none"> <li>▪ Assumptions &amp; methodology</li> <li>▪ Unders &amp; overs allocation (confidential)</li> <li>▪ Spreadsheet model (confidential)</li> <li>▪ Access Holder Endorsement</li> <li>▪ Ad hoc Revenue Share</li> </ul>	2(c)(ii) 2(c)(i)(C) 2(c)(iii) 2(c)(iv) 2(c)(v)
10	Pricing Zone 3 Interim Indicative Access Charge	2(d)
11	System wide true up test audit <ul style="list-style-type: none"> <li>▪ Final Audit Report</li> </ul>	2(e)
12	Contact Details (ARTC) ARTC authorised person	2(f)

Note that throughout this submission and supporting attachments, some tables may not add to the totals presented due to the rounding of underlying data.

Table 2 sets out the additional supporting documentation provided to the ACCC with the 2022 submission:

**Table 2: Additional Supporting Documentation**

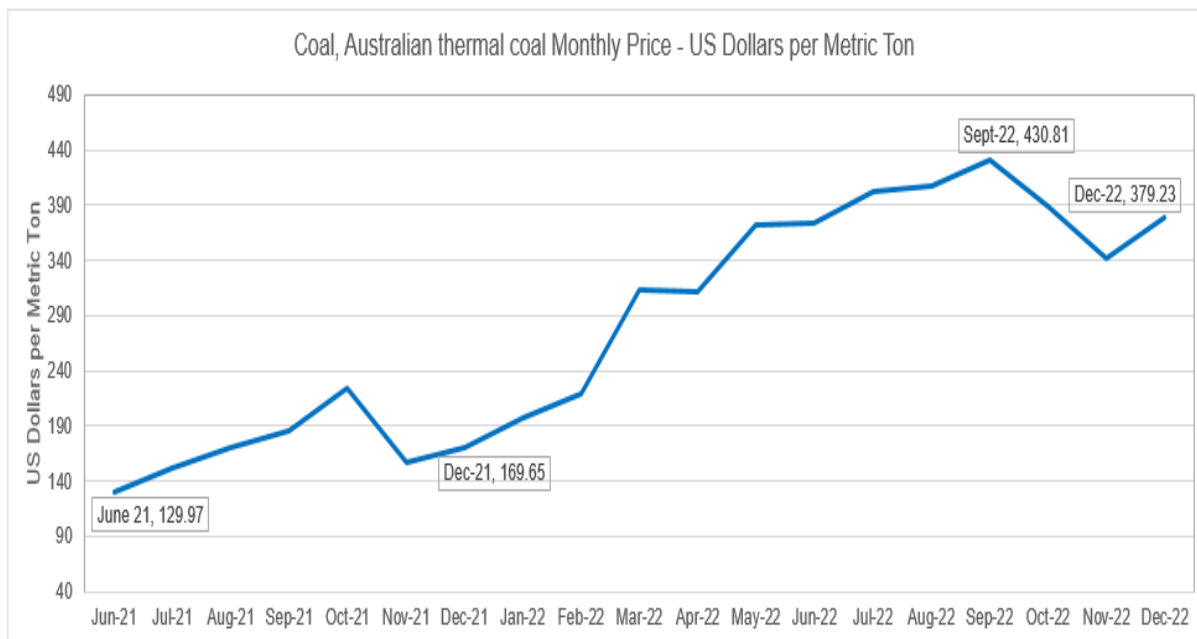
Asset Management Context	Attachment 5
2022 Actual and forecast GTKM and Train Km for the Hunter Valley (for Pricing Zones and non-coal) and Interstate networks	Attachment 5
2022 Assurance that ARTC's procurement policies were satisfied and procurement efficient	Section 2 and Attachment 5
2022 Changes to ARTC's capitalisation policy	Attachment 2
2022 Asset disposals—underlying calculations which determine the written down value	Section 6 and Attachment 5
2022 Mapping of the Schedule I overhead allocators to operating cost activities and Actual values for Schedule I allocators	Section 2 and Attachment 5
2022 Uniform Data Tables – Capital Expenditure, RAB Floor Limit Roll-Forward, Operating Expenditure	Attachment 5



**1.3 Context for 2022**

ARTC has provided the ACCC a comprehensive summary of information regarding the Network, Customer and Supply Chain context for the Hunter Valley and ARTC’s lease and rail safety requirements. The details are included within the Asset Management Context document incorporated as part of Attachment 5 within this submission.

After reaching a then record high in October 2021 export thermal coal prices sustained their upward trajectory in 2022, surpassing the previous year’s record and reaching a new peak of \$431 USD/MT in September 2022. This represents a 700% increase over the course of two years. These record prices were largely attributable to increased global demand following Russia’s invasion of Ukraine. The geopolitical tensions and the ensuing economic sanctions led to a decrease in coal exports as production and supply chains were disrupted, in turn tightening the global supply and triggering a surge in coal prices.



**Figure 1: Australian Thermal Coal Monthly Price US\$/metric Tonne - June 2021 - Dec 2022**

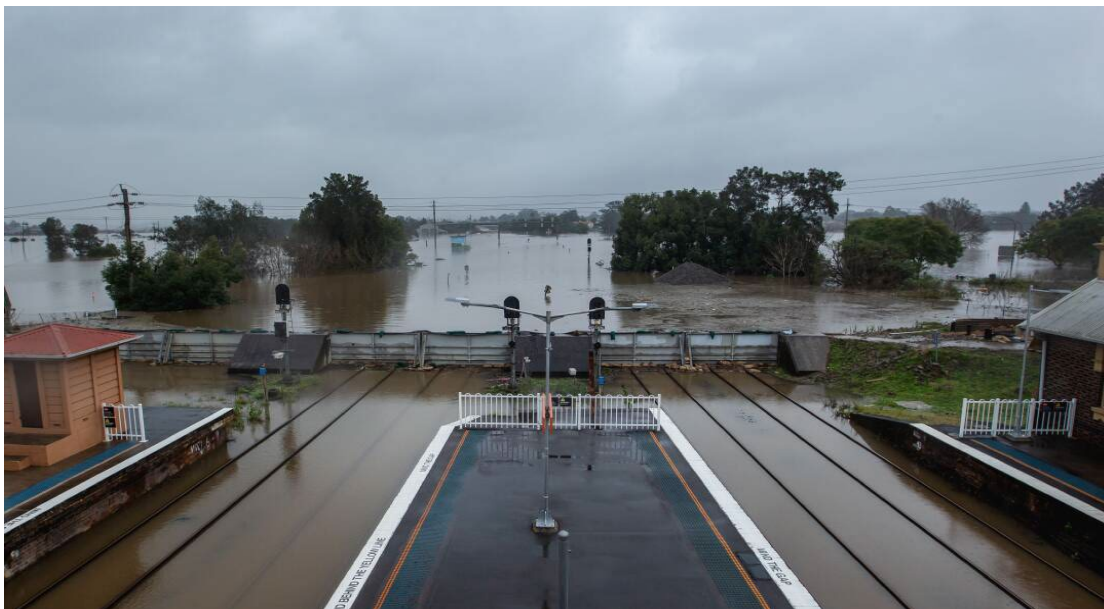
Source: Mundi Index

The ability of customers to take advantage of strong demand was challenged throughout the year by persistent extreme wet weather and flooding events impacting the volume of coal delivered. Mine production was severely impacted by excess water on site which impacted Run-Of-Mine (ROM) coal levels, whilst market demand for high quality low ash coal saw the raw product heavily washed and yields fall as producers chose to target price premiums in lieu of higher volume high ash markets. These compounding factors resulted in actual railings falling well short of initial forecasts and notably, the annual Gross Tonne Kilometres (GTKM’s) delivered in 2022 experienced a reduction of 9.3% compared to 2021.

Severe weather conditions also continued to impact an already saturated rail network throughout 2022. The occurrence of three consecutive La Niña Cycles coupled with continuous rainfall resulted in significant and destructive flood incidents that affected multiple network locations across the year. On 5th July 2022 flooding forced ARTC to cease operations through the Hunter Valley Network between Newcastle and Maitland. The NSW Government declared the event a Natural Disaster with the Bureau

of Meteorology reporting the wettest July on record since 1900<sup>2</sup> with rainfall around 4 to 8 times the July average. ARTC continued to optimise the Significant Event Response Group to provide regular updates to Customers on track conditions and orchestrated collaborative efforts with all community stakeholders during this period to expediate the restoration of the track, prioritising efficiency and ensuring the safe operation of the network.

Having published and consulted with Customers on the 2022 Maintenance Plan in August 2021, continued weather impacts required ongoing agility in execution during the live year, with some variation to both the nature of works and the shutdown schedule itself. Outsourcing remained the predominant approach for work conducted within these closedowns, with the required deviation from the original annual possession plan demanding substantial internal resources for planning and rescheduling, resulting in above budget expenditure associated with the required mobilisation and demobilisation of equipment and labour. The ongoing value of the Decision Support Platform (DSP) and investment in condition-based maintenance was felt during this period and will continue to be pivotal in the face of the increasingly frequent and adverse weather patterns to ensure that the most deteriorating sites are prioritised for rectification, thereby securing the ongoing integrity of the network.



**Figure 2: Flood Gates at Maitland Train Station July 2022 Floods<sup>3</sup>**

In addition to weather related challenges, unprecedented inflationary pressures also impacted maintenance and capital costs with some project pricing trending upwards as high as 19% on the back of significant labour and material cost increases. ARTC were forthcoming to the RCG in detailing the impact of these external industry challenges on ARTC's ability to deliver the capital program as initially endorsed. Following close reassessment and consideration of market impacts, ARTC consulted with customers on a reforecast of the H2 2022 and 2023 Sustaining Capital Program and sought endorsement from the RCG.

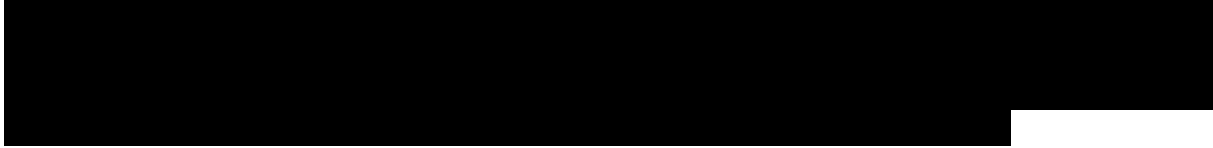
ARTC also continued to be adaptive and responsive to legislative requirements. In June 2022, the NSW Government responded to electricity supply shortages on the East Coast of Australia by enacting the

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<sup>2</sup> <http://www.bom.gov.au/climate/current/month/nsw/archive/202111.summary.shtml>

<sup>3</sup> <https://www.newcastleherald.com.au/story/7823932/trains-back-on-track-after-floods-throw-a-spanner-in-the-works/>

Domestic Coal Legislative Directive. This directive mandated the prioritisation of rail delivery for domestic coal from Hunter Valley producers to local power stations requiring changes in operating protocols. In response, ARTC joined a task force with all energy supply chain participants to ensure priority and continuous supply of coal to power stations, whilst consulting and engaging with customers to ensure all existing export contractual commitments continued uninterrupted.



ARTC maintained a strong regulatory focus throughout the 2022 year. The final determination for the 2021 Submission was received from the ACCC on the 29 November 2023 whereby the ACCC concluded that ARTC's operating costs were fully incurred on an efficient basis and that ARTC demonstrated the prudence of its capital expenditure.

ARTC's continuing capability to adapt and balance customer needs with the network's maintenance demands amid significant and ongoing external disruption during 2022 demonstrates ARTC's ability to deliver on the committed service offering. As referenced in prior year submissions, ARTC's costs for the period should be considered as an overall suite to maintain and operate the Hunter Valley Coal Network.

ARTC provided the opportunity for Customers, Rail Haulage Providers and the ACCC to attend a briefing on the 2022 Compliance Assessment submissions on 26 March 2024 ahead of lodging it with the ACCC. This meeting was well attended by invited stakeholders.

ARTC welcomes further engagement from the ACCC and industry through this process.

## 2. OPERATING COSTS

Operating costs are either Segment Specific Costs or an allocation of Non-Segment Specific Costs.

The cost allocation principles under the HVAU for the 2022 compliance period require that where possible, Non-Segment Specific Costs should be directly attributed to a Segment, otherwise there is an allocation in line with the cost allocation methodology as prescribed under the HVAU.

### 2.1 Maintenance Costs and Variable Methodology

The predominance of major periodic maintenance (**MPM**) and routine corrective and reactive maintenance (**RCRM**) costs are directly identifiable with individual Segments and recognised as Segment Specific Costs against the relevant line Segment where the work was undertaken.

Both RCRM and MPM costs are reported for each Segment and split between fixed and variable, based upon an engineering assessment of the extent to which the activity varies in proportion with volume. For this 2022 compliance submission, ARTC has continued to apply the variable cost methodology consistent with the proportions assessed and approved in prior year compliance assessments.

Total variable maintenance costs for each Segment are divided by total GTKMs (including non-coal and unconstrained GTKMs and including a weighting to account for axle load variations) or Train Kms to derive a variable unit cost per GTKM or Train Km (as determined by the WIK or Bull Head Services reports, as applicable) for each Segment.

### 2.2 Allocation Approach

The HVAU requires that where possible, Non-Segment Specific Costs are to be directly attributed to a Segment, otherwise there is an allocation of the costs to Segments in line with the cost allocation methodology as prescribed under the HVAU.

For 2022, the allocation of Non-Segment Specific Costs that cannot be directly attributed to a Segment is based on the allocation methodology set out in Schedule I.

Similar to the 2021 Compliance Submission, ARTC has provided on a confidential basis a detailed mapping of the operating cost activities to the relevant allocator at Attachment 5 to assist the ACCC in its review.

### 2.3 Procurement Policies

There was no substantive change made to ARTC's procurement procedures during 2022.

Consistent with the approach in the 2021 Compliance Assessment submission, ARTC has provided the ACCC with a confidential outline of the procurement processes applied to a cross section of contracts relating to 2022 costs to demonstrate the efficiency and value for money in ARTC's procurements.

## **2.4 Operating Cost Drivers**

The Hunter Valley Network Operating Costs document (Attachment 1) provides an overview of the nature and key drivers for ARTC's operating costs for the Network for the 2022 compliance period. Maintenance costs are provided at a zonal level for the top ten maintenance activities.

ARTC has also provided the ACCC with the 2022 Maintenance Plan, which provides the split between forecast MPM and RCRM costs, as well as details pertaining to the top ten maintenance activities by Pricing Zone. Additionally, ARTC has provided the Quarterly Maintenance Reports, which contains details relating to the actual costs and scope compared to forecast for the top ten maintenance activities by Pricing Zone.

## **2.5 Engagement with Access Holders**

As outlined in section 1.3, Hunter Valley management have continued providing transparency to the RCG on safety, operational and reliability performance of the Network and asset management. During 2022, ARTC consulted with applicable industry representatives and obtained endorsement of Sustaining Capital on the Network, as well as consulted on the Maintenance Plan and Key Maintenance Activities. Quarterly reporting of ARTC's maintenance cost performance and reconciliations of sustaining capital expenditure has also continued. Given the cross section of RCG members (Access Holders, Rail Operators and HVCCC), the RCG remains an appropriate forum to engage with stakeholders on this information.

It is ARTC's view that the engagement with Access Holders has occurred in accordance with the requirements of HVAU section 9.

### 3. RAB ROLL FORWARD

#### 3.1 2022 RAB Roll Forward Calculation

For segments forming part of Pricing Zone 3 in HVAU Schedule E, the RAB is rolled forward annually using the following methodology:

$$\text{RAB}_{t \text{ start}} = \text{RAB}_{t-1 \text{ end}} =$$

$$(1 + \text{RoR}) \times \text{RAB}_{t-1 \text{ start}} - \text{Out-turn Revenue}_{t-1} + \text{Out-turn Opex}_{t-1} + \text{Net Capex}_{t-1} \times (1 + 0.5 \times \text{RoR})$$

where:

RAB <sub>t start</sub> is:	RAB at the start of the relevant calendar year (t) (which, for the first year following the Commencement Date, would be the Initial RAB).
RAB <sub>t-1 end</sub> is:	the RAB at the end of the preceding calendar year (t-1).
RAB <sub>t-1 start</sub> is:	the RAB at the start of the preceding calendar year (t-1).
RoR is	the nominal pre-tax Rate of Return.
Out-turn Revenue <sub>t-1</sub> is:	the total Access revenue earned by ARTC in the preceding calendar year (t-1) but will not include: <ul style="list-style-type: none"> <li>(i) a Capital Contribution received from an Applicant or an Access Holder; or</li> <li>(ii) Access revenue returned to a Contributor as a result of the operation of a user funding agreement between the Contributor and ARTC.</li> </ul>
Out-turn Opex <sub>t-1</sub> is:	the total operating expenditure incurred by ARTC in the preceding calendar year (t-1), on an Efficient basis, determined in accordance with HVAU sections 4.5(a)(i), (iv) and 4.5(b).
Net Capex <sub>t-1</sub> is:	the net additions to the RAB in the preceding calendar year (t-1), that is out-turn Capital Expenditure by ARTC less the written down value of any disposals during the preceding calendar year (t-1) on a Prudent basis, including interest costs incurred during construction up until 1 July in the calendar year the asset was commissioned, capitalised in the year the asset was commissioned and determined by reference to the relevant form of the Rate of Return (to the extent that Capital Expenditure is incurred on a Prudent basis, including interest costs), but will not include Capital Contributions.

