



Final Determination

Australian Rail Track Corporation's
compliance with the Hunter Valley
Coal Access Undertaking financial
model for calendar year 2018

August 2021

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Executive summary

The Hunter Valley Coal Network Access Undertaking (HVAU) requires the Australian Competition and Consumer Commission (ACCC) to undertake an annual assessment of the Australian Rail Track Corporation's (ARTC) compliance with the financial model as set out in the HVAU.

The ACCC's Final Determination for the period 1 January to 31 December 2018 is that ARTC's revised submission from 17 June 2021 is in accordance with all requirements under the HVAU. ARTC provided its original submission on 23 December 2020, with revised submissions provided on 15 January 2021 and 17 June 2021 (see sub-chapter 1.3). The submitted true-up test audit is also in accordance with HVAU requirements.

ARTC under recovered \$30.0 million in revenue from Constrained Network Access Holders in 2018. Payment by Access Holders will be deferred for 6 months from the date of publication of this Final Determination. Payments will then be made in 12 equal monthly instalments from that date.¹

Loss capitalisation still applies to Pricing Zone 3 Access Holders and ARTC is not required to reconcile access revenue with the applicable Ceiling Limit for Pricing Zone 3. The difference between the Regulatory Asset Base (RAB) and the RAB Floor Limit, which is the amount Access Holders still need to repay to ARTC, was \$61.4 million at the end of 2018. The loss capitalisation amount will be set to zero as at 31 December 2022, as required under section 4.9J(g) of the HVAU version 8. Pricing Zone 3 Access Holders will need to pay any remaining loss capitalisation amount in 12 equal monthly instalments after publication of the ACCC's 2022 annual compliance final determination.

The Rail Capacity Group (RCG) approved all major capital expenditure submitted by ARTC. The ACCC has therefore deemed this expenditure prudent.² There was a significant increase in the number of minor capital expenditure projects, and the average expenditure for those projects, in 2018. This reflects an increased tendency towards larger minor projects in recent years. ARTC has demonstrated that minor projects included in its 2018 expenditure were part of programs endorsed by the RCG in recent years.

ACCC analysis of ARTC's submission and additional information provided by ARTC found ARTC's operating expenditure for 2018 to be Efficient, within the meaning of section 14.1 of the HVAU. However, the ACCC acknowledges that stakeholders hold concerns with the increasing trend in operating expenditure over the past few years and the significant increase in 2018. Although the ACCC is satisfied that ARTC's operating expenditure is efficient for 2018, there are multiple projects that ARTC incurred expenditure for in 2018 that are expected to provide efficiency benefits to stakeholders in future years. The ACCC will seek evidence of efficiency benefits to stakeholders arising from the following operating expenditure categories in future annual compliance submissions:

- business unit management (specifically, the Capacity Fastrack Initiative and Asset Management Improvement Program)
- corporate overheads (particularly procurement and marketing)
- network control (specifically, the ARTC Network Control Optimisation project (ANCO)).

The ACCC may continue to seek information about infrastructure maintenance expenditure, particularly for rail defects, to ensure ARTC is managing assets efficiently.

¹ As per section 4.10J(f) of HVAU, version 8.

² As per section 4.10(d)(iii) of the HVAU, version 6.

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The ACCC also notes that some costs, such as loss on disposals, can fluctuate widely from year to year due to a range of factors external to ARTC, and significant increases in one year may not constitute an ongoing trend or issue.

The ACCC will continue to closely examine any increases in operating expenditure in future annual compliance assessments, particularly the above cost categories and any categories with significant ongoing increases, to ensure costs are Efficient.

1. Introduction

1.1. Background

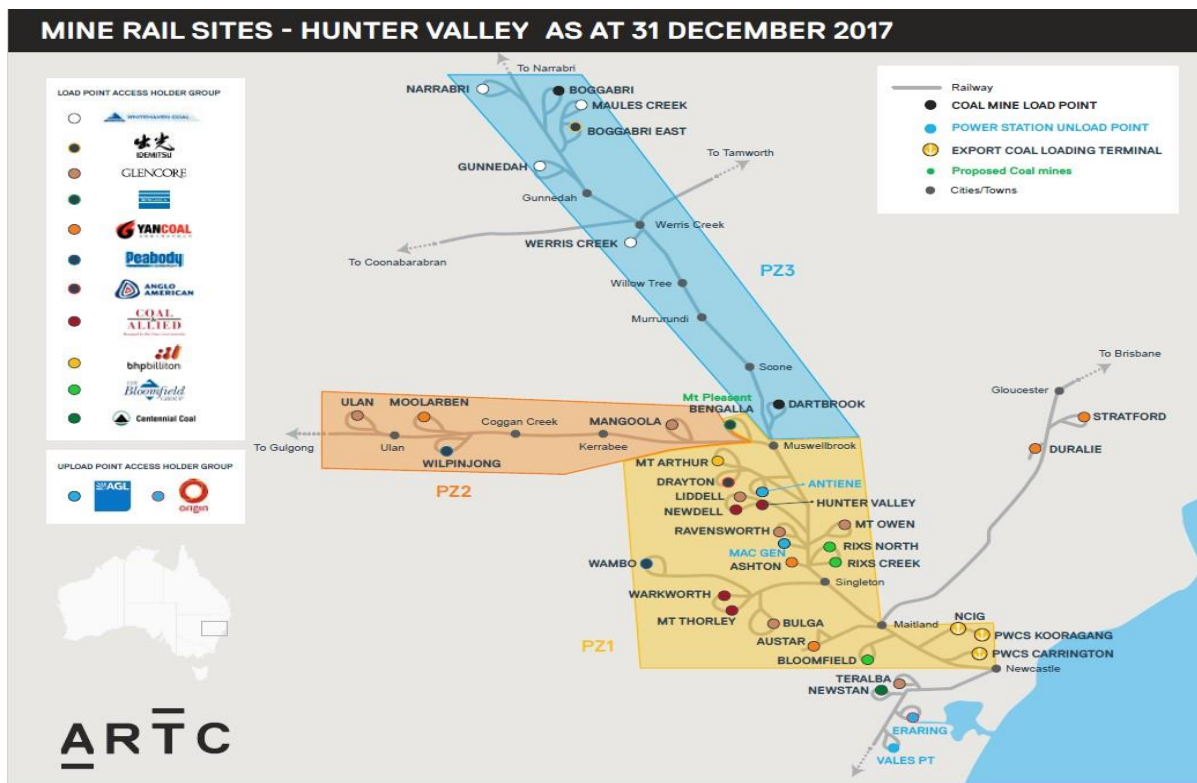
ARTC is an Australian Government-owned corporation. It was established in 1998 to be the single point of contact for parties seeking to run trains on the Australian Interstate rail network and the Hunter Valley rail network in New South Wales.

The Hunter Valley coal chain is the largest export coal supply chain in the world and is predominantly used to transport coal from mines in the Hunter Valley region to the Port of Newcastle, for export to international customers, and to domestic consumers, such as power stations. It is also used by non-coal traffic, including general and bulk freight services (such as grain) and passenger services. ARTC has a natural monopoly over the below-rail infrastructure used to transport coal from the Hunter Valley to the Port of Newcastle.

As illustrated in Figure 1, the Hunter Valley network is divided into Pricing Zones (Zones),³ where:

- Zone 1 contains the oldest mines and extends from the Port of Newcastle to Muswellbrook. Traffic from the other zones must traverse Zone 1 to reach the port
- Zone 2 extends east from Muswellbrook to Ulan
- Zone 3 includes the newest mines and extends from Muswellbrook north to Narrabri.

Figure 1: Hunter Valley rail network – Pricing Zones



Source: ARTC.

³ As defined in schedule E of the HVAU, Zone 1 comprises 24 individual segments, Zone 2 has 4 segments, and Zone 3 has 8 segments. Zone 1 does not include Islington Junction (Newcastle) south to Vales Point, nor Telarah (Maitland) to Stratford.

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The HVAU is a voluntary access undertaking between ARTC and the ACCC pursuant to Part IIIA of the *Competition and Consumer Act 2010* (CCA). It establishes the framework for regulation of the Hunter Valley network. The ACCC accepted the original HVAU on 29 June 2011 and has accepted multiple variations and extensions since, most recently Version 8 on 2 June 2021.

Version 6 of the HVAU (accepted by the ACCC on 29 June 2017) is applicable to this compliance assessment (i.e. 2018), although payment terms in section 4J.10(f) of Version 8 are also applicable.⁴ References to the HVAU in this document are references to Version 6, unless otherwise stated.

All variations and extensions to the HVAU are available on the ACCC's website:
<https://www.accc.gov.au/regulated-infrastructure/rail/artc-hunter-valley-access-undertaking>

The objectives of the HVAU are to:

- provide a framework to manage negotiations between ARTC and access seekers
- establish a workable, open, non-discriminatory, efficient and inclusive process for access seeker applications
- promote transparency
- balance ARTC's legitimate business interests, the interest of the public and the interests of access seekers
- provide an efficient and effective dispute resolution process
- ensure compliance with Part IIIA of the CCA and the Competition Principles Agreement.

1.2. Annual compliance assessment

Table 1 shows the ACCC's obligations under the HVAU in relation to the ACCC's annual compliance assessment, and the relevant chapters of this final determination for those requirements.

Table 1: Annual compliance obligations for the ACCC in the HVAU

HVAU Section	Obligation	Final Determination Chapter	ACCC assessment for 2018
4.10(d)(i)	Determine whether ARTC has undertaken the roll forward of the RAB in accordance with the HVAU (and if not undertaken in accordance with the HVAU, determine what the closing RAB should be)	Chapter 6.2	ARTC has undertaken the roll forward of the RAB in accordance with the HVAU. The closing RAB is: \$775 228 292.
4.10(d)(i)	Determine whether ARTC has undertaken the roll forward of the RAB Floor Limit in accordance with the HVAU (and if not undertaken in accordance with the HVAU, determine what the closing RAB Floor Limit should be)	Chapter 5.1 (Constrained Network) Chapter 6.1 (Zone 3)	ARTC has undertaken the roll forward of the RAB Floor Limit in accordance with the HVAU, resulting in closing values of: Constrained Network: \$1 433 058 990 Zone 3: \$713 877 261.

⁴ See 4A.1(c) of Version 8 of the HVAU, as published by the ACCC on 2 June 2021 (available at: <https://www.accc.gov.au/system/files/HVAU%20version%208%20-%20effective%201%20July%202021.pdf>).

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HVAU Section	Obligation	Final Determination Chapter	ACCC assessment for 2018
4.10(d)(ii)	Determine whether ARTC has undertaken calculations relevant to reconciliation of Access revenue with the applicable Ceiling Limit	Chapter 5.2	ARTC has undertaken the relevant calculations for reconciliation of Access revenue and the applicable Ceiling Limit for the Constrained Network correctly. Access revenue: \$226 630 280 Applicable Ceiling Limit: \$256 660 814.
4.10(d)(ii)	Determine whether ARTC has undertaken calculations of any allocation of the total unders and overs amount in accordance with the HVAU (and where calculations are not in accordance with the HVAU, determine what total unders and overs amount allocation would be in accordance with the HVAU)	Chapter 5.3	ARTC has undertaken calculations of the allocation of the total unders amount for the Constrained Network for 2018 in accordance with the HVAU. Under recovery from Constrained Network Access Holders: \$30 029 466.
4.10(e)	Determine whether ARTC has incurred Efficient costs and Efficient operating expenditure, in accordance with section 4.5(b), and if necessary determine the change to the total unders and overs amount or allocation and the closing RAB in section 4.4(a)	Chapter 4	ARTC has incurred Efficient costs and Efficient operating expenditure in accordance with section 4.5(b) for 2018. No change is required for the total unders and over amount or allocation and the closing RAB. Efficient operating expenditure: Constrained Network: \$127 209 487 Zone 3: \$61 259 301.
4.10(f)(xi)	Review the final audit report for the annual true-up test undertaken by an independent auditor. Decide, and notify ARTC of, any amounts of underpayment of rebates that are owing to Access Holders or amounts of overpayment of rebates ARTC is entitled to recover.	Chapter 7	The annual true-up test was undertaken by an independent auditor (RSM Australia). There are no underpayment or overpayments of rebates.

Source: ACCC, based on HVAU version 6.

Appendix A outlines the relevant annual compliance assessment provisions from the HVAU.

1.3. ARTC's 2018 compliance submission

On 23 December 2020, ARTC submitted its annual compliance documentation for the 2018 calendar year. On 15 January 2021, ARTC resubmitted some documents to correct minor errors and omissions. The ACCC subsequently published the amended submission on 4 February 2021.

When responding to an information request from the ACCC, ARTC identified an input error for its allocation of overhead costs for the Hunter Valley network. This resulted in an over allocation of costs to the Hunter Valley network and inflated the Ceiling Limit (Economic Cost) for the Constrained Network and the closing RAB for Zone 3.

To rectify this error, ARTC resubmitted its annual compliance submission and its 2018 financial model data on 17 June 2021. The ACCC published ARTC's revised submission on the ACCC website on 28 June 2021. ARTC informed the RCG of the error at the June 2021 RCG meeting.⁵

⁵ The Rail Capacity Group is the main industry consultation and engagement vehicle for ARTC and Access Holders.

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Table 2 shows a comparison between ARTC's 15 January (original) and 17 June (revised) submissions. The majority of the difference between the original and revised operating expenditure falls under the Corporate Overheads cost category (\$0.81 million), but a small portion falls under the Business Unit Management cost category (\$0.08 million).

Table 2: Comparison of ARTC's original and revised submissions

	Original submission	Revised submission	Revised minus original
Total operating expenditure	\$189,355,857	\$188,468,788	-\$887,069
Constrained Network			
Operating expenditure	\$127,898,910	\$127,209,487	-\$689,423
Ceiling Limit (Economic Cost)	\$257,349,702	\$256,660,280	-\$689,423
Access Revenue	\$226,630,814	\$226,630,814	\$0
Under recovery	-\$30,718,889	-\$30,029,466	\$689,423
Zone 3			
Operating expenditure	\$61,456,947	\$61,259,301	-\$197,646
Closing RAB	\$775,425,938	\$775,228,292	-\$197,646
Closing RAB Floor Limit	\$713,877,261	\$713,877,261	\$0
Loss capitalisation balance	-\$61,548,677	-\$61,351,031	\$197,646

Source: ACCC, based on ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Submission*, 17 June 2021 and ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Submission*, 15 January 2021.

Table 2 demonstrates that ARTC's revised submission lowered operating expenditure by around \$0.89 million. This resulted in an approximately \$0.69 million lower under recovery for the Constrained Network and an approximately \$0.20 million lower loss capitalisation balance for Zone 3.

The most recent version of ARTC's public submission is available on the ACCC's website: <https://www.accc.gov.au/regulated-infrastructure/rail/artc-hunter-valley-annual-compliance/annual-compliance-assessment-2018/compliance-submission>

ARTC submitted its financial model and its overhead cost allocation model to the ACCC on a confidential basis. The financial model details the calculations of costs and revenue, and outcomes for unders and overs and loss capitalisation.

1.4. Consultation paper

On 16 February 2021, the ACCC published a consultation paper inviting comments from interested parties on ARTC's 2018 annual compliance documentation. The ACCC received one submission, from the Hunter Rail Action Task Force (HRATF). Key points from the submission are set out throughout this document.

The ACCC did not consider it necessary to undertake additional consultation on ARTC's revised June submission, noting that ARTC had notified Access Holders directly, the error is in favour of Access Holders and the annual compliance assessment is behind schedule. No Access Holder or HRATF approached the ACCC with any concerns relating to this matter.

On 26 June 2021, ARTC published a letter responding to HRATF's submission. The ACCC published this letter on its website on the same day as this Final Determination.

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The consultation paper, HRATF's submission and ARTC's letter are available on the ACCC's website at: <https://www.accc.gov.au/regulated-infrastructure/rail/artc-hunter-valley-annual-compliance/annual-compliance-assessment-2018>

1.5. ARTC's 2019 and 2020 compliance submissions

There is currently a large time lag between the compliance year being assessed and when the ACCC's final determination for that year is published. For example, in 2021 the ACCC assessed ARTC's compliance for the 2018 calendar year. This is due to extended assessments for 2013 and 2015.

ARTC has hired additional resources to assist with this acceleration. As agreed between the ACCC and ARTC, and documented in section 4J.10(g) of Version 8 of the HVAU, ARTC will provide a single submission for 2019 and 2020.

A joint assessment should provide some economies of scale, and will make a significant difference to the approximate two year time lag between the compliance year and ACCC assessment.

1.6. Further information

If you have any queries about any matters raised in this document, please contact:

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2. HVAU Financial Model

2.1. Introduction

Section 4 of the HVAU regulates the amount of revenue that ARTC is entitled to recover from Access Holders for the Hunter Valley Rail Network,⁶ by implementing revenue Floor and Ceiling Limits:

- The Floor Limit is the minimum revenue that ARTC is allowed to receive from Access Holders and is defined by the 'direct costs' and 'incremental costs' of providing services.⁷
- The Ceiling Limit is the maximum amount of revenue that ARTC is entitled to receive from Access Holders, defined in the HVAU as the Economic Cost of providing services.
 - The Economic Cost of providing services is calculated using a building block model and incorporates allowances for return on assets, return of assets (depreciation) and efficient operating expenditure.
- The calculation of the Economic Cost, therefore, also requires a regulatory valuation of assets. Two concepts of asset value, defined in section 4.4 of the HVAU, are:
 - The RAB Floor Limit, which is the value of ARTC's fixed assets.⁸
 - The RAB, which applies only to Zone 3 and is the sum of the value of fixed assets and the accumulated losses incurred in Zone 3.

Costs are divided into incremental and non-incremental costs.

The reconciliation of revenue and costs is applied differently for different zones in the Hunter Valley network:

- Zones 1 and 2 form the Constrained Network, which has an 'unders and overs' framework that enables ARTC to recover just the Economic Cost of providing services.
- Zone 3 is currently unconstrained – its losses have been accumulated into a loss capitalisation account, which is to be set to zero as at 31 December 2022. At that time, the loss capitalisation account will be closed and Zone 3 will become part of the Constrained Network.

The Constrained Group of Mines and Constrained Coal Customers, corresponding to the Constrained Network, are defined in section 14.1 of the HVAU.

'Constrained Group of Mines' means the group of mines and unloading points that are serviced by Coal Trains, where the operation of those Coal Trains is entirely within the Constrained Network and where access revenue on those Segments forming the Constrained Network is:

- a) closest to if less than; or
- b) exceeds by the largest amount;

⁶ Capitalised terms throughout this Final Determination are defined in the HVAU.

⁷ The HVAU (section 14.1) defines:

- 'direct costs' to mean efficient maintenance expenditure and other costs that vary with the usage of the network but excluding depreciation;
- 'incremental costs' as all costs that could be avoided in the medium term if a segment was removed from the network.

⁸ The RAB Floor Limit is the more traditional type of asset base used in building block models for other industries, where it is known just as the RAB.

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the Economic Cost for the Constrained Network.

Any customer that starts or finishes their route outside of the Constrained Network cannot be considered a Constrained Customer, and thus is not included within the over and under assessment.

These concepts are explained further below.

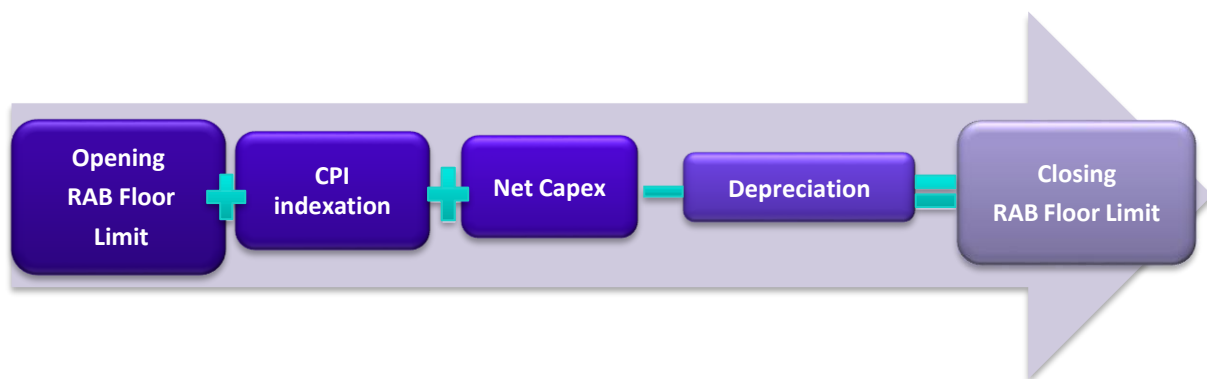
2.2. RAB Floor Limit

The RAB Floor Limit is used to:

- calculate the return on and return of assets, which are components of Economic Cost for the Constrained Group of Mines
- determine if 'loss capitalisation' continues to apply in Zone 3.

Figure 2 illustrates the components of the RAB Floor Limit, as set out in Section 4.4(b) of the HVAU.

Figure 2: RAB Floor Limit



Source: ACCC, based on HVAU version 6.

2.2.1. Consumer price index

The Consumer Price Index (CPI) is used to maintain the real (underlying) value of assets. CPI indexation is based on the percentage increase in Sydney CPI from the September quarter of the previous year to the September quarter of the year under assessment.

2.2.2. Net capital expenditure

Net Capital Expenditure is the sum of ARTC's capital expenditure commissioned during the year, plus interest incurred during construction of capital projects up until 1 July in the calendar year the asset was commissioned, less the written down value of disposed assets.

The HVAU allows ARTC to recover interest costs incurred during construction, up until 1 July in the calendar year that the asset was commissioned (and determined by reference to the appropriate rate of return).⁹

⁹ See section 4.4 of the HVAU.

2.2.3. Depreciation

Depreciation (also referred to as 'return of assets') represents the consumption of the asset. Section 4.7 of the HVAU sets out that depreciation will be calculated for each year on a straight-line basis; that is, annual depreciation equals the asset value (RAB Floor Limit) divided by the remaining number of years of its useful life. The useful life of HVAU assets has been based on the remaining mine life, deemed to be 23 years commencing 1 July 2016, and therefore 21.5 years at the beginning of 2018.¹⁰

2.2.4. Closing RAB Floor Limit

The closing value of the RAB Floor Limit for the year becomes the opening value for the following year and is used to calculate the capital charge components of Economic Cost (depreciation and return on assets), detailed below.

2.3. Economic Cost

The key component of the Ceiling Limit Test is the Economic Cost. Figure 3 illustrates the components (or 'building blocks') of Economic Cost for the Constrained Group of Mines.

Figure 3: Components of Economic Cost



Source: ACCC, based on HVAU version 6.

2.3.1. Operating costs

Operating costs primarily comprise ARTC's infrastructure maintenance, business unit management, corporate overhead and network control costs, and net loss on disposals.

Net loss on disposals is the written down value of disposals (see sub-chapter 2.2.2) offset by sale proceeds (scrap value) of the asset.

Operating costs can be split into direct and indirect costs. Direct costs are attributable to particular segments, while indirect costs are allocated across segments and zones on the basis of cost allocators.

2.3.2. Depreciation

Depreciation, or return of assets, represents the consumption of the asset, as outlined above for the calculation of the RAB Floor Limit.

2.3.3. Return on assets

The return on assets is calculated by multiplying the real pre-tax rate of return by the average RAB Floor Limit. The average RAB Floor Limit is the average of the opening and closing asset values for the year. The value of the rate of return is set in section 4.8 of the HVAU. The real pre-tax rate of return is 5.38% for 2018.

¹⁰ s.4.7(c) Version 6 of the HVAU, accepted by the ACCC on 29 June 2017.

2.4. Incremental and fixed costs

HVAU costs are further divided into Incremental and fixed costs.

Incremental Cost is defined as all costs that could be avoided in the medium term if a segment was removed from the network, and includes two components:

- incremental (or variable) maintenance costs
- incremental capital costs, which are avoidable capital costs within Zone 1, incurred after 1 July 2008, and not endorsed as fixed costs by the RCG.

The Incremental Cost attributable to usage of Zone 1 by Zone 3 Access Holders is effectively charged to Zone 3 Access Holders by:

- removing the amount from the Economic Cost for Constrained Coal Customers (i.e. Zone 1 and 2 Access Holders)
- in the calculation of the Zone 3 RAB, deducting the Incremental Cost from the amount of actual revenue paid by Zone 3 Access Holders.

2.5. Ceiling Limit Test

The HVAU applies the Ceiling Limit Test for the Constrained Group of Mines, which compares access revenue with the Economic Cost, as illustrated in Figure 4. If revenue exceeds the Economic Cost (being the Ceiling Limit) in a compliance period, there is an over recovery and ARTC is required to refund the amount to Access Holders. If revenue is less than Economic Cost, ARTC is entitled to recoup the under-recovered revenue from Access Holders.