The value for each term in the formula is discussed in section 0 below.



### 3.2 2021 RAB Roll Forward Component Values

#### 3.2.1 RAB Start [RAB t-1 start]

The RAB start for the 2022 compliance period is equal to the closing value of the 2021 values as follows:

**Table 3: 2022 RAB Opening Value**

	Value (\$)	File & Cell Reference
2021 Closing Pricing Zone 3 RAB	717,637,612	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C'!\$G\$72

The opening value for the 2022 RAB is therefore \$717,637,612.

#### 3.2.2 Return

In accordance with HVAU section 4J.8(a), a nominal pre-tax rate of return (**RoR**) is applied to the RAB. Under section 4.8 of the HVAU the nominal pre-tax RoR to be applied for the 2022 compliance period is 6.43%.

New assets commissioned during the 2022 compliance period have a deemed commissioning date of 1 July 2022, as contemplated under the HVAU.

The components of the return value are set out in Table 4.

**Table 4: 2022 RAB Return**

	Formula Element	Return \$	File & Cell Reference
Existing Assets	RoR x RAB <sub>t-1 start</sub>	46,144,098	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C'!\$O\$72
Net Capex	Net Capex <sub>t-1</sub> x (1+0.5 x RoR)	789,230	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C'!\$P\$72
<b>Total Return</b>		<b>46,933,328</b>	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C'!\$Q\$72

#### 3.2.3 Revenue [Out-turn Revenue t-1]

For the 2022 compliance period the Out-turn Revenue in Pricing Zone 3 is \$153,357,474.<sup>4</sup> This value is derived from the total revenue generated by coal traffic using Pricing Zone 3 less the amount required to offset incremental costs in Pricing Zone 1.

<sup>4</sup> '[COMPLIANCE ARTCRevenueModel CAL22\_FINAL.xlsb]RAB\_Z3\_C'!\$AH\$72

### 3.2.4 Operating Expenditure [Out-turn Opex t-1]

Total operating expenditure in Pricing Zone 3 for the 2022 compliance period was \$67,795,582. This expenditure is made up of the elements shown in Table 5.

**Table 5: 2022 RAB Out-turn Opex t-1**

	Value (\$)	File & Cell Reference
Incremental Track Maintenance	25,572,557	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$S\$72
Fixed Track Maintenance	17,454,026	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$T\$72
Expensed Projects	2,200,261	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$V\$72
Loss On Disposals	1,316,074	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$X\$72
Network Control	5,928,504	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$Y\$72
Business Unit Management	9,223,267	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$U\$72
Corporate Overheads	6,100,893	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$Z\$72
<b>Out-turn Opex t-1</b>	<b>67,795,582</b>	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$AA\$72

### 3.2.5 Net Capital Expenditure [Net Capex t-1]

Net Capital Expenditure in Pricing Zone 3 for 2022 amounted to \$24,548,356.

The components of Net Capex t-1 are set out in Table 6. There was Nil interest during construction in Pricing Zone 3 for the 2022 compliance period. Asset value reduction due to disposals for 2022 amounted to \$1,316,074.

**Table 6: 2022 RAB Net Capex t-1**

	Value (\$)	File & Cell Reference
Expansion Capital	-	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$I\$72
Interest During Construction	-	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$L\$72
Sustaining Capital	25,864,431	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$J\$72
Disposals (Asset Value Reduction)	(1,316,074)	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$K\$72
<b>Net Capex t-1</b>	<b>24,548,356</b>	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$M\$72

Refer to Section 5 and Appendix C for details of Expansion Capital Project and Sustaining Capital works commissioned during the 2022 compliance period, and Section 6 and Appendix D for details of asset disposals.

### 3.3 Outcome & Closing Values

Applying the roll forward formula as prescribed at HVAU section 4J.4(a) and the relevant values for the 2022 compliance period, the closing value for the RAB in Pricing Zone 3 (unconstrained network) can be determined as shown in Table 7.

**Table 7: 2022 RAB Roll Forward**

	Formula Element	Value (\$)	File & Cell Reference
Opening RAB	$RAB_{t-1 \text{ start}}$	717,637,612	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsx]RAB_Z3_C!\$G\$72
Additional segments		-	
Return On Opening RAB	$RoR \times RAB_{t-1 \text{ start}}$	46,144,098	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsx]RAB_Z3_C!\$O\$72
Less Revenue	Out-turn Revenue <sub>t-1</sub>	(153,357,474)	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsx]RAB_Z3_C!\$AH\$72
Plus Opex	Out-turn Opex <sub>t-1</sub>	67,795,582	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsx]RAB_Z3_C!\$AA\$72
Plus Net Capex	Net Capex <sub>t-1</sub>	24,548,356	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsx]RAB_Z3_C!\$M\$72
Plus Return On Capex	$Net \text{ Capex}_{t-1} \times (1 + 0.5 \times RoR)$	789,230	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsx]RAB_Z3_C!\$P\$72
Closing RAB	$RAB_{t-1 \text{ end}}$	703,557,405	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsx]RAB_Z3_C!\$H\$55

Appendix B presents the opening and closing RAB values for each segment in Pricing Zone 3.

An electronic copy of the spreadsheet underpinning the calculations for the roll forward of the RAB in Pricing Zone 3 is provided to the ACCC 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 HVAU section 4J.4(a).

## 4. RAB FLOOR LIMIT ROLL FORWARD

### 4.1 Component Calculation

In accordance with HVAU section 4J.4(b)(ii), the RAB Floor Limit for a segment or group of segments will be rolled forward annually according to the following methodology:

$$\text{RAB Floor Limit}_{\text{start}} = \text{RAB Floor Limit}_{\text{t-1 end}} = (1 + \text{CPI}_{\text{t-1}}) \times \text{RAB Floor Limit}_{\text{t-1 start}} + \text{Net Capex}_{\text{t-1}} - \text{Depreciation}_{\text{t-1}}$$

where:

RAB Floor Limit <sub>t start</sub> :	the RAB Floor Limit at the start of the relevant calendar year (t) (which, for the first year following the Commencement Date, would be the Initial RAB).
RAB Floor Limit <sub>t-1 end</sub> :	the RAB Floor Limit at the end of the preceding calendar year (t-1).
RAB Floor Limit <sub>t-1 start</sub> :	the RAB Floor Limit at the start of the preceding calendar year (t-1).
CPI <sub>t-1</sub> :	the inflation rate for the preceding calendar year (t-1), determined by reference to the CPI for the September quarter of that year.
Net Capex <sub>t-1</sub> :	the net additions to the RAB Floor Limit in the preceding calendar year (t-1) that is out-turn Capital Expenditure by ARTC less the written down value of any disposals during the preceding calendar year (t-1) on a Prudent basis, including interest cost incurred during construction up until 1 July in the calendar year the asset was commissioned, capitalised in the year the asset was commissioned and determined by reference to the relevant form of the Rate of Return (to the extent that Capital Expenditure is incurred on a Prudent basis, including interest cost), but will not include Capital Contributions.
Depreciation <sub>t-1</sub> :	Depreciation applicable to the RAB Floor Limit in the preceding calendar year (t-1).

### 4.2 Component Values

#### 4.2.1 RAB Floor Limit Opening Value [RAB Floor Limit t-1 start]

As prescribed at HVAU section 4J.4(a) the RAB Floor Opening Value is equal to the closing RAB Floor Limit approved by the ACCC for the compliance period ending 31 December 2021.

The opening value for the 2022 RAB Floor Limit is summarised in Table 8.

**Table 8: 2022 RAB Floor Limit Opening Value (\$)**

	Value (\$)	File & Cell Reference
Pricing Zone 1	1,199,605,493	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RABFL_C'!\$70
Pricing Zone 2	231,118,562	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RABFL_C'!\$71
Pricing Zone 3	707,102,519	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RABFL_C'!\$72
<b>Total Network Opening Value</b>	<b>2,137,826,573</b>	

No new segments were added to the Network during the 2022 calendar year.

#### 4.2.2 Consumer Price Index [CPI t-1]

In accordance with HVAU section 4J.4(b), CPI has been calculated to be 6.98835%, being the annual CPI rate for the period. The rate has been determined based on the variation in CPI from September 2021 (All Sydney) of 120.2 and September 2022 (All Sydney) of 128.6.

For the 2022 compliance period CPI has been applied to the RAB Floor Limit Opening Value increasing the RAB Floor Limit by \$149,398,862.<sup>5</sup>

#### 4.2.3 Net Capital Expenditure [Net Capex t-1]

Expansion and sustaining capital additions for the 2022 compliance period have added a net value (including asset value reduction due to disposals) of \$109,227,665 to the Network RAB Floor Limit. This is summarised for in Table 9.

**Table 9: 2022 RAB Floor Limit Net Capex**

	Value (\$)	File & Cell Reference
<b>Incremental Assets</b>		
Expansion Capital	-	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]Corr_Maj_Cap_!\$G\$1983
Interest During Construction	-	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]IDC_!\$G\$29
Sustaining Capital	22,749,087	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]Corr_Maj_Cap_!\$G\$30
Disposal Value Reduction	(4,970,911)	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]Disp_!\$X\$18,\$AI\$18
<b>Net Incremental Capex<sub>t-1</sub></b>	<b>17,778,176</b>	
<b>Fixed Assets</b>		
Expansion Capital	-	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]Submission_O\$F\$98
Interest During Construction	-	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]Submission_O\$F\$99
Sustaining Capital	97,520,758	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]Submission_O\$F\$100
Disposal Value Reduction	(6,071,269)	'[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]Disp_!\$L\$18
<b>Net Fixed Capex<sub>t-1</sub></b>	<b>91,449,489</b>	
<b>Total Net Capex<sub>t-1</sub></b>	<b>109,227,665</b>	

Capital additions commissioned during the 2022 compliance period are deemed to have been commissioned at the mid-point of the year (1 July 2022) for the purposes of determining depreciation and return. Interest during construction and return are also determined on this basis.

Refer to section 0 of this document for supporting data and [Appendix C](#) for a list of the Expansion Project and Sustaining Capital additions by segment at an aggregated activity level. See confidential Attachment CAP3 to Attachment 2 for Sustaining Capital additions at a detailed project level.

A listing of assets disposed of during the 2022 compliance period is provided in [Appendix D](#). Further detail in relation to the determination of the disposals amount is provided in section 6 of the submission.

<sup>5</sup> '[1. COMPLIANCE ARTCRevenueModel CAL22\_FINAL.xlsb]RABFL\_C!\$J\$5878

#### 4.2.4 Depreciation [Depreciation t-1]

HVAU section 4J.7 provides that depreciation is calculated each year using a straight-line methodology with respect to useful life. As part of the HVAU version 8, the ACCC determined the useful life to be 21 years commencing 1 July 2021.

Depreciation is charged on the inflation adjusted RAB Floor Limit Opening Value and Net Capital Expenditure incurred during the 2022 compliance period.

Assets included in the Opening RAB Floor Limit value are depreciated using the straight-line methodology by applying the useful life applicable at time of commissioning or upon commencement of the HVAU, as appropriate. This applies to both fixed and incremental assets.

Assets commissioned during the 2022 compliance period are deemed to have been commissioned at the midpoint of the year (1 July 2022) for the purposes of determining depreciation and 50% of the applicable depreciation rate for that period has been applied. The remaining useful life for these assets as at 1 July 2022 is 20.00 years, yielding a depreciation rate of 5.00%.

Depreciation charged is summarised in Table 10.

**Table 10: 2022 RAB Floor Limit Depreciation**

<b>Incremental Assets</b>	<b>Value (\$)</b>	<b>File &amp; Cell Reference</b>
Existing Assets	(42,841,248)	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]Submission_O\$F\$112
New Assets During 2022	(568,727)	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]Submission_O\$F\$113
<b>Incremental Asset Depreciation</b>	<b>(43,409,975)</b>	
<b>Fixed Assets</b>		
Existing Assets	(68,204,907)	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]Submission_O\$F\$117
New Assets During 2022	(2,438,019)	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]Submission_O\$F\$118
<b>Fixed Asset Depreciation</b>	<b>(70,642,925)</b>	
<b>Total Depreciation t-1</b>	<b>(114,052,900)</b>	

#### 4.3 Outcome & Closing Values

Applying the roll forward formula and the relevant values for the 2022 compliance period, the closing value for the RAB Floor Limit can be determined for the Network and for the Constrained Network. The results are summarised for the Network in Table 11.



**Table 11: 2022 RAB Floor Limit Roll Forward - Network**

	<b>Formula Element</b>	<b>Value (\$)</b>	<b>File &amp; Cell Reference</b>
Opening Value	RAB Floor Limit $t-1$ start	2,137,826,573	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RABFL_C!\$J\$5876
Additional segments		-	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RABFL_C!\$J\$5877
CPI	CPI $t-1$	149,398,862	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RABFL_C!\$J\$5878
Capital Expenditure	Net Capex $t-1$	109,227,665	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RABFL_C!\$J\$5879
Depreciation	Depreciation $t-1$	(114,052,900)	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RABFL_C!\$J\$5880
<b>Closing Value</b>		<b>2,282,400,200</b>	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RABFL_C!\$J\$5881
<b>Average Value</b>		<b>2,210,113,387</b>	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RABFL_C!\$K\$68

Appendix B presents the opening, closing and average RAB Floor Limit values for each Network segment in the 2022 compliance period, identifying which segments form the Constrained Network.

An electronic copy of the spreadsheet underpinning the calculations for the roll forward of the RAB Floor Limit is provided to the ACCC on a confidential basis as part of this submission. A summary of the RAB Floor Limit roll forward is shown in Appendix A.

It is ARTC's view that the roll forward of the RAB Floor Limit has been calculated in accordance with the HVAU section 4J.4(b).

#### 4.4 Pricing Zone 3 RAB & RAB Floor Limit Comparison

Section 3.3 Table 7 shows a closing RAB value for Pricing Zone 3 assets in the 2022 compliance period. Table 12 shows a closing RAB Floor Limit value for Pricing Zone 3 assets for the same compliance period and the difference between the two.

**Table 12: 2022 RAB Floor Limit Roll-Forward Pricing Zone 3**

	Formula Element	Value (\$)	File & Cell Reference
<b>RAB Floor Limit</b>			
Opening Value	RAB Floor Limit $t-1$ start	707,102,519	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$X\$46
Additional segments		-	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$X\$47
CPI	CPI $t-1$	49,414,818	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$X\$48
Capital Expenditure	Net Capex $t-1$	24,548,356	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$X\$49
Depreciation	Depreciation $t-1$	(37,487,225)	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$X\$50
<b>Closing Value</b>		<b>743,578,468</b>	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$X\$51
<b>Closing RAB Value</b>	<a href="#">Table 7</a>	703,557,405	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$X\$53
Difference	RAB – RAB Floor Limit	(40,021,063)	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$X\$54

Table 12 demonstrates that the RAB in Pricing Zone 3 is higher than the RAB Floor Limit. This confirms that Pricing Zone 3 is an unconstrained part of the Network. In accordance with section 4J.3(d)(i) of the HVAU, ARTC is not required to detail calculations relevant to reconciliation of Access revenue with the applicable Ceiling Limit and calculations of any allocation of the total unders and overs amount. The net balance of losses capitalised into the Pricing Zone 3 RAB (i.e. the difference between the RAB and RAB Floor Limit) as at 31 December 2022 is a net payable of \$40,021,063 to Zone 3 Customers.

Table 13 shows the components that contribute to the roll-forward of the capitalised loss balance.

**Table 13: 2022 Roll-Forward of Capitalised Losses**

	Value (\$)	File & Cell Reference
<b>Capitalised Loss Opening Balance</b>	10,535,093	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$M\$55
Return on Opening RAB	46,144,098	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$O\$72
Operating Expenditure	67,795,582	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$O\$73
Depreciation	37,487,225	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$O\$74
Return On Cap Ex	789,230	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$O\$75
CPI Open Floor Limit	(49,414,818)	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$O\$76
Revenue	(153,357,474)	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$O\$77
<b>Capitalised Loss Closing Balance</b>	<b>(40,021,063)</b>	[1. COMPLIANCE ARTCRevenueModel CAL22_FINAL.xlsb]RAB_Z3_C!\$AK\$72

## 5. CAPITAL EXPENDITURE

### 5.1 Consultation Process

HVAU sections 7 to 11 set out the process and obligations regarding the initiation of, industry consultation on, and funding of Capital Expenditure in relation to the Network. Specifically, these sections provide a framework for industry endorsement of Capital Expenditure through the RCG for inclusion in the asset base. The Capital Consultation document (Attachment 2) describes ARTC's relevant compliance activities, and industry endorsement, with regard to the 2022 compliance period.

Under HVAU section 9.2 ARTC is required to convene and conduct regular monthly meetings of the RCG. The RCG is an industry forum designed to provide Access Holders, prospective Access Holders, and other industry stakeholders with relevant input to identify, prioritise and evaluate future network investments and refine the capital works programme.

HVAU section 9.1(e)(ii) provides for the minor capital works (also referred to as Sustaining Capital) programme to be considered by the RCG as a group rather than as individual projects. During 2022, ARTC undertook a process with the RCG in relation to the Sustaining Capital program, where the program was presented for endorsement, indicative works and costings within that program were provided, the program was endorsed, and the works delivered.

It is noted that changes at the detailed project level can occur in terms of the scope, priority and timing depending on prevailing circumstances such as identified network conditions and access to the network. During 2022, ARTC kept the RCG informed of the progress of the endorsed Sustaining Capital programme. Updates regarding delivery of the Sustaining Capital programme were delivered quarterly to the RCG with all variances reported. The consultation documents provided to the RCG in this regard during 2022 form confidential Attachments CAP2.1, CAP2.2, CAP2.3 and CAP2.4 to Attachment 2.

Capital Expenditure on new and existing assets to be included in the RAB and RAB Floor Limit for the 2022 compliance period is set out in Appendix C. This appendix details Expansion Capital Projects and Sustaining Capital expenditure during the 2022 compliance period by segment at an aggregated activity level. Sustaining capital expenditure has been further reported at a detailed project level in confidential Attachment CAP3 to Attachment 2.

Evidence of Access Seeker endorsement of Capital Expenditure as required under HVAU Schedule G is provided in confidential Attachment 3.

## 5.2 Interest During Construction

Interest during construction was not incurred for any Expansion Capital projects over the 2022 compliance period. See Appendix C for further details.

Interest during construction of \$Nil was incurred on Sustaining capital projects during the period. Details of the commissioned cost for this project are summarised in Table 14 and the detailed calculations for the interest accrued during construction are contained in Appendix E.

**Table 14: 2022 Capital Projects Commissioned & Interest During Construction**

Project Code	Project Name	Project Spend \$	Interest \$	Total Cost \$

## 6. DISPOSALS

Capital works resulted in asset disposals for the 2022 compliance period amounting to \$11,042,180.

The written down value for an asset being removed from the RAB is based on the underlying regulatory value of the asset, with CPI escalation and accumulated depreciation applied in accordance with the annual roll forward methodology for the RAB Floor Limit under section 4J.4 of the HVAU.

The underlying regulatory value of the asset is sourced as follows:

- for assets existing in 2001, with reference to the Booz Allen Hamilton Depreciated Optimised Replacement Cost (DORC) database determined under the New South Wales Rail Access Undertaking (NSWRAU) in 2001 and forming part of the initial RAB value at commencement of the HVAU;
- for assets acquired after 2001 and prior to July 2011, with reference to the roll-forward of assets as approved under the NSWRAU and forming part of the initial RAB at commencement of the HVAU; and
- for assets added during the term of the HVAU and specifically approved by the ACCC, with reference to the approved value and the underlying DORC database (e.g. Booz & Company (PZ3 - Dartbrook to The Gap line) and Evans & Peck (Old PZ4 – Gap to Turrawan) valuations).

The cumulative effect of the CPI escalation and accumulated depreciation from the valuation date to the relevant compliance period is treated as a 'discount factor' and applied to the underlying regulatory value to determine the written down value. The written down value is reflective of the useful life for depreciation of the RAB rather than the useful life of an individual asset.

The RAB written down value is removed from the asset base in the disposal year. ARTC's net loss on disposal is calculated as the written down asset value less any net proceeds or recovery on disposal. It is important to note that as many assets in the Network tend to have a shorter actual life than the useful life of the Network, the value written off when an asset is disposed is usually greater than its scrap value.

The net loss on disposal is included as an operating cost in this submission (see section 3.2.4) with commentary on the factors influencing the value of the loss on disposals included at Attachment 1.

The items disposed from the RAB during 2022 were predominantly rail, turnouts and track strengthening assets. Disposals decreased by \$0.3m compared to the prior year, primarily due to the mix of rerailing, turnout renewals and track strengthening activities across the network.

There was an increase in disposals relating to turnout upgrade and track strengthening activities. The disposal value of \$2.1m for turnout renewal activities increased \$1.3m from 2021 primarily due to the replacement and upgrade of a number of post-DORC assets with an associated loss on disposal of \$2.1m. The disposal value for track strengthening related activities increased \$1.7m during the year directly relating to the increase in capital scope for this activity during the period. A larger number of track strengthening projects were completed in 2022 in comparison to 2021 due to a significant number of projects being deferred from 2021 to 2022. The deferral of these projects was influenced by the global pandemic and adverse weather conditions, which hindered the progress of capital works in 2021.

The increase in turnout and track strengthening disposals were offset by a reduction in rerailing disposals. The cumulative rerailing disposal values was \$6.4m in 2022 compared to \$8.8m in 2021, directly relating to the reduction in capital scope for this activity during the period. On a network level, the overall rerailing scope has decreased by 41% in comparison to 2021, aligning with a similar trend observed in 2021. This continuing trend can be attributed to the substantial rerailing initiatives



undertaken in 2020 which marked an exceptional year due to the deferred scope from 2019 caused by bushfires and the substantial advancement of works driven by asset condition considerations. Rerailing scope in 2022 reflects a return to more normalised trends within rerailing program.

Any physical scrapped item may not be collected for some time due to safety, operational and logistical reasons (for example, to avoid unnecessary equipment and personnel accessing the rail corridor during possession periods or disrupting operations). Items include culverts and track generate concrete or ballast rubble that is non-reusable and has no scrap value.

Disposed rail is typically at or near the end of its useful life or condemning limits or has a defect which makes it unsuitable for re-use. There are occasions where short sections of scrapped rail might be used for emergency repairs to a broken rail or in sidings or yards in the coal network (generally for maintenance) where the traffic/tonnes are low. A cost is not applied to the rail that is re-used for emergency repairs/maintenance purposes. Materials are generally not re-used for capital projects in the coal network or added back into the RAB. There were no disposed RAB assets re-added to the RAB during the 2022 compliance period.

Re-use of scrapped rail is typically outside of the Hunter Valley coal network in non-30TAL areas. Suitability of the scrapped rail for re-use is not always known at the time of disposal.

Proceeds are generally recovered from the sale of the scrap steel (commonly as part of rerailing or turnout replacement projects) or when land is disposed. For scrapped steel, ARTC records proceeds based on the average arms' length market rate received for the scrap steel in the year the asset is decommissioned. Proceeds are deemed to be received in the year of disposal from the RAB regardless of whether the item is actually sold in that period (e.g., even if left in the corridor for operational reasons or retained for use outside of the coal network).<sup>6</sup>

Appendix D provides further detail on disposals and net loss on disposals for the relevant assets by line section and type of asset/activity. That data is summarised by Pricing Zone in Table 15 below.

An electronic copy of the spreadsheets underpinning the calculations for the written down value and loss on disposal has been provided to the ACCC on a confidential basis.

Note that the nature of the data from which the disposal information is drawn does not always permit a clear attribution of the componentry disposed of between incremental and fixed assets. Where the disposal of Pricing Zone 1 assets commissioned since the introduction of incremental capital relates to assets assessed as having an incremental proportion, the disposal and loss on disposal will be treated as incremental based on the incremental proportion of the linked activity. Where this information is not available or the asset was assessed as fixed, the disposal will be related to fixed assets.

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<sup>6</sup> Consistent with the approved 2014 to 2021 compliance assessments, proceeds for disposals relating to upgrading rail and turnouts to 30TAL in the segments included in the Network through the Gap to Turravan HVAU variation approved on 25 June 2014 are not included as part of the loss on disposal calculations. This was a trade-off for a lower DORC valuation which aligned remaining asset life to the timing of the planned replacement and disposal.

**Table 15: 2022 Asset Disposals & Loss on Disposal**

	WDV Assets Disposed \$	Disposal Proceeds \$	Loss On Disposal \$
Pricing Zone 1	6,334,141	804,608	5,529,533
Pricing Zone 2	3,391,964	489,467	2,902,497
Pricing Zone 3	1,316,074	-	1,316,074
<b>Total</b>	<b>11,042,180</b>	<b>1,294,075</b>	<b>9,748,104</b>

## 7. CONTACT DETAILS – STAKEHOLDERS

HVAU Schedule G, section 2(b)(vii) requires ARTC to provide a list of stakeholders for use by the ACCC on a confidential basis. This list is provided at Appendix F.

The list includes the name, address, and contact details (including email address) of stakeholders considered by ARTC to be relevant Applicants and Access Holders and other parties consulted regarding compliance matters. This is to include a contact at CEO/Executive level for the purpose of an ACCC letter and a regular operational contact for email notification.

Where a stakeholder identified by ARTC is not a relevant Applicant or Access Holder, ARTC has indicated their relationship with ARTC and/or their interest in ARTC's compliance.

## 8. CEILING TEST

### 8.1 Introduction

The Ceiling Test Model (provided to ACCC as part of this submission on a confidential basis) is used to test access revenue for a mine or a combination of mines against the applicable Ceiling Limit to determine the Constrained Network and Constrained Group of Mines as contemplated under the HVAU.

The Ceiling Test Model calculates the amount of Access revenue and the Economic Cost across the Segments utilised by the Train Path or a group of Train Paths (Ceiling Limit). This allows for testing different groups of Train Paths, including those groups that could potentially exceed the Ceiling (i.e. where Access revenue for that Train Path or group of Train Paths exceeds the Economic Cost for the Segments used by that Train Path or combination of Train Paths).

The combination of segments which are required for Train Paths that is closest to or exceeds the Economic Cost for the relevant Segments is called the Constrained Group of Mines. Table 16 summarises the results of the Ceiling Test model for the Constrained Group of Mines, which are those mines and unload points that operate entirely within the Constrained Network and where Access revenue on the Segments forming the Constrained Network as closest to (if less than) or exceeds by the largest amount, the Economic Cost of the Constrained Network.

For the 2022 compliance period the Constrained Network is formed by the Segments utilised by the combination of Train Paths between Ulan, Muswellbrook, and the Newcastle coal terminals, excluding some small segments of the Network used exclusively by Train Paths originating from south of Newcastle and a small Segment linking the Network to ARTC's Interstate at Maitland. [Table 16](#) provides a comparison with the Access revenue and costs associated with the Constrained Network for the 2021 compliance period.

Table 16: Ceiling Test 2022 Calendar Year (Constrained Network)

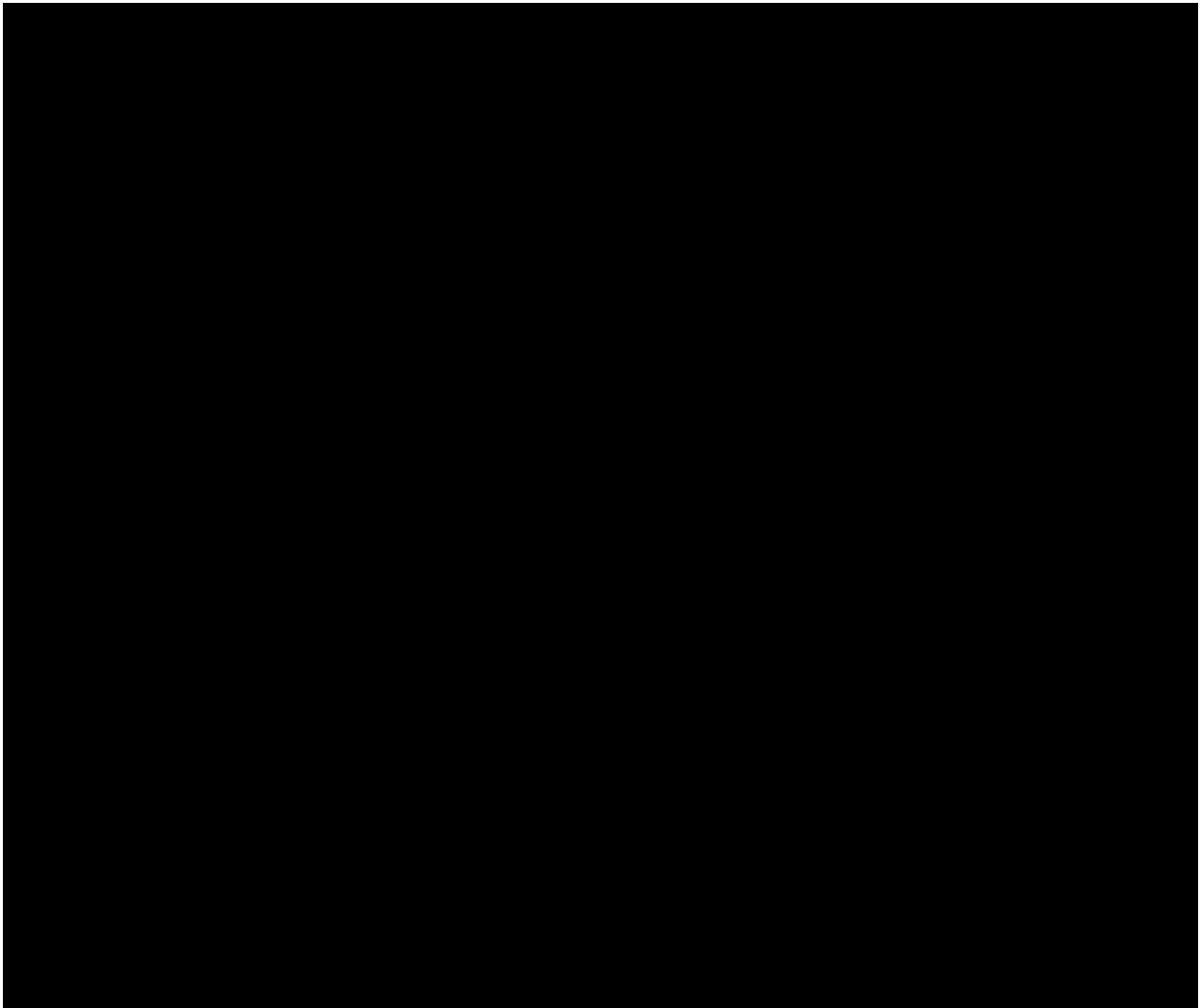
	Lodged 2021 Calendar Year	2022 Calendar Year	% Variance
<b>KGTKMs</b>			
Export	29,528,205	24,471,601	
Domestic	1,716,898	1,754,755	
<b>Total</b>	<b>31,245,102</b>	<b>26,226,356</b>	(16.1%)
<b>Total Revenue</b>	<b>261,785,472</b>	<b>252,651,180</b>	(3.5%)
<b>Operating Costs</b>			
<b>Infrastructure Costs</b>			
Incremental Maintenance	35,004,606	33,838,748	
Fixed Maintenance	28,822,402	34,008,633	
<b>Total Maintenance Costs</b>	<b>63,827,008</b>	<b>67,847,381</b>	6.3%
Expensed Project Costs	4,253,388	-	
Net Loss on Disposal	8,118,818	7,597,942	
<b>Total Infrastructure</b>	<b>76,199,214</b>	<b>75,445,324</b>	
Network Control	14,351,889	15,315,182	6.7%
Business Unit Management	30,648,371	29,123,288	(5.0%)
Corporate Overheads	19,042,437	19,998,459	5.0%
<b>Total Operating Cost</b>	<b>140,241,911</b>	<b>139,882,253</b>	(0.3%)
Incremental Asset Depreciation	35,548,414	36,178,186	
Fixed Asset Depreciation	30,515,197	32,876,768	
Incremental Asset Return	34,194,342	32,258,844	
Fixed Asset Return	29,366,101	29,341,552	
<b>Full Economic Costs</b>	<b>269,865,965</b>	<b>270,537,604</b>	0.2%
Over/(Under)	(8,080,493)	(17,886,424)	
Average Incremental Asset Base	824,836,290	841,440,774	
Average Fixed Asset Base	588,764,047	637,859,832	
Average Total Asset Base	1,413,600,337	1,479,300,606	

## **8.2 Traffic Volumes & Access Revenue**

### **8.2.1 Traffic Volumes**

Constrained Network coal volume for the 2022 compliance period was 116.9 million tonnes (mt), This is a 16.1% decrease from the 2021 compliance period of 139.4mt overall, with a decline in coal exports and a surge in domestic coal pertaining from the energy crisis in 2022. GTKMs from the Constrained Group of Mines for the 2022 compliance period decreased by 16.1% to 26.2 billion compared to the 2021 compliance period.

The number of paths utilised by Constrained Coal Customers between 2021 and 2022 can be seen in Figure 3.



**Figure 3: Train Paths Servicing Constrained Mines – 2021 Compared To 2022**

### 8.2.2 Access Revenue

HVAU section 4J.3(b) requires that the Access revenue from any Access Holder or group of Access Holders must not exceed the economic cost of those segments, on a stand-alone basis, identified as forming part of Pricing Zone 1 and 2 in HVAU Schedule E required to provide access for the group. This is defined in the HVAU as the Ceiling Limit.

In relation to Pricing Zone 3, HVAU section 4J.1(b)(ii)(c) requires that access revenue from any Access Holder or group of Access Holders must meet their Floor Contribution for each Train Path plus a contribution to the forecast Economic Costs of Segments in Pricing Zone 3 and, a proportion of Capitalised Losses. As shown in Table 12, for the 2022 compliance period, the RAB is above the RAB Floor Limit for the segments comprising Pricing Zone 3. Therefore, the Ceiling Limit does not apply to Pricing Zone 3 traffic for the 2022 compliance period.

During the 2022 compliance period, access revenue in relation to coal traffic was collected from Access Holders under Access Holder Agreements. The total access revenue received from each Access Holder within the Hunter Valley Network was obtained from ARTC's billing systems. Access revenue collected for the 2022 compliance period from the Constrained Coal Customers amounted to \$252,651,180 and was used as the basis for determining allocations of the total unders and overs amount to Constrained Coal Customer Accounts.