Figure 4: Ceiling Limit Test



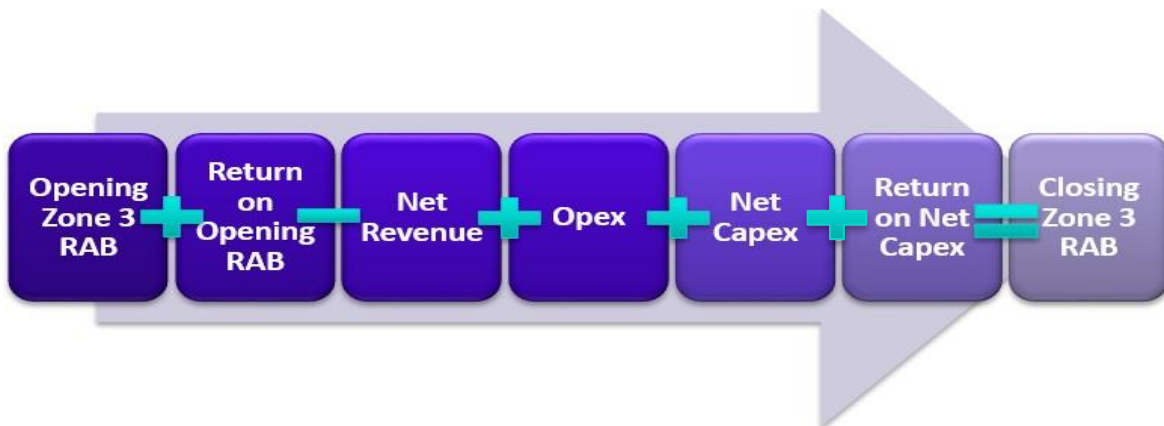
Source: ACCC, based on HVAU version 6.

Section 4.9 of the HVAU details the method by which ARTC calculates the overs or unders amounts to be refunded or charged to individual Access Holders. The amount assigned to each Access Holder is based on the proportion of Access Revenue paid by that Access Holder.

2.6. RAB and loss capitalisation for Zone 3

Zone 3 contains the newer mines which, when Zone 3 was first built, were unable to pay their full Economic Cost as they had not yet reached full production. ARTC therefore incurred losses on Zone 3, but was allowed to capitalise these losses into the Zone 3 regulatory value of assets so that they could be recovered in future periods. This requires the calculation of the RAB: the sum of the value of fixed assets and the accumulated losses incurred in Zone 3, as defined in section 4.4(a) of the HVAU and illustrated in Figure 5.

Figure 5: RAB Model



Source: ACCC, based on HVAU version 6.

The calculation of the RAB involves:

- The opening and closing RABs for Zone 3, which function in the same way as those in the RAB Floor Limit. That is, the opening value at the start of a year is equal to the closing value at the end of the previous year.
- The return on opening RAB, which is the product of the nominal pre-tax rate of return and the opening RAB. The nominal pre-tax rate of return is 7.91% for 2018 (as per section 4.8 of the HVAU).
- Net Revenue, which refers to access revenue paid by Access Holders originating in Zone 3 for all segments they use – both in Zone 1 and Zone 3. However, the net revenue included in the RAB is the gross revenue paid, less the variable and incremental costs attributed to Zone 3 Access Holders for their use of Zone 1.
- The operating expenditure, which is consistent with the operating expenditure used within the Economic Cost calculation, but relates to that incurred in Zone 3.
- Net capital expenditure, which is the same as the net capital expenditure in the RAB Floor Limit.
- The return on Net Capex, which is the nominal rate of return applied to half of the net capital expenditure. A half year return is based on the assumption that the capital expenditure occurs evenly across the year. The remaining capital expenditure is factored into the RAB in the following year.

2.7. Real and nominal data

This Final Determination presents real and nominal data.

Nominal data includes the impact of inflation and (for example) is used when ARTC reports its financial information in its annual reports, publishes prices and reports values within its submission for this compliance assessment. In contrast, real data allows a comparison of values over time, as it removes the impact of inflation from the values.

Values in this Final Determination are in nominal terms, unless stated otherwise.

3. Prudence of capital expenditure

Net capital expenditure is included in the RAB and RAB Floor Limit (as shown in Figure 2 and Figure 5), provided that the capital expenditure, interest during construction, and written down value of disposals are incurred on a prudent basis.

Section 4.10(d)(iii) of the HVAU provides that the ACCC will accept that capital expenditure as prudent if the RCG has endorsed the capital expenditure in accordance with the consultation obligations set out in section 9 of the HVAU. Where expenditure has not been endorsed by the RCG, the ACCC will assess expenditure having regard to the relevant factors in the definition of prudent in the HVAU.¹¹

The ACCC also has regard to the definition of prudent in the HVAU when assessing prudence of interest incurred during construction and loss on disposals.

The RCG is a representative group made up of a range of stakeholders, including Access Holders (with voting rights) and above-rail operators and the Hunter Valley Coal Chain Coordinator (in a non-voting capacity).

3.1. Total net capital expenditure

Table 3 shows ARTC's 2018 total net capital expenditure by component.

Table 3: Capital expenditure, 2018 (\$)

Category	Constrained Network	Zone 3	Total
Major capital expenditure	129,199	-	129,199
Minor capital expenditure (Corridor Capital)	51,215,463	16,571,180	67,786,644
Interest during construction	435,425	-	435,425
Disposal value	(11,117,103)	(1,559,047)	(12,676,150)
Net capital expenditure	40,662,984	15,012,134	55,675,118

Source: ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Submission*, 17 June 2021, pp. 11 and 14.

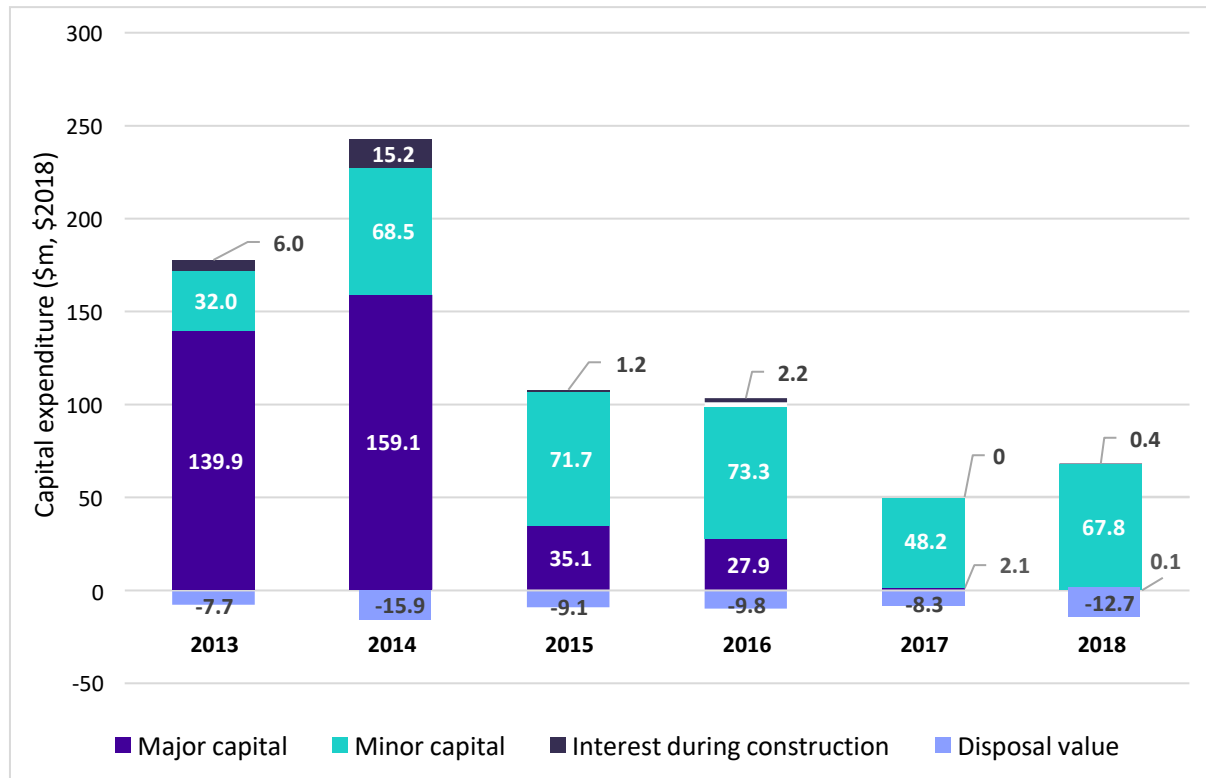
Note: Totals may not add due to rounding.

In 2018, ARTC sought to roll forward total net capital expenditure of \$55.7 million into its regulatory value of assets. This was 35% higher than the net capital expenditure in 2017 (\$41.2 million).

Figure 6 shows a breakdown of capital expenditure components in real terms from 2013 to 2018.

¹¹ 'Prudent' is defined in section 14.1 of the HVAU.

Figure 6: Capital Expenditure components (real \$2018), 2013 to 2018



Source: ACCC final determinations for HVAU annual compliance, 2013-2017; ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Submission*, 17 June 2021, p 14.

Figure 6 shows that, in real terms, 2018 was the first increase in total net capital expenditure since 2014 and that 2018 expenditure was significantly below expenditure levels reported from 2013 to 2016.

Figure 6 also shows that the balance of capital expenditure has changed from predominantly major to minor. This change has occurred as the major capacity expansions for Zone 3 is now completed and ARTC is now focusing its capital expenditure on improving utilisation, reliability and safety.

3.2. Major capital expenditure

Major capital expenditure relates to projects that create additional capacity in the network.

ARTC submitted major capital expenditure of \$129,000 relating to four projects in the Constrained Network. This was all post-commissioning expenditure, as no new major projects were commissioned in 2018. This is historically low and significantly lower than the \$159.1 million (real terms) recorded in 2014, as shown in Figure 6.¹² This major capital expenditure was approved by the RCG.

3.3. Minor (corridor) capital expenditure

Minor capital expenditure (also known as 'corridor capital') relates to projects that are minor in scope or cost. A project would typically be considered minor if it relates to ongoing annual programs for asset replacement, cost reduction or safety-related projects, rather than additional capacity.

¹² The highest major capital expenditure, \$502.2 million in real terms, was recorded in 2012.

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Section 9.1(e)(ii) of the HVAU provides that ARTC will consult on groups of minor projects, rather than individual projects. ARTC submits a program of minor projects to the RCG for review, generally for a range of purposes in a particular zone or a particular activity, such as re-railing.

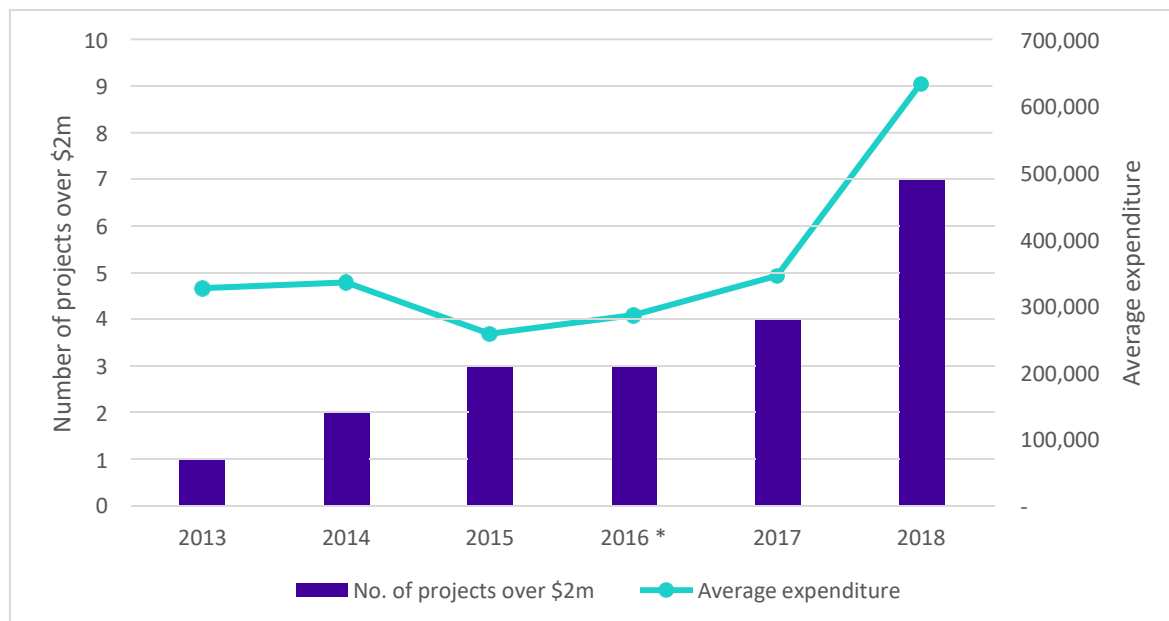
The RCG may endorse the program. As part of the endorsement process, ARTC will set out the total budget for the program and project-specific amounts. However, the RCG does not endorse individual projects.