### 8.2.3 Access Pricing

As required under HVAU section 4.20(d), ARTC is required to advise Access Holders of access prices by the end of October in the preceding year. In practice, ARTC advises all pricing information to Access Holders at this time, recognising that there is a period for Access Holders to raise a dispute during November before prices are finalised. For the 2022 compliance period, no prices were disputed.

Take Or Pay 1 (TOP1) prices for the 2022 compliance period were based on contracted volumes of 168mt for export coal for the Constrained Group of Mines, which equates to 36.6 billion GTKMs. Take or Pay 2 (TOP 2) prices for the 2022 compliance period were based on contracted volumes of 4.9 million TKM for the Constrained Group of Mines.

TOP charges accounted for approximately 85% of access charges. Non-TOP prices were based on a forecast volume for the Constrained Group of Mines of 144.8mt. The forecasts were obtained directly from Access Holders and adjusted by ARTC where the profile received was above contract, exceeded the network capacity or the Access Holders likely ability to rail the projected volume. Actual constrained volumes for 2022 were below forecast at 116.9mt (107.8mt export and 9.1mt domestic). Actual constrained GTKMs were 26.22 billion, 18% below what was forecast at the time of Pricing. Lower actual volumes have resulted in a 3.0% reduction in revenue compared to what was forecast at the time of Pricing accounting for approximately \$8.2m of the overall \$17.9m under recovery for the 2022 compliance period.

Contributors to the under recovery from a cost perspective were higher than forecast loss on disposals and overhead costs. An increase of \$1.9m in loss on disposal expense compared to Pricing forecast resulted primarily from turnout upgrades and variations in work scheduling. Overhead costs attributed to the Constrained Network were also \$3m or 5% higher than forecast at the time of Pricing. Offsetting the increases outlined above, ARTC achieved a \$1.3m or 2% reduction in maintenance expenditure compared to Pricing forecast for the Constrained network.

Capital costs were also higher than forecast by \$5.5m. Higher CPI actualisation in 2021 relative to forecast led to a higher escalated RAB balance compared to pricing, increasing the rate of return and subsequent capital depreciation charge. This was slightly offset by capital deferred to 2023.

### 8.2.4 Full Economic Cost

Table 16 sets out the full Economic Cost with a breakdown into the standard operating cost line items, return and depreciation.

Section 2 and Attachment 1 to this submission set out further details on the operating cost categories and explanations of the drivers for movements in costs between 2021 and 2022.

The maintenance costs for the Constrained Group of Mines comprise:

- All fixed maintenance costs for each segment forming part of the Constrained Network are included in the Ceiling Limit in accordance with the HVAU; and
- The share of variable maintenance costs for the Constrained Group of Mines (based on the variable unit cost per GTKM or Train Km multiplied by the GTKM or Train KM (as applicable) for the Constrained Group of Mines).

Expenditure on infrastructure maintenance in 2022 compared to the values for 2021 for the Constrained Group of Mines is set out in Table 17.

**Table 17: 2022 Constrained Group of Mines Maintenance Costs**

	2021	2022	% Difference
Variable	35,004,606	33,838,748	(3.3%)
Fixed	28,822,402	34,008,633	18.0%
<b>Total</b>	<b>63,827,008</b>	<b>67,847,381</b>	<b>6.3%</b>

Total maintenance costs for the Constrained Group of Mines increased by 6.3% in 2022. Variable maintenance includes costs which can vary based on the volume of coal traffic.

Fixed Maintenance includes costs associated with incidents on the network as well as the portion of maintenance activities which do not vary with volume based on the relevant engineering assessments. The primary contributor to the increase in fixed maintenance costs relates to the flooding event on the network and subsequent clean up and repair costs required to restore network functionality for customers.

Network Control, Business Unit Management, Corporate Overheads, Loss on Disposals and Expensed Projects are Fixed Costs. The amounts attributed to the Constrained Group of Mines for each of these cost categories represents the amounts allocated to Pricing Zone 1 and Pricing Zone 2.

### 8.3 Unit Costs

A separate confidential analysis of unit costs has been provided to the ACCC in support of this submission.



## 9. UNDERS & OVERS ACCOUNTING

### 9.1 2022 Compliance Period Unders & Overs Balance

The under and overs amount for the 2022 compliance period is determined by comparing the access revenue earned by ARTC from the Constrained Group of Mines to the economic cost of the Constrained Network, including the operating costs described in section 8 of this submission, depreciation and the real rate of return applied to the average RAB Floor Limit for the 2022 compliance period (4.60% for 2022), as detailed in Schedule J of the HVAU version 8.

As highlighted at 8.2.3 Access Pricing, lower than forecasted actual volumes resulted in lower than anticipated revenue levels, while increased costs resulted in a higher Ceiling of \$270.54m compared to the forecast used for pricing.

The difference between access revenue received from the Constrained Group of Mines and the Ceiling Limit as outlined in section 8 results in a total under recovery amount of \$17.89m for the 2022 compliance period as contemplated at HVAU section 4J.9, as shown in Table 18.

**Table 18: Unders & Overs Account Balance**

	2021 (\$)	2022 (\$)
Lodged Opening Value	(45,695,886)	(8,013,466)
Adjustment to prior year	50,135	-
Refunds/(Payments)	45,712,778	8,013,466
Lodged Yearly Adjustment	(8,080,493)	(17,886,424)
<b>Closing Value</b>	<b>(8,013,466)</b>	<b>(17,886,424)</b>

Total amount owing to ARTC at time of lodgement of 2022 compliance submission is \$17,886,424.

In April 2023, ARTC provided an indicative estimate to Access Holders of the Unders and Overs 2022 Yearly Amount of \$18.3m.

At the time of lodging the 2022 Compliance Submission, all Unders and Overs from prior years had been settled, with the most recent being the \$8.01m under recovery relating to the 2021 compliance that was paid in full by Access Holders in February 2024

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 HVAU section 4 and Schedule J.

### 9.2 Operation Of the Unders & Overs Account

As part of this submission ARTC has provided a spreadsheet to the ACCC on a confidential basis that sets out the allocation of the total Unders and Overs amount for the 2022 compliance period to Constrained Coal Customers in accordance with the requirements set out in HVAU section 4J.9(b)(iii).

**10. PRICING ZONE 3 – STANDARD ACCESS CHARGES**

In accordance with HVAU Schedule G section 2(d), and as the RAB for Pricing Zone 3 is greater than the RAB Floor Limit for Pricing Zone 3, ARTC is required to provide Standard Access Charges for Pricing Zone 3 applicable during the 2022 compliance period, and for the previous calendar year. ARTC has provided Standard Access Charges for Pricing Zone 3 applicable over the 2022 compliance period in Table 19, and over the 2021 compliance period in Table 20 and Table 21.

**Table 19: 2022 Pricing Zone 3 Standard Access Charges**

	Non-TOP \$/kgtkm	TOP \$/Contracted Coal kgtkm	TOP \$/train km	
Standard Access	3.091	Nil	64.168	Maximum length 1,329 metres Maximum axle load 30 tonnes Maximum speed empty 100 km/h Maximum speed loaded 60 km/h Sectional running times (must meet) – As published on ARTC website from time to time

**Table 20: 2021 Pricing Zone 3 Standard Access Charges 2021 H1**

	Non-TOP \$/kgtkm	TOP \$/Contracted Coal kgtkm	TOP \$/train km	
Standard Access	3.031	Nil	75.230	Maximum length 1,329 metres Maximum axle load 30 tonnes Maximum speed empty 100 km/h Maximum speed loaded 60 km/h Sectional running times (must meet) – As published on ARTC website from time to time

**Table 21: 2021 Pricing Zone 3 Standard Access Charges 2021 H2**

	Non-TOP \$/kgtkm	TOP \$/Contracted Coal kgtkm	TOP \$/train km	
Standard Access	3.031	Nil	65.028	Maximum length 1,329 metres Maximum axle load 30 tonnes Maximum speed empty 100 km/h Maximum speed loaded 60 km/h Sectional running times (must meet) – As published on ARTC website from time to time

## 11. TRUE UP TEST AUDIT

Consistent with 2021, ARTC has engaged Grant Thornton as auditor for the Annual True Up Test Audit required in accordance with HVAU section 4.10A. Grant Thornton has prepared the Final Audit Report, with any findings reported in Table 22.

A True Up Test (TUT) was conducted for each month and quarter (as applicable) during the 2022 compliance period.

A copy of the Final Audit Report was provided to the ACCC separately in April 2023 and has been provided at Attachment 4 to this submission.

The Final Audit Report concludes that ARTC has complied, in all material respects, with Schedule 2 of the Access Holder Agreements under the HVAU for the year ended 31 December 2022.

The Final Audit Report did not detail any audit findings for the 2022 year which is consistent with the 2021 year.

**Table 22: Audit Findings & ARTC Response**

2022 Audit Findings	ARTC Management Response
Nil findings	

## **12. CONTACT DETAILS (ARTC)**

In relation to this compliance submission, in accordance with HVAU Schedule G, section 2(f), further information in relation to this submission can be arranged through:

Sean Cumpson  
Manager Commercial  
Hunter Valley Division  
Telephone: 02 4941 9600  
Email: [customercontracts@ARTC.com.au](mailto:customercontracts@ARTC.com.au)

**APPENDIX A 2022 RAB FLOOR LIMIT ROLL FORWARD  
SUMMARY**

	<b>Total Network</b>	<b>Constrained Network</b>
<b>CPI</b>	6.99%	6.99%
Depreciation 2021 H1 New Assets	2.38%	2.38%
Depreciation 2021 H2 New Assets	2.41%	2.41%
Depreciation 2022 New Assets	5.00%	5.00%
<b>Opening Total RAB Floor Limit 1 January 2022</b>	<b>2,137,826,573</b>	<b>1,426,130,411</b>
<b>Opening Total RAB Floor Limit 1 July 2021 (2021 H2)</b>		
Opening Balance	2,145,901,950	1,420,905,821
CPI	149,963,198	99,297,911
Original Balance plus CPI	2,295,865,148	1,520,203,732
Less Disposals	(11,042,180)	(9,563,062)
<b>Adjusted Net Balance</b>	<b>2,284,822,968</b>	<b>1,510,640,670</b>
<b>Depreciation:</b>		
Depreciation Current Year	(108,801,094)	(71,935,270)
CPI On Prior Year Depreciation	(3,570,552)	(2,364,236)
Accumulated Depreciation	(163,464,550)	(108,130,597)
<b>Closing Balance</b>	<b>2,121,358,418</b>	<b>1,402,510,073</b>
<b>New Assets 1 July 2021 to 31 December 2021 (2021 H2)</b>		
Opening Balance	43,542,131	39,531,970
CPI	3,042,878	2,762,634
Original Balance plus CPI	46,585,009	42,294,604
Less Disposals	-	-
<b>Adjusted Net Balance</b>	<b>46,585,009</b>	<b>42,294,604</b>
<b>Depreciation:</b>	50.00%	50.00%
Depreciation Current Year	(2,245,061)	(2,038,294)
CPI On Prior Year Depreciation	(36,661)	(33,285)
Accumulated Depreciation	(2,806,326)	(2,547,868)
<b>Closing Balance</b>	<b>43,778,683</b>	<b>39,746,736</b>
<b>New Assets 1 January 2022 to 31 December 2022</b>		
Expansion Projects	-	-
Interest During Construction	-	-
Sustaining Capital	120,269,845	92,527,170
Total New Assets 2022	120,269,845	92,527,170
Less Disposals	-	-
<b>Adjusted Net Balance</b>	<b>120,269,845</b>	<b>92,527,170</b>
<b>Depreciation:</b>	100.00%	100.00%
Depreciation Current Year	(3,006,746)	(2,313,179)
CPI On Prior Year Depreciation	-	-
Accumulated Depreciation	(3,006,746)	(2,313,179)
<b>Closing Balance</b>	<b>117,263,099</b>	<b>90,213,991</b>
<b>Total Closing RAB Floor Limit</b>	<b>2,282,400,200</b>	<b>1,532,470,800</b>
<b>Average RAB Floor Limit</b>	<b>2,210,113,387</b>	<b>1,479,300,606</b>
Current Year Depreciation (Excl. CPI On Prior Year Depreciation)	(114,052,900)	(76,286,743)
Net CPI Increase (Incl. CPI On Prior Year Depreciation)	149,398,862	99,663,024

## APPENDIX B 2022 RAB FLOOR LIMIT & RAB VALUES BY SEGMENT

Table B1: 2022 RAB Floor Limit Values by Segment

Schedule E Code	Description	Constrained	Opening Jan 2022 RAB FL Value (\$)	Closing December 2022 RAB FL Value (\$)	Average Jan to December 2022 RAB FL Value (\$)
968	Turrawan To Boggabri Jct	No	59,473,698	60,638,959	60,056,328
967	Boggabri Jct To Gunnedah Jct	No	113,150,356	115,347,115	114,248,736
988	Gunnedah Jct To Watermark	No	118,875,993	126,092,546	122,484,269
966	Watermark To Gap	No	86,558,632	88,923,032	87,740,832
965	Gap To Werris Creek	No	9,061,211	12,466,388	10,763,800
964	Werris Creek to Murulla	No	204,917,392	217,837,024	211,377,208
963	Murulla To Dartbrook Jct	No	94,291,852	99,039,171	96,665,511
962	Dartbrook Jct To Muswellbrook	No	20,773,385	23,234,234	22,003,810
974	Ulan Colliery Jct to Wilpinjong	Yes	11,233,793	11,632,122	11,432,958
973	Wilpinjong To Sandy Hollow	Yes	163,139,585	173,330,320	168,234,953
972	Sandy Hollow to Anvil Hill	Yes	37,331,895	44,714,623	41,023,259
971	Anvil Hill To Bengalla Jct	Yes	19,413,287	20,662,778	20,038,033
970	Bengalla Jct To Muswellbrook	Yes	39,984,171	82,729,387	61,356,779
961	Muswellbrook To Drayton's Jct	Yes	81,295,299	84,514,910	82,905,105
958	Drayton's Jct to Newdell Jct	Yes	59,565,354	60,619,309	60,092,332
959	Newdell Branch	Yes	3,206,827	3,263,569	3,235,198
957	Newdell Jct To Glennies Ck	Yes	13,754,826	14,239,767	13,997,297
956	Glennies Ck To Camberwell Jct	Yes	45,337,867	47,602,007	46,469,937
955	Camberwell Jct To Whittingham	Yes	73,982,326	80,978,245	77,480,285
952	Mount Thorley to Saxonvale Jct	Yes	1,771,294	1,852,394	1,811,844
951	Saxonvale Jct To Whittingham	Yes	6,894,316	7,433,340	7,163,828
948	Whittingham To Branxton	Yes	205,751,076	210,797,501	208,274,289
944	Telarah To Farley	No	802,008	832,785	817,396
947	Branxton To Farley	Yes	282,604,856	291,421,539	287,013,198
946	Farley To Maitland	Yes	17,936,166	18,563,507	18,249,837
937	Maitland To Thornton (Coal Line)	Yes	53,326,849	58,001,127	55,663,988
936	Thornton To Sandgate (Coal Line)	Yes	193,394,908	197,961,972	195,678,440
931	Sandgate To Kooragang East Jct	Yes	5,426,650	5,705,215	5,565,933
929	Kooragang East Jct To NCIG	Yes	1,502,168	1,528,748	1,515,458
930	NCIG To Kooragang Island	Yes	77,517,349	80,565,913	79,041,631
926	Sandgate To Hanbury Jct (Coal Line)	Yes	5,420,936	5,913,388	5,667,162
925	Hanbury Jct To Waratah (Coal Line)	Yes	8,142,639	9,675,432	8,909,035
917	Waratah To Scholey St Jct (Coal Line)	Yes	3,584,795	3,651,260	3,618,028
916	Scholey St Jct To Port Waratah	Yes	14,611,176	15,112,428	14,861,802
927	Hanbury Jct To Kooragang East Jct	No	1,677,128	3,136,651	2,406,889
915	Islington Jct To Scholey St Jct	No	2,114,507	2,381,496	2,248,002
	<b>Total Network</b>		<b>2,137,826,573</b>	<b>2,282,400,200</b>	<b>2,210,113,387</b>
	<b>Constrained</b>		<b>1,426,130,411</b>	<b>1,532,470,800</b>	<b>1,479,300,606</b>

**Table B2: 2022 RAB Values by Segment**

Schedule E Code	Description	Constrained	Opening RAB Value January 2022 \$	Closing RAB Value December 2022 \$
968	Turrawan To Boggabri Jct	No	59,992,468	58,668,239
967	Boggabri Jct To Gunnedah Jct	No	114,024,375	112,026,865
988	Gunnedah Jct To Watermark	No	119,956,660	121,987,271
966	Watermark To Gap	No	87,405,703	85,705,150
965	Gap To Werris Creek	No	9,189,800	11,977,903
964	Werris Creek to Murulla	No	209,484,307	200,488,075
963	Murulla To Dartbrook Jct	No	96,153,238	91,968,075
962	Dartbrook Jct To Muswellbrook	No	21,431,063	20,735,828
	<b>Total</b>		<b>717,637,612</b>	<b>703,557,405</b>



**APPENDIX C 2022 CAPITAL EXPENDITURE INCLUDED IN ASSET BASE**

Table C1: 2022 Expansion Capital

Segment	Segment Description	Constrained ?	Project Number	Project Description	Date of RCG Endorsement	Incremental % & Allocator	Included In 2015 Asset Base \$	IDC \$	Total \$
<b>Sub-Total</b>							-	-	-
<b>Sub-Total</b>							-	-	-
<b>Sub-Total</b>							-	-	-
<b>Total</b>							-	-	-

**Table C2: 2022 Sustaining Capital**

Segment	Segment Description	Constrained	Activity	Project Code	Date of RCG Endorsement	Description of Activity	Incremental % & Allocator	Included in 2022 Asset Base
	<b>Pricing Zone 1</b>							
915	Islington Jct To Scholey St Jct	No	759	0915M6	RCG 6-5-20 2020-2021	Point Machine Replacement (CAP)	50%, Train Km	240,033
916	Scholey St Jct To Port Waratah	Yes	178	0916BX	RCG 6-5-20 2020-2021	Rerailing (CAP)	90%, GTKM	(4,937)
				0916BY				
			223	0916CF	RCG 30-04-21 2021-2022, RCG 12-12-22			
				0916BZ	RCG 6-5-20 2020-2021			
				0916CG	RCG 30-04-21 2021-2022, RCG 12-12-22	Resleepering (CAP)	75%, GTKM	253,881
917	Waratah To Scholey St Jct (Coal Line)	Yes	178	0917O9	RCG 6-5-20 2020-2021	Rerailing (CAP)	90%, GTKM	3,113
925	Hanbury Jct To Waratah (Coal Line)	Yes	178	0925N9	RCG 6-5-20 2020-2021	Rerailing (CAP)	90%, GTKM	2,499
			287	0925O3	RCG 30-04-21 2021-2022, RCG 12-12-22	Cutting and Embankment Works (CAP)	0%	867,389
			772	AI5000	RCG 19-10-17, RCG 08-11-2018, RCG 12-11-2020	Works - Signals Factory Assemble & Testing	50%, Train Km	554,437
926	Sandgate To Hanbury Jct (Coal Line)	Yes	772	AI5000	RCG 19-10-17, RCG 08-11-2018, RCG 12-11-2020	Works - Signals Factory Assemble & Testing	50%, Train Km	406,701
927	Hanbury Jct To Kooragang East Jct	No	186	0927N4	RCG 27-04-2022, RCG 15-12-2022	Turnout Renewal (CAP)	75%, GTKM	1,585,908
				0927N7				
		No	772	AI5000	RCG 19-10-17, RCG 08-11-2018, RCG 12-11-2020	Works - Signals Factory Assemble & Testing	50%, Train Km	35,291
930	NCIG To Kooragang Island	Yes	178	0930GG	RCG 6-5-20 2020-2021	Rerailing (CAP)	90%, GTKM	1,836,507
				0930GH				
				0930GI				
				0930HG	RCG 30-4-21 2021-2022			
				0930HR	RCG 27-04-2022			
				0930HS				
0930HT								

Segment	Segment Description	Constrained	Activity	Project Code	Date of RCG Endorsement	Description of Activity	Incremental % & Allocator	Included in 2022 Asset Base	
931	Sandgate To Kooragang East Jct	Yes	178	0931V6	RCG 30-4-21 2021-2022	Rerailing (CAP)	90%, GTKM	947,789	
				0931W4	RCG 27-04-2022				
			759	AQ8000	RCG 09-11-17, RCG 30-4-18 2018-2019 Corridor CAP, RCG 13-6-19 2019-20 FY20 Sustaining Cap, RCG 6-5-2020 2020-21 Sustaining Cap, RCG 10-12-19 Internal variation HUV20-16,	Point Machine Replacement (CAP)	50%, Train Km	34,023	
936	Thornton To Sandgate (Coal Line)	Yes	178	0936JT	RCG 30-4-21 2021-2022	Rerailing (CAP)	90%, GTKM	1,746,218	
				0936JU					
				0936JV					
				0936KD	RCG 27-04-2022				
				0936KE					
817	0936KX	RCG 05-04-2022	General Comms Equip (CAP)	0%	14,509				
937	Maitland To Thornton (Coal Line)	Yes	178	0937EZ	RCG 6-5-20 2020-2021	Rerailing (CAP)	90%, GTKM	645,030	
				0937GP	RCG 27-04-2022				
				0937GQ					
				0937GR					
			186	0937FB	RCG 6-5-20 2020-2021	Turnout Renewal(CAP)	75%, GTKM	1,785,569	
				0937FC					
				0937FT	RCG 30-4-21 2021-2022				
				0937FU					
			229	0937FV	RCG 30-4-21 2021-2022	Track Strengthening / Upgrading(CAP)	75%, GTKM	3,151,784	
				0937FD					RCG 6-5-20 2020-2021, RCG 30-11-2020
				0937FY					RCG 30-4-21 2021-2022
				0937FZ					RCG 6-5-20 2020-2021, RCG 30-11-2020
				0937GA					RCG 30-4-21 2021-2022
0937GB									
	0937GU	RCG 27-04-2022							
	0937GV								

Segment	Segment Description	Constrained	Activity	Project Code	Date of RCG Endorsement	Description of Activity	Incremental % & Allocator	Included in 2022 Asset Base
			330	0937GJ	RCG 30-4-21 2021-2022	Wayside Detection Systems - New Install	0%	340,706
944	Telarah To Farley	No	759	AQ8200	RCG 09-11-17, RCG 30-4-18 2018-2019 Corridor CAP, RCG 13-6-19 2019-20 FY20 Sustaining Cap, RCG 6-5-2020 2020-21 Sustaining Cap, RCG 10-12-19 Internal variation HUV20-16,	Point Machine Replacement(CAP)	50%, Train Km	17,012
946	Farley To Maitland	Yes	178	0946X2	RCG 6-5-20 2020-2021	Rerailing (CAP)	90%, GTKM	2,494
			186	0946X4	RCG 6-5-20 2020-2021	Turnout Renewal(CAP)	75%, GTKM	344
			759	AQ8300	RCG 30-4-18 2018-2019 Corridor CAP	Point Machine Replacement(CAP)	50%, Train Km	340,233
947	Branxton To Farley	Yes	178	0947IC	RCG 30-4-21 2021-2022	Rerailing (CAP)	90%, GTKM	1,814,745
				0947IP				
				0947IT				
			229	0947IG	RCG 30-4-21 2021-2022	Track Strengthening / Upgrading(CAP)	75%, GTKM	2,054,406
			254	0947IW	RCG 27-04-2022	Culvert Replacement or Modification(CAP)	0%	443,608
			772	0947GI	RCG 11-5-17 2017-2018	Signalling System Upgrades(CAP)	50%, Train Km	(50,570)
948	Whittingham To Branxton	Yes	151	0948EQ	RCG 18-08-2021	Property (CAP)	0%	76,069
			178	0948DY	RCG 6-5-20 2020-2021	Rerailing (CAP)	90%, GTKM	1,541,469
				0948EI	RCG 30-4-21 2021-2022			
				0948ER	RCG 27-04-2022			
			759	AQ8400	RCG 09-11-17, RCG 30-4-18 2018-2019 Corridor CAP, RCG 13-6-19 2019-20 FY20 Sustaining Cap, RCG 6-5-2020 2020-21 Sustaining Cap, RCG 10-12-19 Internal variation HUV20-16,	Point Machine Replacement(CAP)	50%, Train Km	34,023
817	0948FX	RCG 05-04-2022	General Comms Equip (CAP)	0%	65,925			
951	Saxonvale Jct To Whittingham	Yes	186	0951W1	RCG 30-4-21 2021-2022	Turnout Renewal(CAP)	75%, GTKM	530,240
			817	0951X1	RCG 05-04-2022	General Comms Equip (CAP)	0%	29,018

Segment	Segment Description	Constrained	Activity	Project Code	Date of RCG Endorsement	Description of Activity	Incremental % & Allocator	Included in 2022 Asset Base
952	Mount Thorley to Saxonvale Jct	Yes	759	AQ8500	RCG 09-11-17, RCG 30-4-18 2018-2019 Corridor CAP, RCG 13-6-19 2019-20 FY20 Sustaining Cap, RCG 6-5-2020 2020-21 Sustaining Cap, RCG 10-12-19 Internal variation HUV20-16,	Point Machine Replacement(CAP)	50%, Train Km	51,035
955	Camberwell Jct To Whittingham	Yes	178	0955GN	RCG 23-5-2019 2019-2020	Rerailing (CAP)	90%, GTKM	1,530,812
				0955HG	RCG 6-5-20 2020-2021			
				0955HH				
				0955HZ	RCG 30-4-21 2021-2022			
				0955IA				
				0955IB				
			0955IP	RCG 27-04-2022				
			229	0955C5	RCG 10-12-2020	Track Strengthening / Upgrading (CAP)	75%, GTKM	5,141,778
0955IE	RCG 30-4-21 2021-2022							
956	Glennies Ck To Camberwell Jct	Yes	178	0956AH	RCG 6-5-20 2020-2021	Rerailing (CAP)	90%, GTKM	165,856
				0956BF	RCG 27-04-2022	Rerailing (CAP)		
			229	0956BD	RCG 30-4-21 2021-2022	Track Strengthening / Upgrading (CAP)	75%, GTKM	1,240,193
				0956BE	RCG 14-10- 2021			
			759	AQ8600	RCG 6-5-2020 2020-21 Sustaining Cap	Point Machine Replacement (CAP)	50%, Train Km	102,070
817	0956BU	RCG 05-04-2022	General Comms Equip (CAP)	0%	29,018			
957	Newdell Jct To Glennies Ck	Yes	254	0957AR	RCG 30-4-21 2021-2022	Culvert Replacement or Modification (CAP)	0%	167,270
			759	AQ8700	RCG 10-12-19 Internal variation HUV20-16	Point Machine Replacement (CAP)	50%, Train Km	85,058
961	Muswellbrook To Drayton's Jct	Yes	178	0961DR	RCG 6-5-20 2020-2021	Rerailing (CAP)	90%, GTKM	1,155,281
				0961DS				
				0961DT				
				0961DU				
				0961EF	RCG 30-4-21 2021-2022			
				0961EG				
				0961EH				

Segment	Segment Description	Constrained	Activity	Project Code	Date of RCG Endorsement	Description of Activity	Incremental % & Allocator	Included in 2022 Asset Base
			254	0961EJ	RCG 30-4-21 2021-2022	Culvert Replacement or Modification (CAP)	0%	153,191
			772	0961DX	RCG 6-5-20 2020-2021	Signalling System Upgrades (CAP)	50%, Train Km	569,538
				0961DY				
				0961EL	RCG 30-4-21 2021-2022			
815	0961EC	RCG 06-05-2020 2020-21, RCG 28-02-2023, RCG 28-02-2023	Power Supply Upgrade (CAP)	0%	356,191			
970	Bengalla Jct To Muswellbrook	Yes	229	0970X5	RCG 30-4-21 2021-2022	Track Strengthening / Upgrading (CAP)	75%, GTKM	1,091,971
			253	AF4001	RCG 30-09-2019,	Bridge Replacement of Modification	0%	41,085,759
			995	AF4002	RCG 12-5-22	Bridge Replacement or Modification	0%	1,301,807
<b>Subtotal Pricing Zone 1</b>								<b>75,572,294</b>
<b>Pricing Zone 2</b>								
971	Anvil Hill To Bengalla Jct	Yes	178	0971R9	RCG 30-4-21 2021-2022	Rerailing (CAP)	90%, GTKM	8,993
				0971S1				
			229	0971S7	RCG 14-04-22, RCG 15-12-2022	Track Strengthening / Upgrading (CAP)	75%, GTKM	842,303
817	0971T6	RCG 05-04-2022	General Comms Equip (CAP)	0%	94,943			
972	Sandy Hollow to Anvil Hill	Yes	186	0972AX	RCG 23-5-2019 2019-2020, RCG 7-10-22	Turnout Renewal (CAP)	75%, GTKM	2,808,564
				0972AZ				
			229	0972EA	RCG 30-4-21 2021-2022	Track Strengthening / Upgrading(CAP)	75%, GTKM	3,485,441
				0972EB	RCG 02-11-2022, RCG 04-03-21			
			254	0972EF	RCG 30-4-21 2021-2022	Culvert Replacement or Modification(CAP)	0%	535,071
0972FJ	RCG 14-04-22, RCG 15-12-2022							
262	0972FA	RCG 6-5-20 2020-2021	Level Crossing Upgrade (Civil)(CAP)	0%	65,127			

Segment	Segment Description	Constrained	Activity	Project Code	Date of RCG Endorsement	Description of Activity	Incremental % & Allocator	Included in 2022 Asset Base
			760	0972EL	RCG 30-4-21 2021-2022, RCG 07-10-2022, RCG 2-11-2022	Track Circuit Replacement(CAP)	0%	250,442
			764	0972EM	RCG 30-4-21 2021-2022, RCG 07-10-2022, RCG 2-11-2022	Level Crossing Upgrade (Signals)(CAP)	100%, GTKM	124,168
			817	H973EM	RCG 10-03-2022	General Comms Equip	0%	110,723
973	Wilpinjong To Sandy Hollow	Yes	178	0973VQ	RCG 6-5-20 2020-2021	Rerailing (CAP)	90%, GTKM	8,046,928
				0973VR				
				0973VS				
				0973VU				
				0973WA				
				0973WE				
				0973WF				
			0973YE	RCG 30-4-21 2021-2022	Rerailing (CAP)			
			0973YF					
			0973YG					
			0973YH					
			0973YK	RCG 14-04-22, RCG 15-12-2022	Rerailing (CAP)			
			H973AC					
			H973AE					
			H973AF					
			H973AH					
			H973AJ					
			H973AK					
			H973AL					
			H973AM					
229	0973YO	RCG 30-4-21 2021-2022	Track Strengthening / Upgrading(CAP)	75%, GTKM	1,149,577			
254	H973BX	RCG 14-04-22, RCG 15-12-2022	Culvert Replacement or Modification(CAP)	0%	373,960			

Segment	Segment Description	Constrained	Activity	Project Code	Date of RCG Endorsement	Description of Activity	Incremental % & Allocator	Included in 2022 Asset Base
			330	0973YV	RCG 30-4-21 2021-2022, RCG 2-11-2022	Wayside Detection Systems - New Install	0%	238,567
			760	0973YW	RCG 30-4-21 2021-2022, RCG 07-10-2022, RCG 2-11-2022, RCG 2-11-2022	Track Circuit Replacement(CAP)	0%	218,219
			764	0973YZ	RCG 30-4-21 2021-2022, RCG 07-10-2022, RCG 2-11-2022, RCG 2-11-2022	Level Crossing Upgrade (Signals)(CAP)	100%, GTKM	135,678
			817	0972GI	RCG 10-03-2022	General Comms Equip (CAP)	0%	139,740
974	Ulan Colliery Jct to Wilpinjong	Yes	178	0974S8	RCG 6-5-20 2020-2021	Rerailing (CAP)	90%, GTKM	1,667
			815	0974U3	RCG 30-4-21 2021-2022, RCG 07-10-2022	Power Supply Upgrade(CAP)	0%	203,007
<b>Subtotal Pricing Zone 2</b>								<b>18,833,120</b>
<b>Pricing Zone 3</b>								
962	Dartbrook Jct To Muswellbrook	No	254	0962Z1	RCG 30-4-21 2021-2022	Culvert Replacement or Modification(CAP)	0%	263,768
			262	0962AC	RCG 18-05-2022	Level Crossing Upgrade (Civil)(CAP)	0%	1,386,485
			263	AF5910	RCG 14-05-2020	Bridge End Track Upgrades(CAP)	100%, GTKM	804
			759	AQ8800	RCG 09-11-17, RCG 30-4-18 2018-2019 Corridor CAP	Point Machine Replacement(CAP)	50%, Train Km	91,993
			764	0962Z3	RCG 30-4-21 2021-2022	Level Crossing Upgrade (Signals)(CAP)	100%, GTKM	93,660
			772	0962X9	RCG 14-5-20 2020-2021	Signalling System Upgrades(CAP)	50%, Train Km	362,054
963	Murulla To Dartbrook Jct	No	254	0963NQ	RCG 30-4-21 2021-2022	Culvert Replacement or Modification(CAP)	0%	662,904
				0963NR				
				0963NS				
				0963NT				
			287	0963NW		Cutting & Embankment Works(CAP)	0%	651,349
			759	AQ8900	RCG 13-6-19 2019-20 FY20 Sustaining Cap	Point Machine Replacement(CAP)	50%, Train Km	137,989
816	AF5705	RCG 14-05-2020	Signal/Xing Lamp Upgrade (CAP)	0%	1,541,190			