ARTC's internal governance processes allow project-specific overspends to be offset by underspends, with project-specific variances reported to the RCG.¹³

In 2018, ARTC reported 107 minor capital projects with a total expenditure of \$67.8 million for inclusion in the RAB Floor Limit; \$51.2 million for the Constrained Network and \$16.6 million for Zone 3.

Figure 7 shows the number of 'significant' minor capital projects (i.e. projects with expenditure over \$2 million) from 2013 to 2018. It also shows the average expenditure for all minor capital projects.

Figure 7: Significant minor capital projects (> \$2M), 2013 to 2018



Source: ARTC, *Capital expenditure by project* (confidential attachment) submissions, 2013-2018.

Figure 7 illustrates that the number of 'significant' minor capital projects is trending upwards, with 7 projects in 2018 being greater than \$2 million. The largest project commissioned in 2018 was the Gowrie Gates Bridge Stage 1 project in Zone 1. Total expenditure on this project was \$9.4 million.

Additionally the average expenditure for all minor capital projects has been trending upwards since 2015, with a large increase in 2018.

This reflects an increased tendency towards larger minor projects since 2013.

¹³ ARTC, *Hunter Valley Coal Network Access Undertaking 2018 Annual Compliance Assessment Attachment2: Capital Consultation* (confidential), 23 December 2020, p.3.

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ARTC has demonstrated that minor projects included in its 2018 expenditure were part of programs endorsed by the RCG in recent years. Total expenditure exceeded the endorsed amount for some minor project programs, such as the 2018-19 package for Zone 2. ARTC reported the variances to the RCG on a quarterly basis and total expenditure on the whole minor capital program was within the endorsed total amount.¹⁴

3.4. Interest during construction

ARTC submitted interest during construction of \$435,000, relating to the Gowrie Gates Bridge Stage 1 project in Zone 1. The capital expenditure was within the amount endorsed by the RCG for Gowrie Gates Bridge, and the ACCC is satisfied that the calculation of interest during construction was consistent with the HVAU.

3.5. Written down value of disposals

ARTC submitted that capital works resulted in asset disposals with a total written down value of approximately \$12.7 million in 2018. This was an increase of \$4.5 million from 2017 and was primarily due to the replacement of weighbridges, track strengthening and re-railing in Zones 1 and 2. ARTC also reported higher written-down values for re-railing in some areas, reflecting increased frequency of rail replacement due to the track geometry, increased volumes and heavier rail traffic, which is resulting in higher wear rates.¹⁵

As discussed in chapter 4.7, ARTC recovered \$0.6 million in sales proceeds from the disposed assets, resulting in a net loss on disposals of \$12 million.¹⁶

3.6. ACCC capital expenditure determination for 2018

The RCG approved all major capital expenditure submitted by ARTC. ARTC has demonstrated that minor projects included in its 2018 expenditure were part of programs endorsed by the RCG in recent years.

The ACCC's Final Determination is that ARTC has demonstrated prudence of its capital expenditure. It is therefore appropriate for ARTC to use net capital expenditure shown in Table 3 when rolling forward the:

- RAB Floor Limit for the Constrained Network
- RAB and RAB Floor Limit for Zone 3.

¹⁴ ARTC provided the ACCC with its confidential quarterly reports to the RCG which show its progress on costs and budget variances.

¹⁵ ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Submission*, 15 January 2021, p.19.

¹⁶ Rounding accounts for the difference.

4. Efficiency of operating expenditure

Section 4.10(e) of the HVAU requires the ACCC to determine whether ARTC has incurred efficient operating expenditure. Efficient operating expenditure is one component of Economic Cost (see sub-chapter 2.3).

'Total operating expenditure' in this Final Determination can refer to expenditure for the:

- Constrained Network and Zone 3, which is expenditure relating to constrained segments in Zones 1 and 2, and the costs included in the RAB for Zone 3 (which exclude variable maintenance costs incurred by Zone 3 Access Holders in Zone 1) (see sub-chapter 2.4). This is used in Table 4 and Figure 8.
- Hunter Valley coal network, which is expenditure relating to coal services across all segments of the Hunter Valley coal network. This is used in all other charts and tables in Chapter 4, and is used to assess changes in and efficiency of operating expenditure.

ARTC may also refer to expenditure for the Hunter Valley network in its submission. This refers to expenditure relating to all services (coal and non-coal) provided in the Hunter Valley. The ACCC only assesses expenditure relating to coal services (i.e. as listed above).

4.1. Overview of 2018 total operating expenditure

ARTC submitted that it incurred operating expenditure of \$127.2 million for the Constrained Network and \$61.3 million for Zone 3 in 2018.

Table 4 shows ARTC's submitted operating expenditure for the Constrained Network and Zone 3 in 2018 by category from its revised submission.

Table 4: Overview of total operating expenditure, 2018 (\$)

Component	Constrained Network	Zone 3	Total
Infrastructure maintenance	62 726 480	42 479 069	105 205 548
Business unit management	25 867 897	8 277 337	34 145 234
Corporate overheads	17 756 383	4 832 558	22 588 941
Network control	11 626 260	4 152 236	15 778 496
Net loss on disposals	9 232 467	1 518 102	10 750 569
Total operating expenditure	127 209 487	61 259 301	188 468 788

Source: ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Submission*, 17 June 2021, pp.11, 22.

Notes: Table shows operating expenditure for the Constrained Network and Zone 3.
 The 'total' column refers to combined expenditure for the Constrained Network and Zone 3.
 Expensed projects reflect the development cost of projects, as approved by the RCG that have since been determined to be no longer required. There were no projects expensed during 2018.
 Totals may not add due to rounding.

As per Table 2, this value has been decreased by \$0.9 million from ARTC's January 2021 submission to its June 2021 submission (see sub-chapter 1.3).

The majority of ARTC's operating expenditure related to infrastructure maintenance (56%), followed by business unit management (18%) and corporate overheads (12%). Individual categories are discussed below.

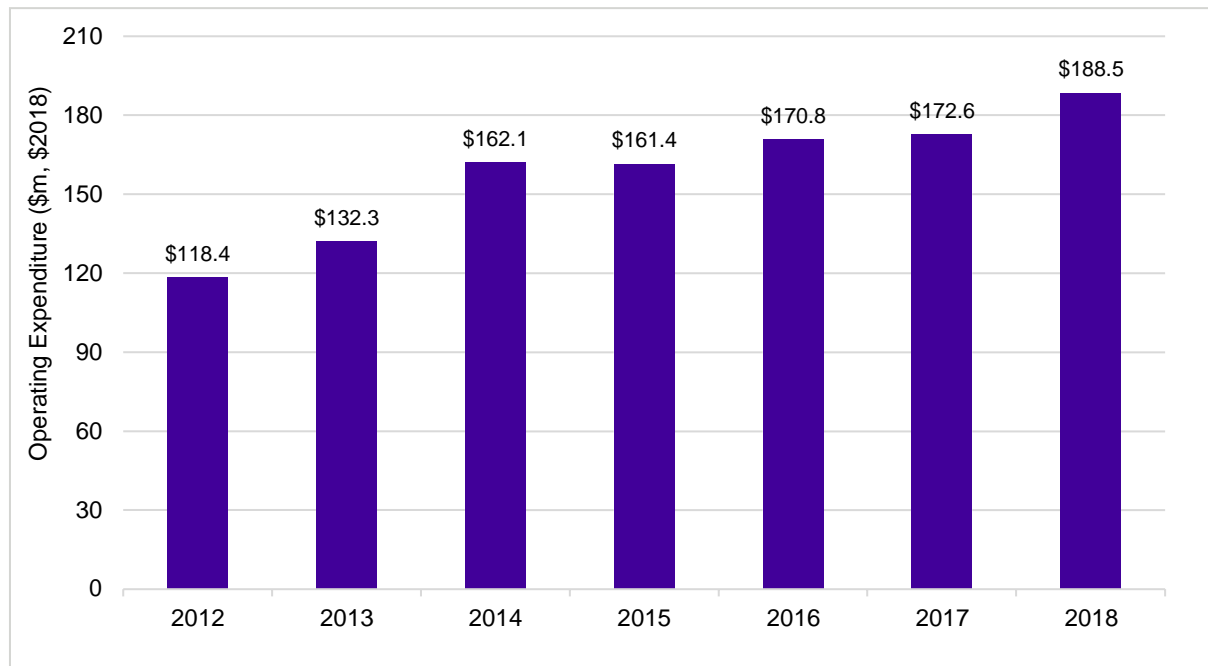
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The ACCC's assessment of ARTC's operating expenditure comprises an analysis of ARTC's change in operating expenditure over time, by removing inflation and taking into account change in volumes and environmental factors (such as extreme heat and flooding).

4.2. Total operating expenditure

Figure 8 shows ARTC's operating expenditure for the Constrained Network and Zone 3 from 2012 to 2018 in real terms (i.e. without inflation).

Figure 8: Total operating expenditure (real \$2018), 2012 to 2018



Source: ACCC final determinations for HVAU annual compliance, 2012-2017; ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Submission*, 17 June 2021, pp.11, 22; Australian Bureau of Statistics, [Consumer Price Index - Table 5 CPI: Groups, Index Numbers by Capital City, Sydney](#) 2012 to 2018.

Note: Chart shows operating expenditure for the Constrained Network and Zone 3.

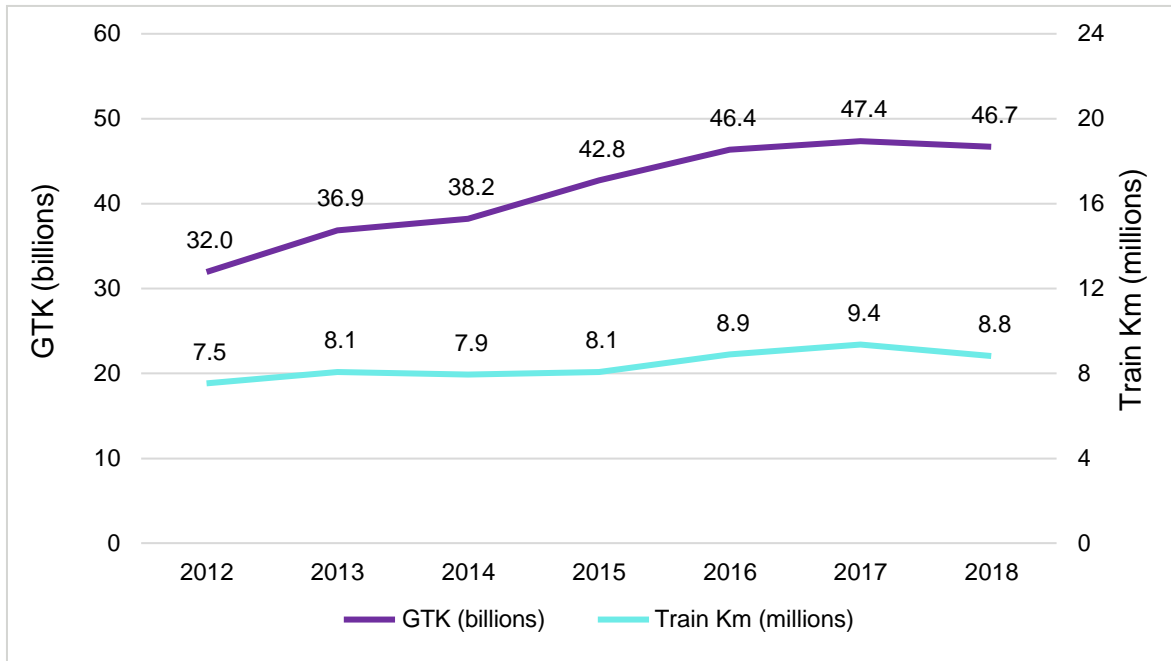
ARTC's total operating expenditure for the Constrained Network and Zone 3 was \$188.5 million in 2018, 9% higher than in 2017. Figure 8 illustrates that ARTC's operating expenditure (with inflation removed) has increased every year (except 2015) and operating expenditure set a new high in 2018.