Segment	Segment Description	Constrained	Activity	Project Code	Date of RCG Endorsement	Description of Activity	Incremental % & Allocator	Included in 2022 Asset Base		
963	Werris Creek to Dartbrook	No	817	0963QE	RCG 22-04-2022	General Comms Equip (CAP)	0%	164,701		
964	Werris Creek to Murulla	No	178	0964VU	RCG 14-5-20 2020-2021	Rerailing (CAP)	90%, GTKM	22,318		
				0964VV						
				0964VW						
				0964XC						
							0964XD	RCG 30-4-21 2021-2022		
			186	0987DB	RCG 14-5-20 2020-2021	Turnout Renewal(CAP)	75%, GTKM	(17,737)		
			229	0964XG	RCG 30-4-21 2021-2022	Track Strengthening / Upgrading(CAP)	75%, GTKM	3,554,950		
				0964XH						
				0987GE						
			253	0964UJ	RCG 30-4-21 2021-2022	Bridge Replacement or Modification(CAP)	0%	4,384,271		
			254	0964XM	RCG 30-4-21 2021-2022	Culvert Replacement or Modification(CAP)	0%	1,190,037		
				0987GG						
				0987GQ						
				0987HB						
764	AF5810	RCG 14-05-2020	Level Crossing Upgrade (Signals)(CAP)	100%, GTKM	(93,208)					
773	0964UI	RCG 30-4-18 2018-2019	General Signal Equipment(CAP)	0%	234,599					
815	0964WS	RCG 14-5-20 2020-2021	Power Supply Upgrade(CAP)	0%	52,262					
	0987FL									
817	0987HH	RCG 22-04-2022	General Comms Equip (CAP)	0%	274,501					
	H964BG	RCG 22-04-2022								
965	Gap To Werris Creek	No	229	0965U9	RCG 30-4-21 2021-2022	Track Strengthening / Upgrading(CAP)	75%, GTKM	2,855,693		
				0965V5	RCG 18-05-2022					
			254	0965V1	RCG 30-4-21 2021-2022	Culvert Replacement or Modification(CAP)	0%	521,348		
				0965V2						
				0965V3						
966	Watermark To Gap	No	254	0966BP	RCG 30-4-21 2021-2022	Culvert Replacement or Modification(CAP)	0%	171,997		
			816	AF6005	RCG 14-05-2020			Signal/Xing Lamp Upgrade (CAP)	680,973	

Segment	Segment Description	Constrained	Activity	Project Code	Date of RCG Endorsement	Description of Activity	Incremental % & Allocator	Included in 2022 Asset Base
			817	0966CE	RCG 22-04-2022	General Comms Equip (CAP)		34,914
967	Boggabri Jct To Gunnedah Jct	No	229	0967AU	RCG 30-4-21 2021-2022	Track Strengthening / Upgrading(CAP)	75%, GTKM	815,809
968	Turrawan To Boggabri Jct	No	759	AQ9000	RCG 6-5-2020 2020-21 Sustaining Cap	Point Machine Replacement(CAP)	50%, Train Km	45,996
			817	0968W1	RCG 22-04-2022	General Comms Equip (CAP)	0%	69,827
988	Gunnedah Jct To Watermark	No	151	0988CI	RCG 10-05-2021	Property (CAP)	0%	107,948
				0988CJ	RCG 10-05-2021			
			178	0988BD	RCG 14-5-20 2020-2021	Rerailing (CAP)	90%, GTKM	11,626
				0988BP	RCG 30-4-21 2021-2022			
			229	0988BW	RCG 30-4-21 2021-2022, RCG 13-10-22	Track Strengthening / Upgrading(CAP)	75%, GTKM	4,998,987
			254	0988CQ	RCG 18-05-2022	Culvert Replacement or Modification(CAP)	0%	439,684
				0988CR				
759	AQ9100	Internal variation HUV20-16 11-12-2019	Point Machine Replacement(CAP)	50%, Train Km	45,996			
817	0988DH	RCG 22-04-2022	General Comms Equip (CAP)	0%	104,741			
<b>Subtotal Pricing Zone 3</b>								<b>25,864,431</b>
<b>Total All Zones</b>								<b>120,269,845</b>

**APPENDIX D 2022 DISPOSALS****Table D1: 2022 Expansion Capital Project Disposals & Loss on Disposals**

Segment	Project	Activity	2022 RAB Value \$	Disposal Proceeds \$	Net Loss on Disposal \$	Constrained Network
Pricing Zone 1			-	-	-	-
Pricing Zone 2			-	-	-	-
Pricing Zone 3			-	-	-	-
<b>Total</b>			-	-	-	-

**Table D2: 2022 Sustaining Capital Project Disposals & Loss on Disposals**

Segment	Project	Activity	2022 RAB Value \$	Disposal Proceeds \$	Net Loss on Disposal \$	Constrained Network
<b>Pricing Zone 1</b>						
915	0915M6	Point Machine Replacement (CAP)	4,681	-	4,681	No
927	0927N4	Turnout Renewal (CAP)	79,182	6,420	72,762	No
927	0927N7	Turnout Renewal (CAP)	79,182	6,420	72,762	No
930	0930HR	Rerailing (CAP)	29,854	21,975	7,879	Yes
930	0930HS	Rerailing (CAP)	69,639	51,259	18,380	Yes
930	0930HT	Rerailing (CAP)	19,817	17,959	1,858	Yes
931	0931V6	Rerailing (CAP)	640,780	47,378	593,402	Yes
931	0931W4	Rerailing (CAP)	167,997	10,829	157,167	Yes
931	AQ8000	Point Machine Replacement (CAP)	4,681	-	4,681	Yes
936	0936JT	Rerailing (CAP)	56,139	20,982	35,157	Yes
936	0936JV	Rerailing (CAP)	9,321	-	9,321	Yes
936	0936JV	Rerailing (CAP)	28,984	17,146	11,838	Yes
936	0936JV	Rerailing (CAP)	171,830	20,531	151,299	Yes
936	0936KD	Rerailing (CAP)	187,139	24,817	162,322	Yes
936	0936KE	Rerailing (CAP)	117,853	12,183	105,670	Yes
936	0936KE	Rerailing (CAP)	15,176	-	15,176	Yes
936	0936KE	Rerailing (CAP)	13,729	8,122	5,607	Yes
937	0937FD	Track Strengthening / Upgrading (CAP)	7,859	-	7,859	Yes
937	0937FT	Turnout Renewal (CAP)	446,471	6,420	440,052	Yes
937	0937FU	Turnout Renewal (CAP)	587,874	5,836	582,038	Yes
937	0937FV	Turnout Renewal (CAP)	646,432	6,420	640,012	Yes
937	0937GA	Track Strengthening / Upgrading (CAP)	4,532	-	4,532	Yes
937	0937GB	Track Strengthening / Upgrading (CAP)	7,073	-	7,073	Yes
937	0937GP	Rerailing (CAP)	94,949	12,228	82,721	Yes
937	0937GP	Rerailing (CAP)	17,793	13,176	4,617	Yes
937	0937GQ	Rerailing (CAP)	16,619	9,927	6,692	Yes
937	0937GR	Rerailing (CAP)	13,446	8,032	5,414	Yes
937	0937GU	Track Strengthening / Upgrading (CAP)	4,029	-	4,029	Yes
937	0937GV	Track Strengthening / Upgrading (CAP)	299,440	-	299,440	Yes
946	AQ8300	Point Machine Replacement (CAP)	25,744	-	25,744	Yes
947	0947IC	Rerailing (CAP)	92,297	52,522	39,775	Yes
947	0947IG	Track Strengthening / Upgrading (CAP)	61,986	-	61,986	Yes
947	0947IP	Rerailing (CAP)	35,797	10,423	25,373	Yes
947	0947IT	Rerailing (CAP)	52,134	6,543	45,591	Yes
947	0947IT	Rerailing (CAP)	110,535	62,901	47,635	Yes
947	0947IW	Culvert Replacement or Modification (CAP)	3,607	-	3,607	Yes
948	0948EI	Rerailing (CAP)	38,765	6,633	32,132	Yes
948	0948EI	Rerailing (CAP)	79,534	43,678	35,856	Yes

Segment	Project	Activity	2022 RAB Value \$	Disposal Proceeds \$	Net Loss on Disposal \$	Constrained Network
948	0948ER	Rerailing (CAP)	119,137	65,427	53,710	Yes
948	AQ8400	Point Machine Replacement (CAP)	44,701	-	44,701	Yes
951	0951W1	Turnout Renewal (CAP)	134,654	6,420	128,234	Yes
955	0955C5	Track Strengthening / Upgrading (CAP)	31,996	-	31,996	Yes
955	0955C5	Track Strengthening / Upgrading (CAP)	21,198	-	21,198	Yes
955	0955HZ	Rerailing (CAP)	258,689	35,331	223,358	Yes
955	0955HZ	Rerailing (CAP)	11,161	45	11,116	Yes
955	0955HZ	Rerailing (CAP)	166,946	24,817	142,129	Yes
955	0955IB	Rerailing (CAP)	153,642	29,781	123,861	Yes
955	0955IP	Rerailing (CAP)	78,544	11,732	66,813	Yes
955	0956BF	Rerailing (CAP)	137,674	15,792	121,882	Yes
956	0956BD	Track Strengthening / Upgrading (CAP)	27,417	-	27,417	Yes
956	0956BE	Track Strengthening / Upgrading (CAP)	6,521	-	6,521	Yes
956	AQ8600	Point Machine Replacement (CAP)	4,681	-	4,681	Yes
957	AQ8700	Point Machine Replacement (CAP)	4,681	-	4,681	Yes
961	0961DX	Signalling System Upgrades (CAP)	12,557	-	12,557	Yes
961	0961DY	Signalling System Upgrades (CAP)	15,069	-	15,069	Yes
961	0961EF	Rerailing (CAP)	163,894	61,818	102,076	Yes
961	0961EF	Rerailing (CAP)	225,522	14,033	211,489	Yes
970	0970X5	Track Strengthening / Upgrading (CAP)	21,250	-	21,250	Yes
970	AF4002	Bridge Replacement or Modification (CAP)	144,653	-	144,653	Yes
970	AF4002	Rerailing (CAP)	77,850	28,653	49,197	Yes
970	AF4002	Bridge Replacement or Modification (CAP)	52,962	-	52,962	Yes
970	AF4002	Track Strengthening / Upgrading (CAP)	56,395	-	56,395	Yes
970	AF4002	Culvert Replacement or Modification (CAP)	4,254	-	4,254	Yes
970	AF4002	Signalling System Upgrades (CAP)	15,191	-	15,191	Yes
<b>Subtotal for Pricing Zone 1</b>			<b>6,334,141</b>	<b>804,608</b>	<b>5,529,533</b>	
<b>Pricing Zone 2</b>						
971	0971S7	Track Strengthening / Upgrading (CAP)	17,422	-	17,422	Yes
972	0972AX	Turnout Renewal (CAP)	84,438	6,420	78,018	Yes
972	0972AZ	Turnout Renewal (CAP)	84,438	6,420	78,018	Yes
972	0972EA	Track Strengthening / Upgrading (CAP)	21,341	-	21,341	Yes
972	0972EB	Track Strengthening / Upgrading (CAP)	174,300	-	174,300	Yes
972	0972EE	Culvert Replacement or Modification (CAP)	2,131	-	2,131	Yes
972	0972EF	Culvert Replacement or Modification (CAP)	2,131	-	2,131	Yes
972	0972EM	Level Crossing Upgrade (Signals)(CAP)	7,435	-	7,435	Yes
972	0972FA	Level Crossing Upgrade (Civil)(CAP)	4,823	-	4,823	Yes
972	0972FJ	Culvert Replacement or Modification (CAP)	2,131	-	2,131	Yes
973	0973YE	Rerailing (CAP)	104,670	37,046	67,625	Yes
973	0973YF	Rerailing (CAP)	49,339	17,462	31,876	Yes
973	0973YG	Rerailing (CAP)	216,843	24,817	192,025	Yes

Segment	Project	Activity	2022 RAB Value \$	Disposal Proceeds \$	Net Loss on Disposal \$	Constrained Network
973	0973YH	Rerailing (CAP)	560,791	39,211	521,580	Yes
973	0973YK	Rerailing (CAP)	360,206	40,249	319,957	Yes
973	0973YK	Rerailing (CAP)	49,212	17,417	31,794	Yes
973	0973YK	Rerailing (CAP)	366,046	42,325	323,722	Yes
973	0973YO	Track Strengthening / Upgrading (CAP)	29,748	-	29,748	Yes
973	0973YZ	Level Crossing Upgrade (Signals)(CAP)	3,717	-	3,717	Yes
973	H973AC	Rerailing (CAP)	44,877	15,883	28,994	Yes
973	H973AE	Rerailing (CAP)	43,349	15,342	28,006	Yes
973	H973AF	Rerailing (CAP)	39,523	13,988	25,535	Yes
973	H973AH	Rerailing (CAP)	140,242	49,635	90,606	Yes
973	H973AJ	Rerailing (CAP)	163,187	57,756	105,431	Yes
973	H973AK	Rerailing (CAP)	76,495	27,074	49,422	Yes
973	H973AL	Rerailing (CAP)	76,495	27,073	49,421	Yes
973	H973AM	Rerailing (CAP)	663,961	51,349	612,612	Yes
973	H973BX	Culvert Replacement or Modification (CAP)	2,676	-	2,676	Yes
<b>Subtotal for Pricing Zone 2</b>			<b>3,391,964</b>	<b>489,467</b>	<b>2,902,497</b>	
<b>Pricing Zone 3</b>						
962	0962AC	Track Strengthening / Upgrading (CAP)	9,960	-	9,960	No
962	0962AC	Level Crossing Upgrade (Civil)(CAP)	11,829	-	11,829	No
962	0962Z1	Culvert Replacement or Modification (CAP)	2,094	-	2,094	No
962	0962Z3	Level Crossing Upgrade (Signals)(CAP)	28,332	-	28,332	No
963	0963NQ	Culvert Replacement or Modification (CAP)	283	-	283	No
964	0964UJ	Bridge Replacement or Modification	12,192	-	12,192	No
964	0964XG	Track Strengthening / Upgrading (CAP)	20,834	-	20,834	No
964	0964XM	Culvert Replacement or Modification (CAP)	283	-	283	No
964	0987GE	Track Strengthening / Upgrading (CAP)	38,196	-	38,196	No
964	0987GG	Culvert Replacement or Modification (CAP)	283	-	283	No
964	0987GQ	Culvert Replacement or Modification (CAP)	297	-	297	No
964	0987HB	Culvert Replacement or Modification (CAP)	283	-	283	No
965	0965U9	Track Strengthening / Upgrading (CAP)	31,251	-	31,251	No
965	0965V1	Culvert Replacement or Modification (CAP)	283	-	283	No
965	0965V2	Culvert Replacement or Modification (CAP)	283	-	283	No
965	0965V3	Culvert Replacement or Modification (CAP)	283	-	283	No
965	0965V5	Track Strengthening / Upgrading (CAP)	18,057	-	18,057	No
966	0966BP	Culvert Replacement or Modification (CAP)	34,506	-	34,506	No
967	0967AU	Track Strengthening / Upgrading (CAP)	630,785	-	630,785	No
988	0988BW	Track Strengthening / Upgrading (CAP)	348,753	-	348,753	No
988	0988CQ	Culvert Replacement or Modification (CAP)	63,505	-	63,505	No
988	0988CR	Culvert Replacement or Modification (CAP)	63,505	-	63,505	No
<b>Subtotal for Pricing Zone 3</b>			<b>1,316,074</b>	<b>-</b>	<b>1,316,074</b>	
<b>Total for all Pricing Zones</b>			<b>11,042,180</b>	<b>1,294,075</b>	<b>9,748,104</b>	

**Table D3: 2022 Summary of Disposals & Loss on Disposals**

	2022RAB Value \$	Net Disposal Proceeds/(Costs) \$	Net Loss on Disposal \$
<b>Expansion Capital Projects</b>			
Pricing Zone 1	-	-	-
Pricing Zone 2	-	-	-
Pricing Zone 3	-	-	-
<b>Sub-Total</b>	-	-	-
<b>Sustaining Capital</b>			
Pricing Zone 1	6,334,141	804,608	5,529,533
Pricing Zone 2	3,391,964	489,467	2,902,497
Pricing Zone 3	1,316,074	-	1,316,074
<b>Sub-Total</b>	<b>11,042,180</b>	<b>1,294,075</b>	<b>9,748,104</b>
<b>Total</b>	<b>11,042,810</b>	<b>1,294,075</b>	<b>9,748,104</b>

Table D7: 2022 Expansion Projects Disposals & Loss on Disposals Detailed

Segment	Related Capital Project Code	Activity Details	Line Segment	Date Asset Removed	Track Metres/ Scope	Rail Metres (Rerailing only)	Unit of Measure	Unit Rate \$	Discount Factor	Rerailing Weight KG	Rail Condemning Rate	Turnout Weight (Tonnes)	Scrap Value/ Tonne (CAL21 ave.) \$	Cost of Removal of Redundant Assets \$	Asset RAB Value per DORC \$	Disposal Proceeds \$	Net Loss on Disposal \$
Pricing Zone 1																	
		Nil													-	-	-
<b>Sub-Total</b>															-	-	-
Pricing Zone 2																	
		Nil													-	-	-
<b>Sub-Total</b>															-	-	-
Pricing Zone 3																	
		Nil													-	-	-
<b>Sub-Total</b>															-	-	-
<b>Total</b>															-	-	-



Table D8: 2022 Sustaining Capital Project Disposals &amp; Loss on Disposals Detailed