4.2.1. Total operating expenditure per unit

The ACCC has analysed ARTC's operating expenditure on a per unit basis to take into account changes in volumes. The following analysis is based on cost per Gross Tonne Kilometre (GTK) and per Train Kilometre (Train Km).

Figure 9 shows operating volumes for the Hunter Valley on a GTK and Train Km basis from 2012 to 2018. Gross Tonne Kilometres measures gross tonnes of coal carried multiplied by the number of kilometres travelled, while Train Km is the kilometres a Train Path covers on the network.

Figure 9: Hunter Valley coal network operating volumes - GTK and Train Km, 2012 to 2018



Source: ARTC, confidential financial model 2018.

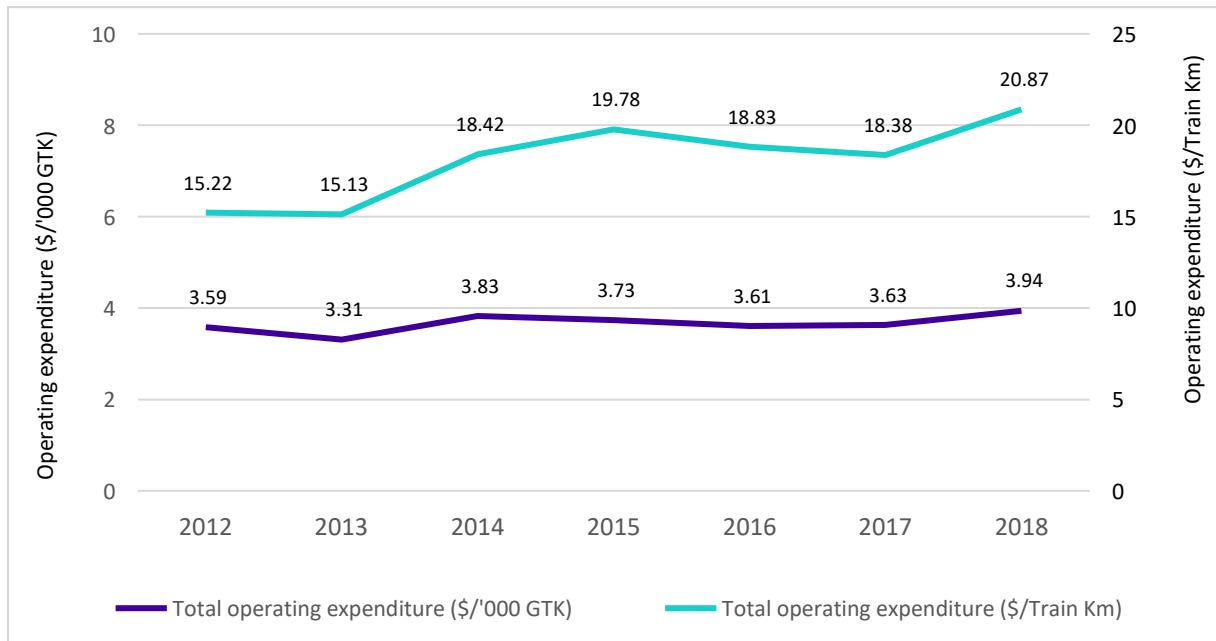
Note: Chart shows volumes for the Hunter Valley coal network.

Figure 9 shows that volumes, as measured on both a GTK and Train Kilometre basis, increased steadily between 2012 and 2018 (46% and 17% respectively), but decreased between 2017 and 2018 (1% and 6% respectively).

The higher increase in GTKs than Train Kms illustrates the impact of train operators being able to operate longer and heavier trains, resulting in relatively greater increases in volumes compared to the increase in the number of trains operating on the network.

Figure 10 shows total operating expenditure on a GTK and Train Km basis from 2012 to 2018.

Figure 10: Total Operating Expenditure per unit (real \$2018), 2012 to 2018



Source: ARTC, confidential financial model 2018; Australian Bureau of Statistics, Australian Bureau of Statistics, [Consumer Price Index - Table 5 CPI: Groups, Index Numbers by Capital City, Sydney](#) 2012 to 2018.

Note: Chart shows operating expenditure for the Hunter Valley coal network.

Figure 10 shows that total operating costs have fluctuated over time on both per GTK and per Train Km basis. However, due to the higher increase in GTK's, the per unit change relating to GTK's has been less (10%) compared to Train Km (37%).

Increases in train Km per unit rates occurred from 2013 to 2015, and 2017 to 2018. In contrast, the majority of the increase in GTK per unit rates occurred in 2018. Total operating expenditure per GTK increased 8.5% in 2018, while total operating expenditure per Train Km increased 13.6%.

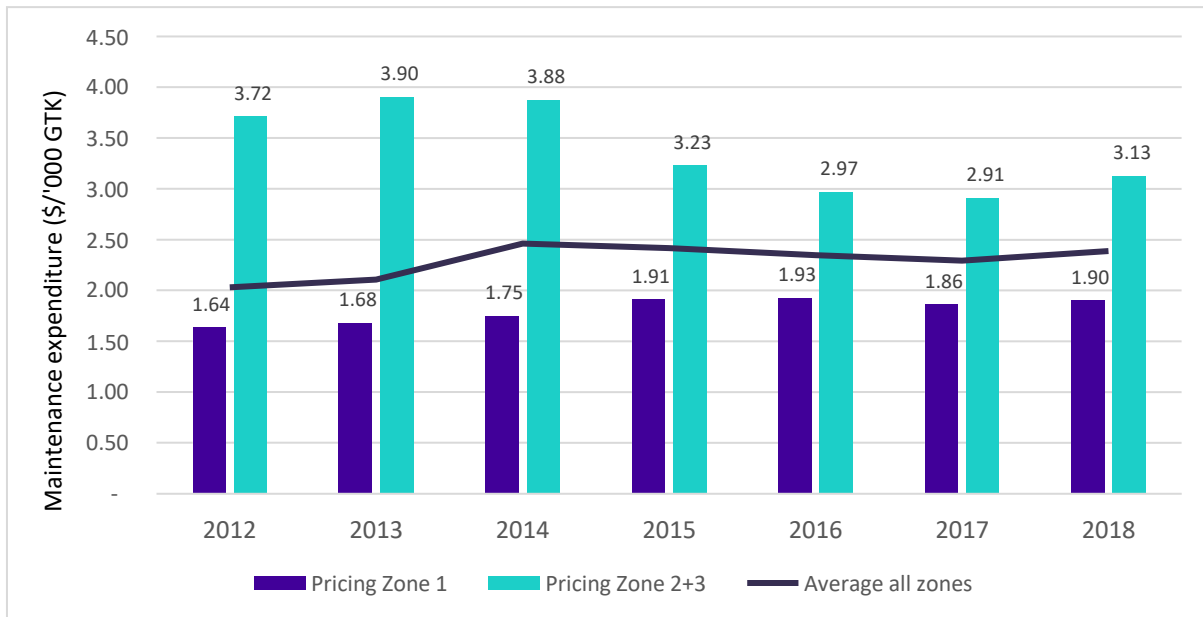
4.3. Infrastructure maintenance

ARTC submitted that its 2018 infrastructure maintenance expenditure was \$105.2 million: \$62.7 million in the Constrained Network and \$42.5 million in Zone 3. This was an increase of 7.7% and 2.4% respectively from 2017.

Figure 11 shows infrastructure maintenance expenditure for each Zone (in real terms).¹⁷

¹⁷ Zones 2 and 3 have been combined to retain confidentiality of Zone 3 volumes.

Figure 11: Infrastructure maintenance expenditure (real \$2018), 2012 to 2018



Source: ARTC, confidential financial model 2018; Australian Bureau of Statistics, [Consumer Price Index - Table 5 CPI: Groups, Index Numbers by Capital City, Sydney](#) 2012 to 2018.

Note: Chart shows expenditure for the Hunter Valley coal network.

Real infrastructure maintenance expenditure per GTK for the coal network and for Zone 1 has remained relatively stable over the past 4 years. Expenditure per GTK increased for Zones 2 and 3, and Zone 1 in 2018, but remained lower than that in 2015.

Unit costs are higher in Zones 2 and 3 than in Zone 1 due to differing environmental conditions within the Zones.

4.3.1. Major Periodic Maintenance and Routine Corrective and Reactive Maintenance

Infrastructure maintenance comprises Major Periodic Maintenance and Routine Corrective and Reactive Maintenance work programs.

Major Periodic Maintenance is typically major cyclical or planned activities that maintain the operating performance and asset life of operational infrastructure. They aim to reduce the level of defects and corrective maintenance. These activities are largely delivered within planned network closedowns and are predominantly outsourced.¹⁸

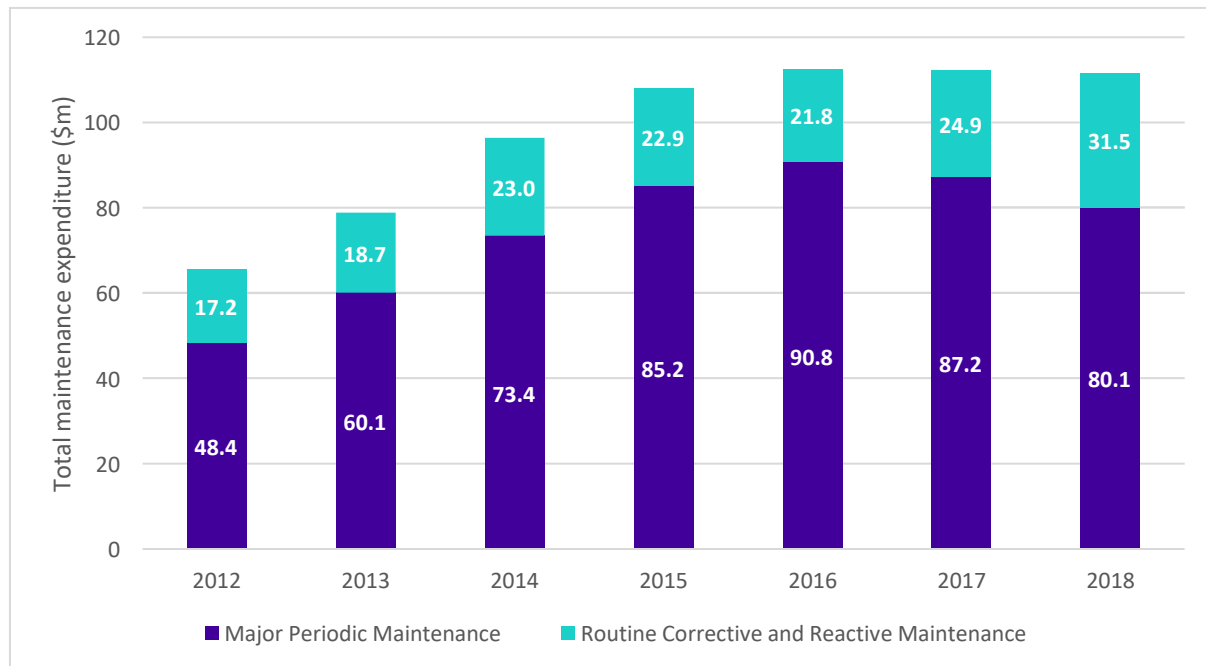
Routine Corrective and Reactive Maintenance is typically minor scheduled activities used to inspect or service asset condition on a routine basis. This work program extends to include reactive and corrective activities that are required as a result of inspections or defect identification that, because of their nature, are dealt with on the spot or as soon as is reasonably practical thereafter.¹⁹

Figure 12 shows Major Periodic Maintenance and Routine and Reactive Corrective Maintenance expenditure, in real terms, from 2012 to 2018.

¹⁸ ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Submission*, 17 June 2021, p.6

¹⁹ *Ibid*, p.6

Figure 12: Major Periodic Maintenance and Routine Corrective and Reactive Maintenance expenditure (real \$2018), 2012 to 2018



Source: ARTC, *HVAU 2018 Att 5.1 Opex Data - MPM RCRM Summary* (confidential).

Note: Chart shows expenditure for the Hunter Valley coal network.