Segment No	Related Capital Project	Activity Number	Activity Details	Line Segment	Date Asset Removed	Track Metres/Scope	Rail Metres (Rerailin)	Unit of Measure	Unit Rate \$	Discount Factor	Rerailing Weight	Rail Condemning Rate	Turnout Weight (Tonnes)	Scrap Value/Tonne \$	Asset RAB WDV \$	Net Disposal Proceeds	Net Loss on Disposal \$
Pricing Zone 1																	
915	0915M6	759	Point Machine Replacement(CAP)	Islington Jct To Scholey St Jct	30/10/2022	1		Each	6,296	74.348%					4,681	-	4,681
927	0927N4	186	Turnout Renewal(CAP)	Hanbury Jct To Kooragang East Jct	01/10/2022	1		Each	106,502	74.348%		0%	14	459	79,182	6,420	72,762
927	0927N7	186	Turnout Renewal(CAP)	Hanbury Jct To Kooragang East Jct	01/10/2022	1		Each	106,502	74.348%		0%	14	459	79,182	6,420	72,762
930	0930HR	178	Rerailing (CAP)	NCIG To Kooragang Island	24/11/2022	487	974	Rail metre	41	74.348%	60	82%		459	29,854	21,975	7,879
930	0930HS	178	Rerailing (CAP)	NCIG To Kooragang Island	24/11/2022	1136	2272	Rail metre	41	74.348%	60	82%		459	69,639	51,259	18,380
930	0930HT	178	Rerailing (CAP)	NCIG To Kooragang Island	24/11/2022	398	796	Rail metre	33	74.348%	60	82%		459	19,817	17,959	1,858
931	0931V6	178	Rerailing (CAP)	Sandgate To Kooragang East Jct	01/04/2022	1050	2100	Rail metre	303	100.651%	60	82%		459	640,780	47,378	593,402
931	0931W4	178	Rerailing (CAP)	Sandgate To Kooragang East Jct	30/11/2022	240	480	Rail metre	348	100.651%	60	82%		459	167,997	10,829	157,168
931	AQ8000	759	Point Machine Replacement(CAP)	Sandgate To Kooragang East Jct	01/12/2022	1		Each	6,296	74.348%					4,681	-	4,681
936	0936JT	178	Rerailing (CAP)	Thornton To Sandgate (Coal Line)	11/02/2022	465	930	Rail metre	81	74.348%	60	82%		459	56,139	20,982	35,157
936	0936JV	178	Rerailing (CAP)	Thornton To Sandgate (Coal Line)	11/02/2022	380	760	Rail metre	16	75.263%	60	82%		459	9,321	-	9,321
936	0936JV	178	Rerailing (CAP)	Thornton To Sandgate (Coal Line)	11/02/2022	380	760	Rail metre	51	74.348%	60	82%		459	28,984	17,146	11,838
936	0936JV	178	Rerailing (CAP)	Thornton To Sandgate (Coal Line)	11/02/2022	455	910	Rail metre	241	78.415%	60	82%		459	171,830	20,531	151,299
936	0936KD	178	Rerailing (CAP)	Thornton To Sandgate (Coal Line)	12/09/2022	550	1100	Rail metre	217	78.415%	60	82%		459	187,139	24,817	162,322
936	0936KE	178	Rerailing (CAP)	Thornton To Sandgate (Coal Line)	12/09/2022	270	540	Rail metre	298	73.330%	60	82%		459	117,853	12,183	105,670
936	0936KE	178	Rerailing (CAP)	Thornton To Sandgate (Coal Line)	12/09/2022	550	1100	Rail metre	16	84.169%	60	82%		459	15,176	-	15,176
936	0936KE	178	Rerailing (CAP)	Thornton To Sandgate (Coal Line)	12/09/2022	180	360	Rail metre	51	74.348%	60	82%		459	13,729	8,122	5,607
937	0937GP	178	Rerailing (CAP)	Maitland To Thornton (Coal Line)	07/10/2022	271	542	Rail metre	223	78.415%	60	82%		459	94,949	12,228	82,721
937	0937GP	178	Rerailing (CAP)	Maitland To Thornton (Coal Line)	07/10/2022	292	584	Rail metre	36	84.170%	60	82%		459	17,793	13,176	4,617
937	0937GQ	178	Rerailing (CAP)	Maitland To Thornton (Coal Line)	07/10/2022	220	440	Rail metre	51	74.348%	60	82%		459	16,619	9,927	6,692
937	0937GR	178	Rerailing (CAP)	Maitland To Thornton (Coal Line)	07/10/2022	178	356	Rail metre	51	74.348%	60	82%		459	13,446	8,032	5,414
937	0937FT	186	Turnout Renewal(CAP)	Maitland To Thornton (Coal Line)	07/04/2022	1		Each	494,117	90.357%		0%	14	459	446,471	6,420	440,051
937	0937FU	186	Turnout Renewal(CAP)	Maitland To Thornton (Coal Line)	07/04/2022	1		Each	715,742	90.357%		0%	14	459	587,874	5,836	582,038
937	0937FV	186	Turnout Renewal(CAP)	Maitland To Thornton (Coal Line)	07/04/2022	1		Each	715,417	90.357%		0%	14	459	646,432	6,420	640,012
937	0937FD	229	Track Strengthening / Upgrading(CAP)	Maitland To Thornton (Coal Line)	01/09/2022	100		Track metre	106	74.348%					7,859	-	7,859
937	0937GA	229	Track Strengthening / Upgrading(CAP)	Maitland To Thornton (Coal Line)	01/09/2022	90		Track metre	68	74.348%					4,532	-	4,532
937	0937GB	229	Track Strengthening / Upgrading(CAP)	Maitland To Thornton (Coal Line)	01/09/2022	90		Track metre	106	74.348%					7,073	-	7,073
937	0937GU	229	Track Strengthening / Upgrading(CAP)	Maitland To Thornton (Coal Line)	01/09/2022	80		Track metre	68	74.348%					4,029	-	4,029
937	0937GV	229	Track Strengthening / Upgrading(CAP)	Maitland To Thornton (Coal Line)	01/09/2022	3810		Track metre	106	74.348%					299,440	-	299,440
946	AQ8300	759	Point Machine Replacement(CAP)	Farley To Maitland	01/12/2022	1		Each	34,627	74.348%					25,744	-	25,744
947	0947IC	178	Rerailing (CAP)	Branxton To Farley	31/05/2022	1164	2328	Rail metre	53	74.348%	60	82%		459	92,297	52,522	39,775
947	0947IP	178	Rerailing (CAP)	Branxton To Farley	31/05/2022	231	462	Rail metre	104	74.348%	60	82%		459	35,797	10,423	25,373

Segment No	Related Capital Project	Activity Number	Activity Details	Line Segment	Date Asset Removed	Track Metres/ Scope	Rail Metres (Rerailin	Unit of Measure	Unit Rate \$	Discount Factor	Rerailing Weight	Rail Condemning Rate	Turnout Weight (Tonnes)	Scrap Value/ Tonne \$	Asset RAB WDV \$	Net Disposal Proceeds	Net Loss on Disposal \$
947	0947IT	178	Rerailing (CAP)	Branxton To Farley	24/11/2022	145	290	Rail metre	239	75.116%	60	82%		459	52,134	6,543	45,591
947	0947IT	178	Rerailing (CAP)	Branxton To Farley	24/11/2022	1394	2788	Rail metre	53	74.348%	60	82%		459	110,535	62,901	47,635
947	0947IG	229	Track Strengthening / Upgrading(CAP)	Branxton To Farley	27/05/2022	600		Track metre	139	74.348%					61,986	-	61,986
947	0947IW	254	Culvert Replacement or Modification(CAP)	Branxton To Farley	01/09/2022	1		Each	4851	74.348%					3,607	-	3,607
948	0948EI	178	Rerailing (CAP)	Whittingham To Branxton	31/05/2022	147	294	Rail metre	181	72.969%	60	82%		459	38,765	6,633	32,132
948	0948EI	178	Rerailing (CAP)	Whittingham To Branxton	31/05/2022	968	1936	Rail metre	55	74.348%	60	82%		459	79,534	43,678	35,856
948	0948ER	178	Rerailing (CAP)	Whittingham To Branxton	24/11/2022	1450	2900	Rail metre	55	74.348%	60	82%		459	119,137	65,427	53,710
948	AQ8400	759	Point Machine Replacement(CAP)	Whittingham To Branxton	01/12/2022	1		Each	60,125	74.348%					44,701	-	44,701
951	0951W1	186	Turnout Renewal(CAP)	Saxonvale Jct To Whittingham	01/05/2022	1		Each	181,114	74.348%		0%	14	459	134,654	6,420	128,234
955	0956BF	178	Rerailing (CAP)	Camberwell Jct To Whittingham	31/10/2022	350	700	Rail metre	262	75.116%	60	82%		459	137,674	15,792	121,882
955	0955HZ	178	Rerailing (CAP)	Camberwell Jct To Whittingham	28/02/2022	783	1566	Rail metre	211	78.415%	60	82%		459	258,689	35,331	223,358
955	0955HZ	178	Rerailing (CAP)	Camberwell Jct To Whittingham	28/02/2022	1	2	Each	6,891	80.985%	60	82%		459	11,161	45	11,116
955	0955HZ	178	Rerailing (CAP)	Camberwell Jct To Whittingham	28/02/2022	550	1100	Rail metre	202	75.116%	60	82%		459	166,946	24,817	142,129
955	0955IB	178	Rerailing (CAP)	Camberwell Jct To Whittingham	28/02/2022	660	1320	Rail metre	159	73.157%	60	82%		459	153,642	29,781	123,861
955	0955IP	178	Rerailing (CAP)	Camberwell Jct To Whittingham	07/10/2022	260	520	Rail metre	201	75.116%	60	82%		459	78,544	11,732	66,813
955	0955C5	229	Track Strengthening / Upgrading(CAP)	Camberwell Jct To Whittingham	28/02/2022	330		Track metre	130	74.348%					31,996	-	31,996
955	0955C5	229	Track Strengthening / Upgrading(CAP)	Camberwell Jct To Whittingham	28/02/2022	330		Track metre	86	74.348%					21,198	-	21,198
956	0956BD	229	Track Strengthening / Upgrading(CAP)	Glennies Ck To Camberwell Jct	01/02/2022	390		Track metre	95	74.348%					27,417	-	27,417
956	0956BE	229	Track Strengthening / Upgrading(CAP)	Glennies Ck To Camberwell Jct	28/02/2022	65		Track metre	135	74.348%					6,521	-	6,521
956	AQ8600	759	Point Machine Replacement(CAP)	Glennies Ck To Camberwell Jct	01/12/2022	1		Each	6,296	74.348%					4,681	-	4,681
957	AQ8700	759	Point Machine Replacement(CAP)	Newdell Jct To Glennies Ck	01/12/2022	1		Each	6,296	74.348%					4,681	-	4,681
961	0961EF	178	Rerailing (CAP)	Muswellbrook To Draytons Jct	28/02/2022	1370	2740	Rail metre	80	73.157%	60	82%		459	163,894	61,818	102,076
961	0961EF	178	Rerailing (CAP)	Muswellbrook To Draytons Jct	28/02/2022	311	622	Rail metre	496	74.348%	60	82%		459	225,522	14,033	211,489
961	0961DX	772	Signalling System Upgrades(CAP)	Muswellbrook To Draytons Jct	30/10/2022	1		Each	16,014	78.415%					12,557	-	12,557
961	0961DY	772	Signalling System Upgrades(CAP)	Muswellbrook To Draytons Jct	30/10/2022	1		Each	19,216	78.415%					15,069	-	15,069
970	0970X5	229	Track Strengthening / Upgrading(CAP)	Bengalla Jct To Muswellbrook	31/05/2022	260		Track metre	110	74.348%					21,250	-	21,250
970	AF4002	253	Bridge Replacement or Modification(CAP)	Bengalla Jct To Muswellbrook	26/05/2022	1		Each	194,563	74.348%					144,653	-	144,653
970	AF4002	178	Rerailing (CAP)	Bengalla Jct To Muswellbrook	26/05/2022	635	1270	Rail metre	82	74.348%	60	82%		459	77,850	28,653	49,197
970	AF4002	223	Bridge Replacement or Modification(CAP)	Bengalla Jct To Muswellbrook	26/05/2022	900		Each	79	74.348%					52,962	-	52,962
970	AF4002	229	Track Strengthening / Upgrading(CAP)	Bengalla Jct To Muswellbrook	26/05/2022	690		Track Metre	110	74.348%					56,395	-	56,395
970	AF4002	254	Culvert Replacement or Modification(CAP)	Bengalla Jct To Muswellbrook	26/05/2022	1		Each	5,721	74.348%					4,254	-	4,254
970	AF4002	817	Signalling System Upgrades(CAP)	Bengalla Jct To Muswellbrook	26/05/2022	1		Track km	35,535	74.348%					15,191	-	15,191
<b>Pricing Zone 1 Total</b>															<b>6,334,141</b>	<b>804,608</b>	<b>5,529,533</b>

Segment No	Related Capital Project	Activity Number	Activity Details	Line Segment	Date Asset Removed	Track Metres/Scope	Rail Metres (Rerailin	Unit of Measure	Unit Rate \$	Discount Factor	Rerailing Weight	Rail Condemning Rate	Turnout Weight (Tonnes)	Scrap Value/Tonne \$	Asset RAB WDV \$	Net Disposal Proceeds	Net Loss on Disposal \$
<b>Pricing Zone 2</b>																	
971	0971S7	229	Track Strengthening / Upgrading(CAP)	Anvil Hill To Bengalla Jct	01/11/2022	200		Track metre	117	74.348%					17,422	-	17,422
972	0972AX	186	Turnout Renewal(CAP)	Sandy Hollow To Anvil Hill	11/02/2022	1		Each	113,571	74.348%		0%	14	459	84,438	6,420	78,018
972	0972AZ	186	Turnout Renewal(CAP)	Sandy Hollow To Anvil Hill	28/02/2022	1		Each	113,571	74.348%		0%	14	459	84,438	6,420	78,018
972	0972EA	229	Track Strengthening / Upgrading(CAP)	Sandy Hollow To Anvil Hill	01/05/2022	245		Track metre	117	74.348%					21,341	-	21,341
972	0972EB	229	Track Strengthening / Upgrading(CAP)	Sandy Hollow To Anvil Hill	01/10/2022	2001		Track metre	117	74.348%					174,300	-	174,300
972	0972EE	254	Culvert Replacement or Modification(CAP)	Sandy Hollow To Anvil Hill	01/10/2022	1		Each	2,866	74.348%					2,131	-	2,131
972	0972EF	254	Culvert Replacement or Modification(CAP)	Sandy Hollow To Anvil Hill	28/02/2022	1		Each	2,866	74.348%					2,131	-	2,131
972	0972FJ	254	Culvert Replacement or Modification(CAP)	Sandy Hollow To Anvil Hill	01/10/2022	1		Each	2,866	74.348%					2,131	-	2,131
972	0972FA	262	Level Crossing Upgrade (Civil)(CAP)	Sandy Hollow To Anvil Hill	30/06/2022	1		Each	6,487	74.348%					4,823	-	4,823
972	0972EM	764	Level Crossing Upgrade (Signals)(CAP)	Sandy Hollow To Anvil Hill	01/09/2022	2		Each	5,000	74.348%					7,435	-	7,435
973	0973YE	178	Rerailing (CAP)	Wilpinjong To Sandy Hollow	30/04/2022	821	1642	Rail metre	86	74.348%	60	82%		459	104,670	37,046	67,625
973	0973YF	178	Rerailing (CAP)	Wilpinjong To Sandy Hollow	30/04/2022	387	774	Rail metre	86	74.348%	60	82%		459	49,339	17,462	31,876
973	0973YG	178	Rerailing (CAP)	Wilpinjong To Sandy Hollow	30/04/2022	550	1100	Rail metre	234	84.170%	60	82%		459	216,843	24,817	192,025
973	0973YH	178	Rerailing (CAP)	Wilpinjong To Sandy Hollow	30/04/2022	869	1738	Rail metre	347	92.957%	60	82%		459	560,791	39,211	521,580
973	0973YK	178	Rerailing (CAP)	Wilpinjong To Sandy Hollow	30/04/2022	892	1784	Rail metre	240	84.170%	60	82%		459	360,206	40,249	319,957
973	0973YK	178	Rerailing (CAP)	Wilpinjong To Sandy Hollow	30/04/2022	386	772	Rail metre	86	74.348%	60	82%		459	49,212	17,417	31,794
973	0973YK	178	Rerailing (CAP)	Wilpinjong To Sandy Hollow	30/04/2022	938	1876	Rail metre	232	84.170%	60	82%		459	366,046	42,325	323,722
973	H973AC	178	Rerailing (CAP)	Wilpinjong To Sandy Hollow	12/09/2022	352	704	Rail metre	86	74.348%	60	82%		459	44,877	15,883	28,994
973	H973AE	178	Rerailing (CAP)	Wilpinjong To Sandy Hollow	07/10/2022	340	680	Rail metre	86	74.348%	60	82%		459	43,349	15,342	28,006
973	H973AF	178	Rerailing (CAP)	Wilpinjong To Sandy Hollow	07/10/2022	310	620	Rail metre	86	74.348%	60	82%		459	39,523	13,988	25,535
973	H973AH	178	Rerailing (CAP)	Wilpinjong To Sandy Hollow	07/10/2022	1100	2200	Rail metre	86	74.348%	60	82%		459	140,242	49,635	90,606
973	H973AJ	178	Rerailing (CAP)	Wilpinjong To Sandy Hollow	24/11/2022	1280	2560	Rail metre	86	74.348%	60	82%		459	163,187	57,756	105,431
973	H973AK	178	Rerailing (CAP)	Wilpinjong To Sandy Hollow	12/09/2022	600	1200	Rail metre	86	74.348%	60	82%		459	76,495	27,074	49,422
973	H973AL	178	Rerailing (CAP)	Wilpinjong To Sandy Hollow	12/09/2022	600	1200	Rail metre	86	74.348%	60	82%		459	76,495	27,073	49,421
973	H973AM	178	Rerailing (CAP)	Wilpinjong To Sandy Hollow	07/10/2022	1138	2276	Rail metre	314	92.957%	60	82%		459	663,961	51,349	612,612
973	0973YO	229	Track Strengthening / Upgrading(CAP)	Wilpinjong To Sandy Hollow	11/02/2022	350		Track metre	114	74.348%					29,748	-	29,748
973	H973BX	254	Culvert Replacement or Modification(CAP)	Wilpinjong To Sandy Hollow	01/10/2022	1		Each	3,600	74.348%					2,676	-	2,676
973	0973YZ	764	Level Crossing Upgrade (Signals)(CAP)	Wilpinjong To Sandy Hollow	01/09/2022	1		Each	5,000	74.348%					3,717	-	3,717
<b>Pricing Zone 2 Total</b>															<b>3,391,964</b>	<b>489,467</b>	<b>2,902,497</b>
<b>Pricing Zone 3</b>																	
962	0962AC	262	Level Crossing Upgrade (Civil)(CAP)	Dartbrook Jct To Muswellbrook	01/11/2022	1		Each	16,179	73.115%					11,829	-	11,829
962	0962AC	229	Track Strengthening / Upgrading(CAP)	Dartbrook Jct To Muswellbrook	01/11/2022	140		Track Metre	97	73.115%					9,960	-	9,960

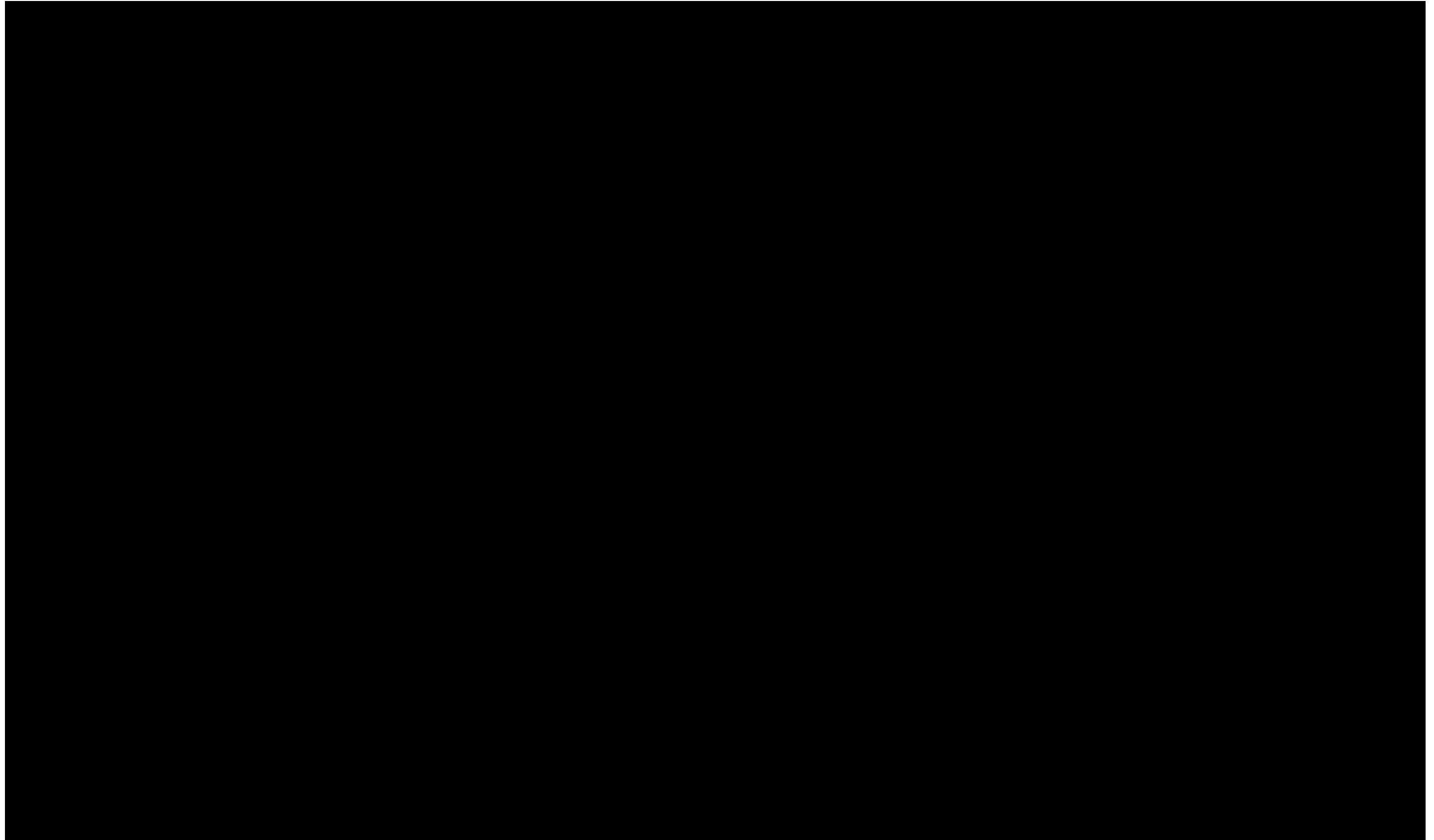
Segment No	Related Capital Project	Activity Number	Activity Details	Line Segment	Date Asset Removed	Track Metres/Scope	Rail Metres (Rerailin	Unit of Measure	Unit Rate \$	Discount Factor	Rerailing Weight	Rail Condemning Rate	Turnout Weight (Tonnes)	Scrap Value/ Tonne \$	Asset RAB WDV \$	Net Disposal Proceeds	Net Loss on Disposal \$
962	0962Z1	254	Culvert Replacement or Modification(CAP)	Dartbrook Jct To Muswellbrook	13/09/2022	1		Each	2,864	73.116%					2,094	-	2,094
962	0962Z3	764	Level Crossing Upgrade (Signals)(CAP)	Dartbrook Jct To Muswellbrook	30/10/2022	1		Each	38,750	73.115%					28,332	-	28,332
963	0963NQ	254	Culvert Replacement or Modification(CAP)	Murulla To Dartbrook Jct	13/09/2022	1		Each	387	73.114%					283	-	283
964	0964XG	229	Track Strengthening / Upgrading(CAP)	Werris Creek To Murulla	31/05/2022	300		Track metre	95	73.115%					20,834	-	20,834
964	0987GE	229	Track Strengthening / Upgrading(CAP)	Werris Creek To Murulla	01/05/2022	550		Track metre	95	73.115%					38,196	-	38,196
964	0964UJ	253	Bridge Replacement or Modification	Werris Creek To Murulla	30/09/2022	1		Each	16,676	73.115%					12,192	-	12,192
964	0964XM	254	Culvert Replacement or Modification(CAP)	Werris Creek To Murulla	13/09/2022	1		Each	387	73.114%					283	-	283
964	0987GG	254	Culvert Replacement or Modification(CAP)	Werris Creek To Murulla	27/05/2022	1		Each	387	73.114%					283	-	283
964	0987GQ	254	Culvert Replacement or Modification(CAP)	Werris Creek To Murulla	01/11/2022	1.05		Each	387	73.115%					297	-	297
964	0987HB	254	Culvert Replacement or Modification(CAP)	Werris Creek To Murulla	01/11/2022	1		Each	387	73.114%					283	-	283
965	0965U9	229	Track Strengthening / Upgrading(CAP)	Gap To Werris Creek	27/05/2022	450		Track metre	95	73.115%					31,251	-	31,251
965	0965V5	229	Track Strengthening / Upgrading(CAP)	Gap To Werris Creek	01/11/2022	260		Track metre	95	73.115%					18,057	-	18,057
965	0965V1	254	Culvert Replacement or Modification(CAP)	Gap To Werris Creek	30/04/2022	1		Each	387	73.114%					283	-	283
965	0965V2	254	Culvert Replacement or Modification(CAP)	Gap To Werris Creek	31/05/2022	1		Each	387	73.114%					283	-	283
965	0965V3	254	Culvert Replacement or Modification(CAP)	Gap To Werris Creek	13/09/2022	1		Each	387	73.114%					283	-	283
966	0966BP	254	Culvert Replacement or Modification(CAP)	Watermark To Gap	13/09/2022	1		Each	47,194	73.115%					34,506	-	34,506
967	0967AU	229	Track Strengthening / Upgrading(CAP)	Boggabri Jct To Gunnedah Jct	31/05/2022	400		Track metre	1,947	80.985%					630,785	-	630,785
988	0988BW	229	Track Strengthening / Upgrading(CAP)	Gunnedah Jct To Watermark	31/05/2022	1260		Track metre	379	73.115%					348,753	-	348,753
988	0988CQ	254	Culvert Replacement or Modification(CAP)	Gunnedah Jct To Watermark	01/11/2022	1		Each	86,856	73.115%					63,505	-	63,505
988	0988CR	254	Culvert Replacement or Modification(CAP)	Gunnedah Jct To Watermark	01/11/2022	1		Each	86,856	73.115%					63,505	-	63,505
<b>Pricing Zone 3 Total</b>															<b>1,316,074</b>	<b>-</b>	<b>1,316,074</b>
<b>Total for all Pricing Zones</b>															<b>11,042,180</b>	<b>1,294,075</b>	<b>9,748,104</b>

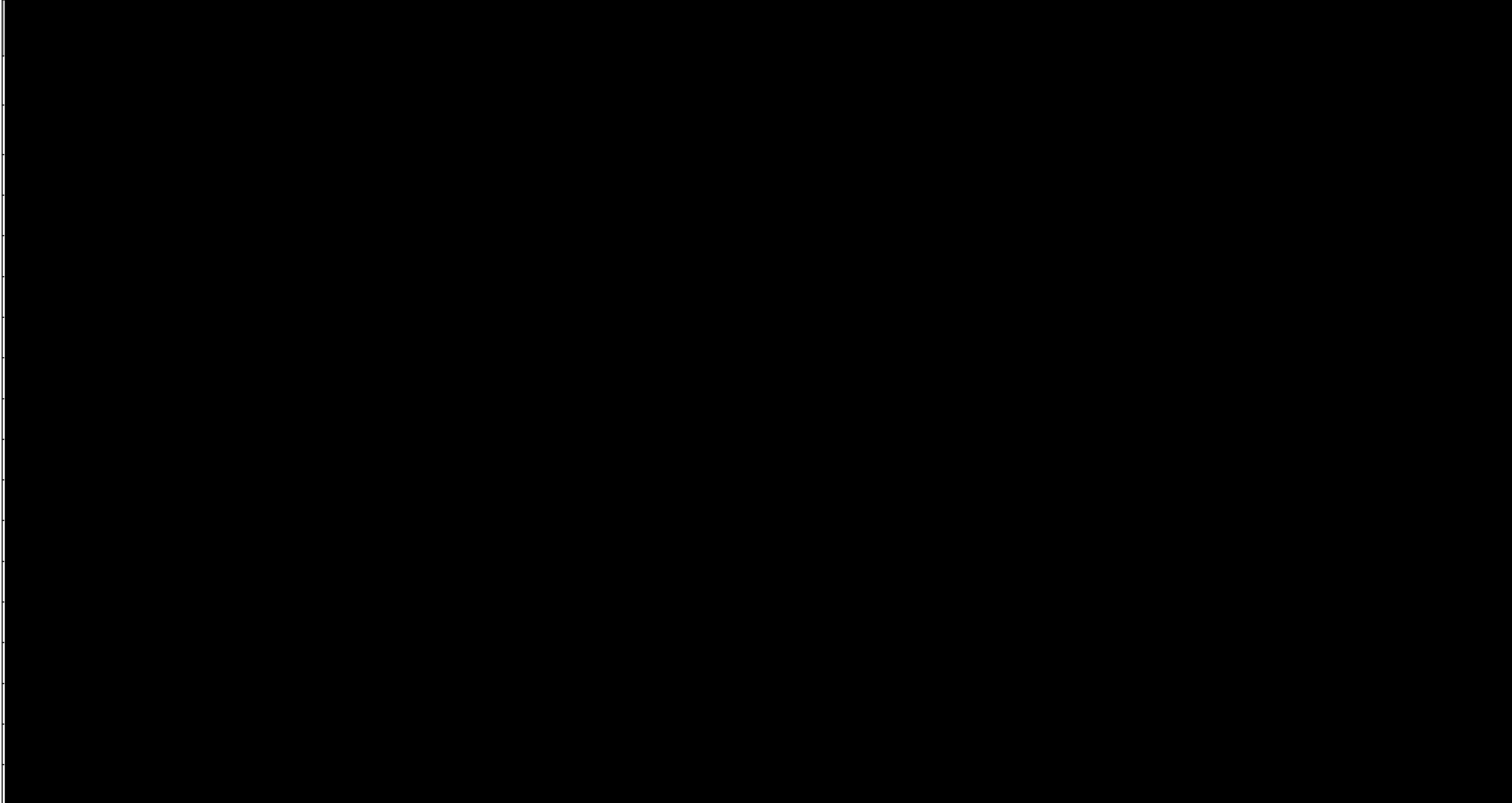
## APPENDIX E INTEREST DURING CONSTRUCTION CALCULATION

Project List							Cashflow \$,000					
Code	Project	Line Segment	Comm. Date	Total IDC \$	2017	2018	2019	2020	2021 H1	2021 H2	2022	Total Spend \$,000
AF4001	Muswellbrook Bridge – Bridge Street	970	26 Nov 2021	789,627	-	35,458	199,995	7,419,918	2,283,773	5,792,079	-	16,520,851
	Nil	<b>Total</b>										
	Rate of Return – HVAU				7.91%	7.91%	7.91%	7.91%	7.91%	6.43%	6.43%	
	For half year/ return calculations				100%	100%	100%	100%	50%	50%	100%	
Code	Project	Line Segment	Comm. Date	Total IDC \$	2017	2018	2019	2020	2021 H1	2021 H2	2022	Total Spend \$,000
AF4001	Muswellbrook Bridge – Bridge Street	970	26 Nov 2021									
	Capital Spend (\$'000)				-	35,458	199,995	7,419,918	2,283,773	5,792,079	-	
	IDC on Capex incurred during year				-	1,402	7,910	293,458	45,162	93,108	-	
	Previous Years Interest Capitalisation				-	-	2,916	19,592	157,817	168,263	-	<b>Total IDC</b>
	<b>Total Capitalised Interest</b>				-	<b>1,402</b>	<b>12,228</b>	<b>325,277</b>	<b>528,256</b>	<b>789,627</b>	-	<b>1,656,790</b>



**APPENDIX F STAKEHOLDER LISTING (CONFIDENTIAL)**





**ATTACHMENT 1 2022 HUNTER VALLEY NETWORK  
OPERATING COSTS ATTACHMENT**



**ATTACHMENT 2 2022 CAPITAL CONSULTATION**

**ATTACHMENT 3 2022 EVIDENCE OF ACCESS SEEKERS  
ENDORSEMENT OF CAPITAL  
EXPENDITURE (NOT FOR PUBLICATION)**

**ATTACHMENT 4 2022 TRUE UP TEST AUDIT REPORT**

## ATTACHMENT 5 OTHER SUPPORTING DOCUMENTS

This attachment provides an index to the other confidential supporting documentation provided to the ACCC relating to the 2022 Compliance Assessment submission.

Doc ID	Item	Submission Reference
5.1.1	Asset Management Context	Section 1.2
5.1.2	CAL22 OH Model ACCC Submission	
5.2	2022 Actual and forecast GTKM and Train Km for the Hunter Valley (for Pricing Zones and non-coal) and Interstate networks	Section 1.2
	Assurance that ARTC's procurement policies were satisfied and procurement efficient:	Sections 1.2 and 2.3
5.3.1	<ul style="list-style-type: none"> <li>▪ 2022 Outline of procurement process for selection of contracts</li> </ul>	
5.3.2	<ul style="list-style-type: none"> <li>▪ 2022 ARTC Procurement Manual</li> </ul>	
	Asset disposals—underlying calculations which determine the written down value (spreadsheet):	Sections 1.2 and 6
5.4.1	<ul style="list-style-type: none"> <li>▪ 2022 RAB written down values and loss on disposal.</li> </ul>	
5.4.2	<ul style="list-style-type: none"> <li>▪ 2022 DORC database values All Zones</li> </ul>	
	Application of Schedule I methodology	Sections 1.2 and 2.2
5.5.1	<ul style="list-style-type: none"> <li>▪ 2022 Mapping Schedule I overhead allocators to operating cost activities</li> </ul>	
5.5.2	<ul style="list-style-type: none"> <li>▪ 2022 Actual allocator values for Schedule I allocators</li> </ul>	
5.6	Uniform Data Tables <ul style="list-style-type: none"> <li>• Capital Expenditure</li> <li>• RAB Floor Limit Roll-Forward</li> <li>• Operating Expenditure</li> </ul>	