Figure 12 illustrates that Major Periodic Maintenance accounts for the majority of ARTC's infrastructure maintenance expenditure each year. It also illustrates that ARTC's infrastructure maintenance expenditure has increased, in real terms, between 2012 and 2018, although combined expenditure in 2018 was similar to 2016 and 2017 in real terms.

In 2018, Major Periodic Maintenance decreased 6.4% (nominal terms) relative to 2017. Conversely, Routine Corrective and Reactive Maintenance increased 30.6% (nominal terms). In its response to the ACCC's consultation paper, HRATF submitted that 'ARTC has provided little by way of justification for this significant increase in 'routine' expenditure, other than noting a general tightness in the contract labour market'. HRATF queried 'the large amount spent on consultants to advise and procure a new rail grinding contract'.²⁰

The ACCC sought additional information from ARTC on this issue. ARTC provided the ACCC with the following response:

During 2018, ARTC experienced both industrial action and difficulties in retaining civil and signalling maintenance employees. Approximately \$5.1M of RCRM [Routine Corrective and Reactive Maintenance] costs in 2018 were attributed to hiring both civil and signal contractors to support the internal ARTC labour force. This spend was required to backfill vacancies within the organisational structure and address various gaps in coverage related to Protected Action taken by the workforce during a renegotiation of the Enterprise Agreement with track maintenance teams to ensure continued responsiveness to issues and performance of the network.

²⁰ HRATF, *Australian Rail Track Corporation's compliance with the Hunter Valley Coal Network Access Undertaking for 2018*, 24 March 2021, p. 2.

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During the period, ARTC experienced difficulty in attracting and retaining key staff in a highly competitive labour market. Staff turnover throughout the period was significantly higher than prior years and it was recognised that employees were exiting the business on the basis that employment conditions were more favourable with contracting companies willing to pay higher remuneration to supply increased demand generated by rail and civil infrastructure projects across the East Coast of Australia. Due to the imperative for ARTC to continue to maintain safety and performance standards on the rail network, labour was procured through the contracting market at a premium to hire in the skills required to fill critical vacancies in the maintenance teams. At the same time work commenced on a strategy to achieve a more sustainable and stable employment base.

The ACCC notes total infrastructure maintenance expenditure increased 2.3% in 2018 (nominal terms). The significant increase in Routine Corrective and Reactive Maintenance in 2018 was mostly offset by decreases in Major Periodic Maintenance expenditure.

4.3.2. Top infrastructure maintenance expenditures

In 2018, ARTC's top 10 infrastructure maintenance expenditures accounted for around 57% of total infrastructure maintenance expenditure across the Hunter Valley network. Table 5 shows the top 10 infrastructure maintenance expenditures for 2018.

Table 5: Top 10 Hunter Valley infrastructure maintenance expenditures, 2018

Expenditure category	Work program	Expenditure (\$'000)	Change from 2017 to 2018
Ballast cleaning	Major Periodic Maintenance	[confidential]	13.5%
Rail grinding	Major Periodic Maintenance	[confidential]	6.0%
Maintenance resurfacing	Major Periodic Maintenance	7 512	-11.8%
Mudhole full track reconditioning	Major Periodic Maintenance	7 095	-30.5%
Turnout steel component replacement	Major Periodic Maintenance	5 886	-0.2%
Rail defect removal	Routine Corrective and Reactive Maintenance	4 771	11.1%
Steel underbridge repairs	Major Periodic Maintenance	4 049	29.9%
Turnout resurfacing	Major Periodic Maintenance	3 338	-29.0%
Ballast undercutting	Major Periodic Maintenance	3 181	-27.1%
Turnout grinding	Major Periodic Maintenance	3 056	-0.8%

Source: ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, 17 June 2021, p.7.

Table 5 illustrates that there can be large fluctuations from year to year relating to individual expenditure lines, highlighting the importance of reviewing expenditure over a period of time, as the maintenance program is undertaken in cycles across a period of time.

The top 6 infrastructure maintenance expenditures (bolded in Table 5 above), which accounted for 46% of total maintenance expenditure in 2018 and typically appear in the top 10 expenditures each year, are discussed below.

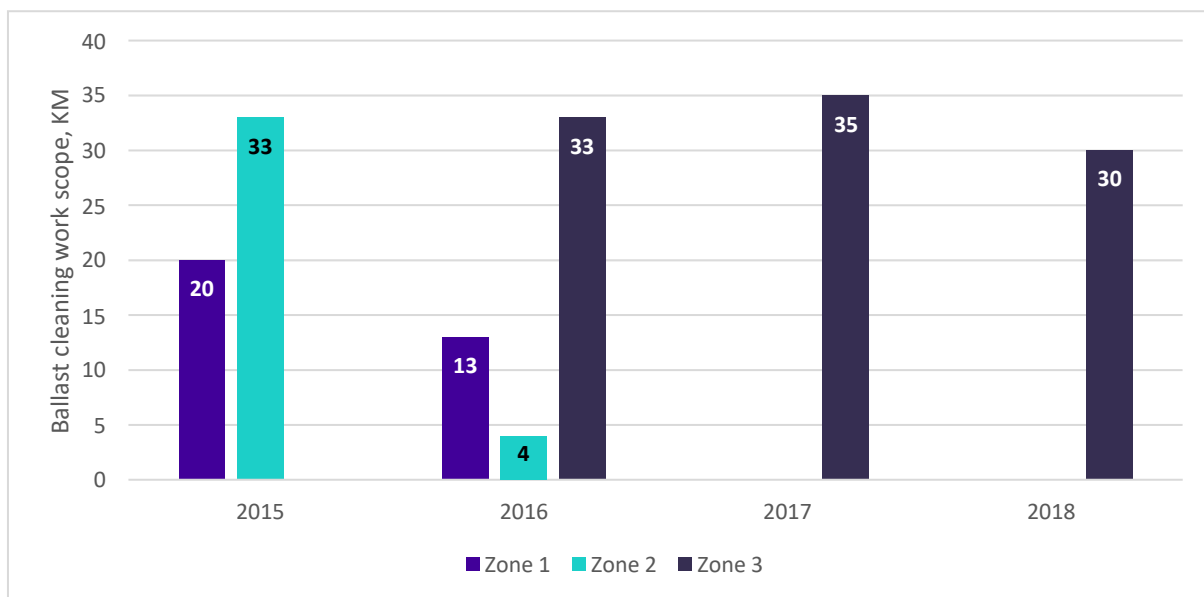
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Ballast cleaning

Ballast cleaning is a Major Periodic Maintenance work program, which replaces 'dirty', worn ballast with fresh ballast.²¹ The rate of ballast breakdown is linked to coal volumes transported along the network, the local environment and weather conditions. Ballast cleaning is undertaken in cycles, moving through Zones across numerous years. ARTC outsources ballast cleaning activities. Unit rates fluctuate year on year depending on contract rates, ballast reclamation levels, ballast age and maintenance possession scheduling.

Figure 13 shows ballast cleaning work by Zone from 2015 to 2018.

Figure 13: Ballast cleaning work by Zone, 2015 to 2018



Source: ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, p.11; ARTC, *Hunter Valley Coal Network Access Undertaking – 2016 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, p.8.

Note: No ballast cleaning work undertaken in Zone 3 in 2015, or in Zones 1 and 2 in 2017 or 2018

Ballast cleaning work (kms) focused on Zone 3 from 2016 to 2018, with work decreasing from 2017 to 2018. Despite the decreased work during the year, ballast cleaning costs increased by 13.5% in 2018. This was due to increased ballast cleaning unit rates in 2018. ARTC submitted the increased rate was 'driven by the severely degraded condition of the ballast in the section being cleaned which resulted in extremely low ballast return, high rates of ballast replacement and lower rates of productivity'.²²

²¹ Ballast cleaning is the mechanical excavation of deteriorated track ballast up to 500mm below the bottom of the sleeper across the entire track cross-section. The activity's purpose is to reinstate the function of the ballast as a free-draining medium, holding the track to its correct geometry under the passage of trains. Ballast cleaning is a cyclical maintenance activity across the network, with timing driven by the cumulative tonnages over specific segments of track.

²² ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, 15 January 2021, p. 11.

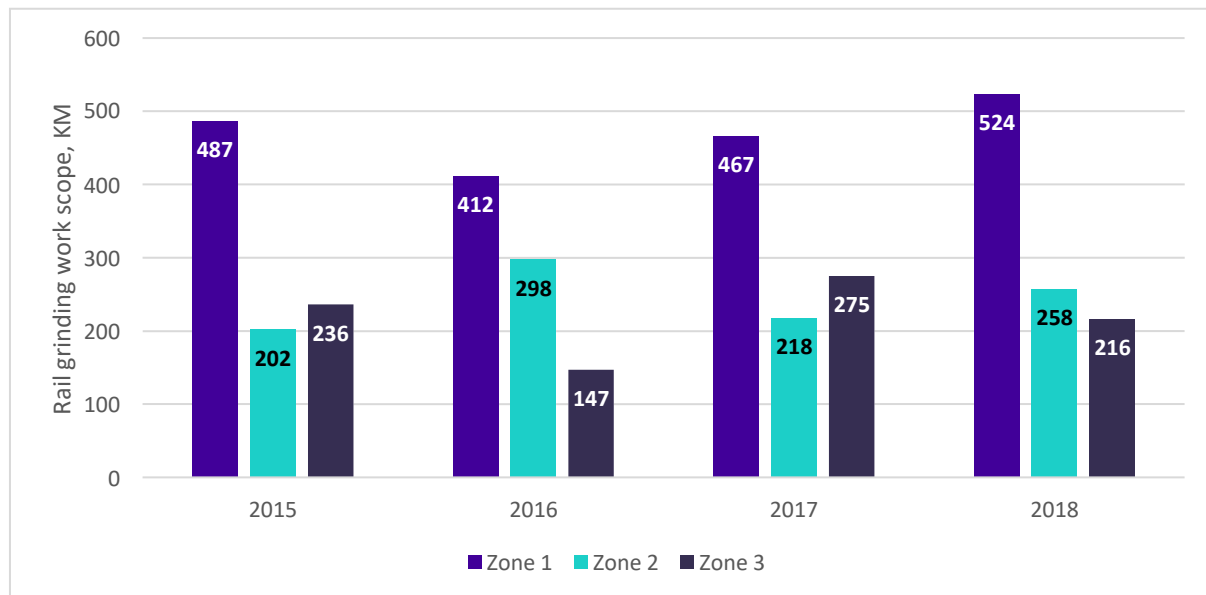
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Rail grinding

Rail grinding is a Major Periodic Maintenance work program. It is the periodic grinding of rail track to manage its profile and stress-related defect growth. Grinding improves wheel and rail interface to reduce rail and wheel wear and propagation of rail defects. Rail grinding frequency depends on rail and traffic type, tonnages and track curvature, and is a cyclical activity.²³

Figure 14 shows rail grinding work by Zone from 2015 to 2018.

Figure 14: Rail grinding work by Zone, 2015 to 2018



Source: ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, p.12; ARTC, *Hunter Valley Coal Network Access Undertaking – 2016 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, p.10.

Rail grinding work (kms) increased 4% in 2018, following an increase of 12% in 2017. This resulted in a 6% increase in expenditure.²⁴ Rail grinding work increased in Zones 1 and 2, resulting in expenditure increases of 15.7% and 5.6% respectively. Work decreased in Zone 3, which decreased expenditure by 12.7%.

In its response to the ACCC's consultation paper, HRATF queried 'the large amount spent on consultants to advise and procure a new rail grinding contract'.²⁵

The ACCC sought additional information from ARTC on this issue. ARTC provided the following response:

\$0.5M of consultant support (procurement, probity and legal support) were incurred as overheads for the procurement of a new 120 Stone Grinder, under a long-term exclusive supply arrangement. This was a significant procurement activity for ARTC, the contract length covering a substantial period (12 years) and overall cost (circa \$200M) for this activity ARTC network wide. Given this, ARTC considered it prudent to engage with the market with the use of additional procurement support to ensure the best value was leveraged as the outcome.

²³ ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, 15 January 2021, p. 12.

²⁴ Ibid, p. 7.

²⁵ HRATF, *Australian Rail Track Corporation's compliance with the Hunter Valley Coal Network Access Undertaking for 2018*, 24 March 2021, p. 2.

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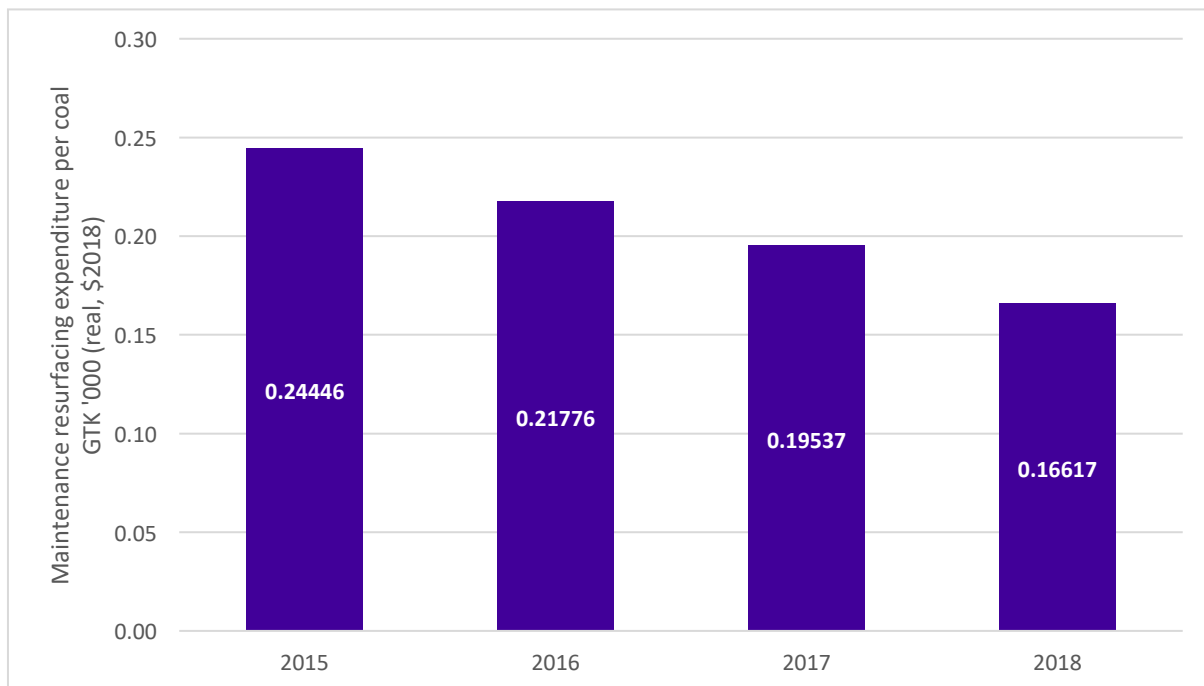
Securing the 120 Stone Grinder technology was critical for ARTC to unlock better value for money for customers in delivering rail grinding on the network. This rail grinder is a larger machine which can deliver higher production rates; ultimately translating to higher scope at a lower unit cost and less network downtime to deliver a higher quality outcome. Although the new grinder was not in use until early 2020 due the requirement to import the machinery from overseas, there have since been significant benefits achieved. Overall, the unit rates have reduced by 14% when comparing 2018 to 2020 with a 22% increase in achieved scope. These benefits are directly related to the increased productivity of the procured 120 Stone Grinder compared to the older 80 Stone Grinder in use in 2018.

Maintenance resurfacing

Maintenance resurfacing is a Major Periodic Maintenance work program. Track resurfacing (tamping) restores the track geometric parameters of top, line, superelevation and curvature via mechanised on-track machinery. This maintenance activity is largely dependent on tonnage driven over the track, condition, track structure and environment.

Figure 15 shows maintenance resurfacing expenditure in real terms from 2015 to 2018.

Figure 15: Maintenance resurfacing expenditure (real \$2018), 2015 to 2018



Source: ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, Tables 3A to 3D, pp.7-10; ARTC, *Hunter Valley Coal Network Access Undertaking – 2016 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, Tables 3A to 3D, pp.4-7.

Note: Chart shows expenditure for the Hunter Valley coal network.

Figure 15 demonstrates that maintenance resurfacing expenditure per coal GTK has been decreasing, in real terms, since 2015. Total maintenance resurfacing expenditure across the network has also been decreasing since 2015.

Track conditions were favourable in 2018 compared to 2017, due to a reduction in both flooding and droughts. In 2018, total maintenance resurfacing expenditure decreased by 11.8% in nominal terms.²⁶

²⁶ ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, 15 January 2021, p. 12.

Mudhole full track reconditioning

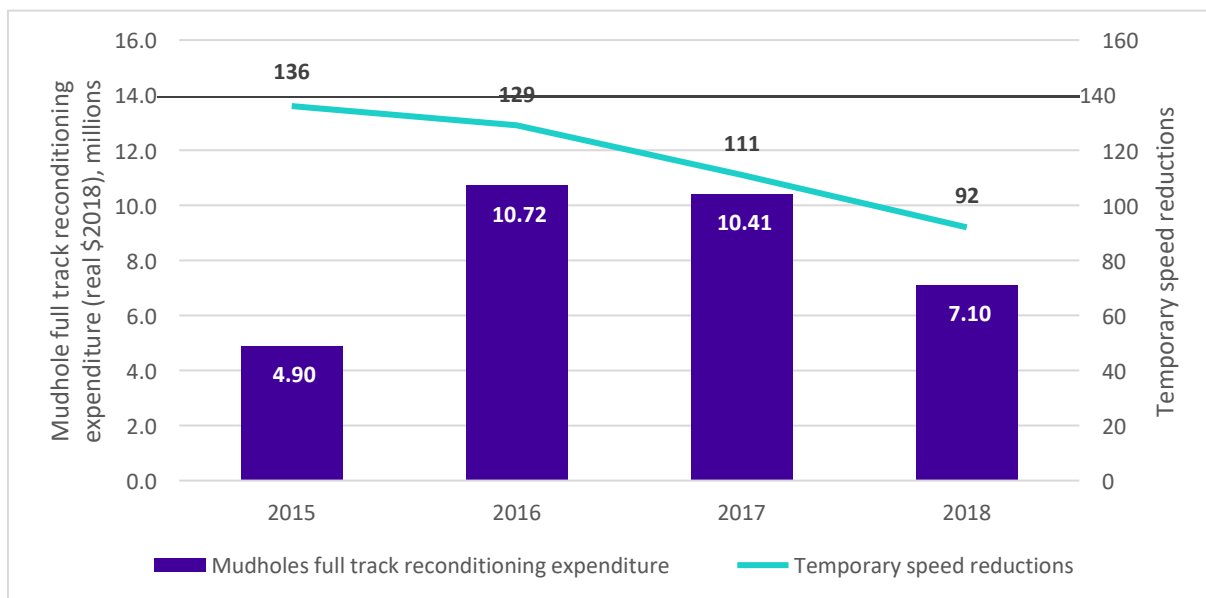
Mudhole full track reconditioning is a Major Periodic Maintenance work program. Track reconditioning is the reconstruction of the track bed arising from failures related to long term water ingress. Track reconditioning includes subgrade treatment, the installation of structural earthworks, a capping layer and new ballast, followed by track and drainage restoration.

The purpose is to effectively manage the risk to rail operations from track geometry deterioration. Key drivers of reconditioning include track failure rates and type of failure, track performance, maintenance intervals, formation and subgrade configuration.

Mudhole full track reconditioning is designed to reduce the need for track geometry-related temporary speed reductions on the network.

Figure 16 shows mudhole track reconditioning expenditure and track geometry-related temporary speed reductions on the Hunter Valley coal network from 2015 to 2018.

Figure 16: Mudhole full track reconditioning expenditure and track geometry-related temporary speed reductions, 2015 to 2018



Source: ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, Tables 3A to 3D, pp.7-10, Chart on p.13; ARTC, *Hunter Valley Coal Network Access Undertaking – 2016 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, Tables 3A to 3D, pp.4-7, Chart on p.9.

Note: Chart shows expenditure for the Hunter Valley coal network.

Figure 16 shows that in 2015, there were 136 track geometry-related temporary speed reductions across the network. ARTC significantly increased mudhole full track reconditioning expenditure in 2016 and maintained a similar expenditure level in 2017 (in real terms). This coincided with significant decreases in the number of track geometry-related temporary speed reductions over that period.

In 2018, mudhole full track reconditioning expenditure decreased by 30.5% across the Network (in nominal terms), although expenditure movements varied across the Zones.

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Note that sites that are 200m or more in length are treated as capital track reconditioning, rather than 'regular' (operational) track reconditioning. ARTC stated that it has focused on capital track reconditioning (works on $\geq 200\text{m}$ of track) rather than mudhole full track reconditioning (works on $< 200\text{m}$ of track) in Zone 3, which contributed to a \$1.4 million decrease in mudhole full track reconditioning expenditure for that zone in 2018. Specifically, this reduction was due to varying asset conditions, and the size and scope of work undertaken.

Expenditure decreased by \$2.7 million in Zone 1 due to a significant decrease in flooding-related damage and failed formation compared to 2017.²⁷ Conversely, expenditure increased by \$1 million in Zone 2 due to deteriorating track formation conditions, which had a high risk of affecting track reliability.²⁸

Notwithstanding the reduction in expenditure, temporary speed reductions continued to decrease. There were 19 fewer track geometry-related temporary speed reductions across the network in 2018 than the previous year.

Turnout steel component replacement

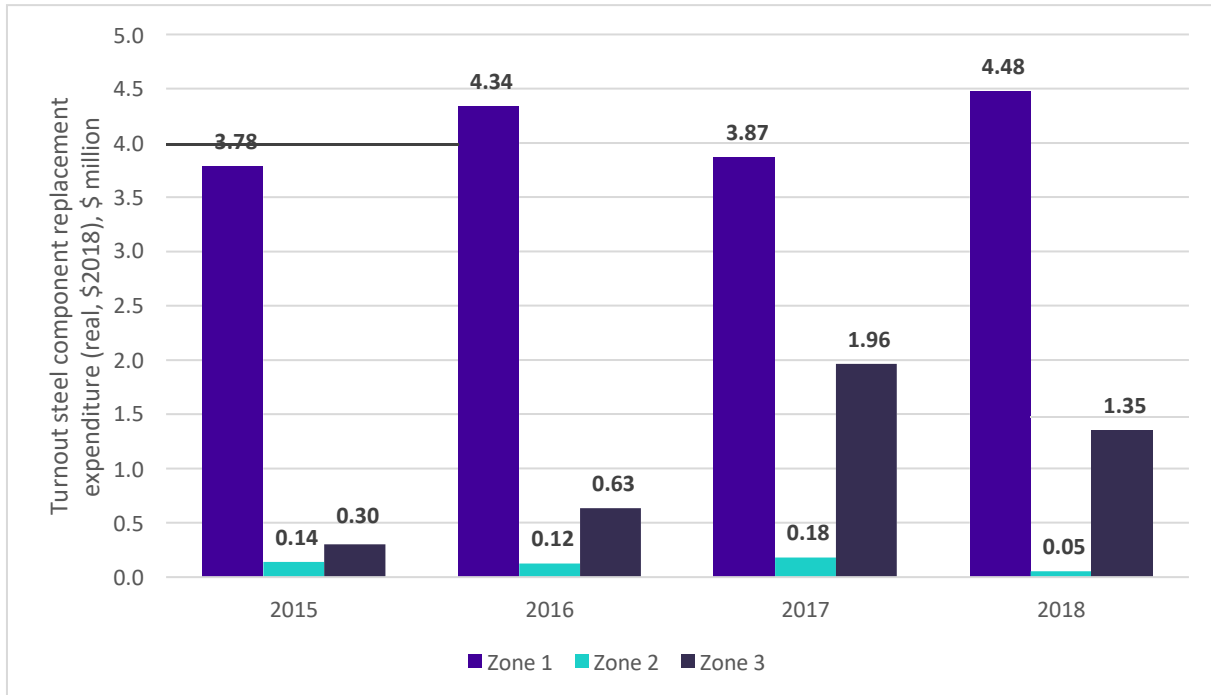
Turnout steel component replacement is a Major Periodic Maintenance work program. This expenditure involves replacing worn and defective turnout rail components, which reduces the risk of turnout rail component failure and therefore potential derailment. The scope of this activity varies from year to year and correlates to asset wear and tear rates and the complexity of the particular location. ARTC submits that unit costs of turnout components 'vary considerably, creating unit rate anomalies in the delivery of this activity'.

Figure 17 shows turnout steel component replacement expenditure for each zone, in real terms, from 2015 to 2018.

²⁷ ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, 15 January 2021, p. 13.

²⁸ *Ibid*, p.13.

Figure 17: Turnout steel component replacement (real, \$2018), 2015 to 2018



Source: ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, Tables 3A to 3D, pp.7-10; ARTC, *Hunter Valley Coal Network Access Undertaking – 2016 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, Tables 3A to 3D, pp.4-7.

Note: Chart shows expenditure for the Hunter Valley coal network.

Figure 17 illustrates that the overwhelming majority of turnout steel component replacement expenditure is in Zone 1. This is unsurprising, given the higher traffic volumes and therefore greater likelihood of wear and tear in Zone 1.

In nominal terms, turnout steel component replacement expenditure increased \$0.7 million in 2018. ARTC has stated that it is 'now undertaking component grinding at the time of replacement... to extend the life of the turnout steel components and subsequently reduce the frequency of replacement'.²⁹

Expenditure in Zone 3 decreased by \$0.6 million, as works carried out in 2017 affected the maintenance cycle for turnout components, with replacements happening in previous years as part of another program of works.

Rail defect removal

Rail defect removal is a Routine Corrective and Reactive Maintenance work program.

Rail defect removal is the removal and replacement of surface and internal defects, generally 6-8 metres in length. The increased tonnage across the network in recent years has had an adverse impact on track formation and consequently, results in additional track defects requiring attention to maintain track reliability.

²⁹ ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, 15 January 2021, p. 14.

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In 2018, this expenditure increased by 11.1%, largely driven by a \$0.3m increase in Zone 3, where track alignment issues arose between Ardglen and Kankool. Rail defect removal expenditure only accounted for around 4% of ARTC's overall infrastructure maintenance expenditure in 2018. However, the ACCC notes the increased trend of rail defect removals over the life of the Undertaking (not shown). The ACCC may seek further information from ARTC about this upward trend if it continues in 2019 and 2020.

4.4. Business unit management

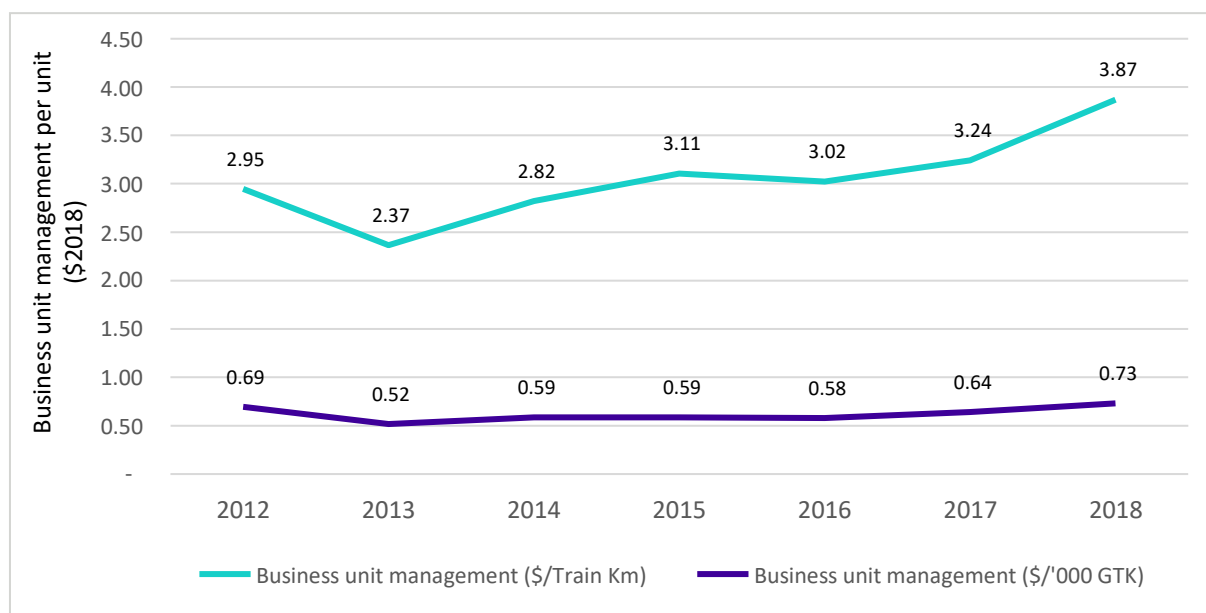
ARTC submits that 'business unit management costs comprise Hunter Valley direct costs and encompasses 4 functions:

- Hunter Valley Customer Service and Operations
- Hunter Valley Asset Delivery, including the Provisioning Centres
- Hunter Valley Asset Development
- Hunter Valley Management and Support.³⁰

ARTC submitted business unit management expenditure totalling \$34.1 million, of which \$25.9 million related to the Constrained Network and \$8.3 million for Zone 3, an overall increase of 14.4% from 2017.

Figure 18 shows business unit management expenditure on a GTK and Train Km basis, in real terms, from 2012 to 2018.

Figure 18: Business unit management expenditure per unit (real \$2018), 2012 to 2018



Source: ARTC, confidential financial model 2018; Australian Bureau of Statistics, [Consumer Price Index - Table 5 CPI: Groups, Index Numbers by Capital City, Sydney](#) 2012 to 2018.

Note: Chart shows expenditure for the Hunter Valley coal network.

Figure 18 illustrates that that business unit management expenditure on a GTK basis has remained relatively stable, but has trended upwards since 2016. On a Train Km basis, business unit management expenditure has been trending upward since 2013.

³⁰ ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, 15 January 2021, p. 19.

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ARTC stated the major drivers for the cost changes between 2017 and 2018 included:

- *\$1.2m of costs relating to activities to support the identification and implementation of operational and capital projects identified through the Capacity Fastrack Initiative.*
- *\$0.2m increase in additional resourcing to assist with possession planning. Given the increased volumes forecasted additional focus was given to planning adequate maintenance windows without compromising track availability and throughput opportunities.*
- *\$0.7m of costs were incurred in 2018 relating to professional fees for the continual implementation of the Asset Management Improvement Project. The work involves the incorporation of existing data and workflows to a centralised enterprise asset management system which will enable improved ability to view infrastructure condition and plan, schedule, monitor and record required maintenance activities.*
- *\$0.3 million increase in costs to support ARTC's continued focus on improving safety and environmental performance in the Hunter Valley. During 2017, the business unit launched the fatal and severe risk program to target behaviours to mitigate the highest risk activities, embedded a systemic incident investigation process, established a 24/7 Enviroline community enquiry service and improved the community notification guidelines and tools for Hunter Valley closedown works.*
- *\$0.3m increase being the full year impact of the transfer of HV property costs to the business unit in December 17 as noted in 2017 Compliance submission.*
- *Lower non-coal GTK allocator values driven by lower grain volumes as a result of the drought saw a \$0.7m increase in the share of costs being allocated to the Network.³¹*

ARTC also noted that \$0.5 million in professional costs relating to securing a long-term outsourced rail grinding contract contributed to higher business unit management costs. This is discussed in the rail grinding section above.

In its submission, HRATF noted 'significant increases' in ARTC's business unit management costs relating to professional and consultant fees for business unit management projects, such as the Asset Management Improvement Project and the Capacity Fastrack Initiative. It asserted that, 'based on the information presented in the ARTC submission, it is not clear that these increases in expenditure are delivering benefits for users.' HRATF also queried whether ARTC's business unit management costs had been allocated appropriately across ARTC's rail networks.³²

The ACCC sought additional information from ARTC on the increase in expenditure attributable to its Capacity Fastrack Initiative and the Asset Management Improvement Program, both of which form part of ARTC's business unit management costs.

In a confidential response to the ACCC, ARTC provided further information for both projects.

In relation to the Capacity Fastrack Initiative ARTC detailed some of the key achievements of this initiative, which included:

- increased planned runtime and decreased planned empty (down) runtimes along various portions of the Hunter Valley network
- improved train flowthroughs and optimization of train path usage
- improved communication processes and response times to network failures

³¹ ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, 16 June 2021, p. 19-21.

³² HRATF, *Australian Rail Track Corporation's compliance with the Hunter Valley Coal Network Access Undertaking for 2018*, 24 March 2021, p. 4.

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- various scoping works to identify portions of the network requiring additional capital works
- installation of signage along the network to improve train driver visibility and train speeds.

ARTC provided a large number of Capacity Fastrack Oversight Committee documents comprising reviews, meeting minutes and project updates. ARTC also provided a number of RCG endorsement documents demonstrating approval and endorsement of the large number of projects associated with the Capacity Fastrack Initiative among users of the Hunter Valley network. These documents included project close-out reports and project status updates and evidence of its engagement with the Capacity Fastrack Oversight Committee on 6 separate occasions in 2018.

In relation to the Asset Management Improvement Project, ARTC stated that the project involves upgrades to existing software used to manage assets and related systems and processes. The software is used to continually track and monitor the condition of ARTC's asset on a real-time basis and assist ARTC in asset-related decision making. The Asset Management Improvement Project forms one of the first parts of ARTC's overall 3-year asset strategy.

Based on the information provided, the ACCC is satisfied that the Capacity Fastrack Initiative and the Asset Management Improvement Program have delivered and are expected to continue to deliver value for stakeholders. The ACCC is also satisfied that ARTC has demonstrated a sufficient level of engagement with stakeholders regarding these 2 projects. The ACCC will continue to closely monitor and engage with ARTC in relation to its business unit management expenditures and, in particular, those projects involving substantial consultant expenditure.

4.5. Corporate overheads

Corporate overheads are indirect costs shared across the organisation.

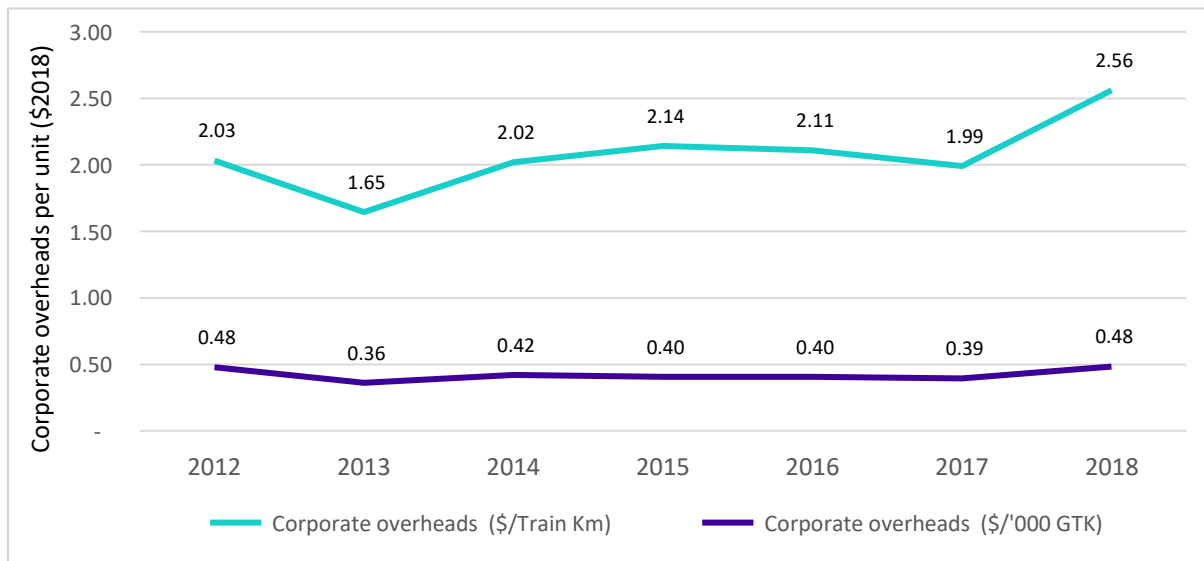
ARTC submitted (in its revised June 2021 submission) that its corporate overhead expenditure for 2018 was \$22.6 million, an increase of 23.5% from 2017, of which \$17.8 million was for the Constrained Network and \$4.8 million was for Zone 3.

For further information on ARTC's corrected value for corporate overhead please see sub-chapter 1.3.

Figure 19 shows corporate overhead expenditure on a GTK and Train Km basis, in real terms, from 2012 to 2018.

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Figure 19: Corporate overhead expenditure per unit (real \$2018), 2012 to 2018



Source: ARTC, confidential financial model 2018; Australian Bureau of Statistics, [Consumer Price Index - Table 5 CPI: Groups, Index Numbers by Capital City, Sydney](#) 2012 to 2018.

Note: Chart shows expenditure for the Hunter Valley coal network.

Corporate overhead expenditure on a GTK basis increased in 2018 by 23% (in real terms), after remaining stable between 2012 and 2017. On a Train Km basis, after reducing from a high in 2015 to 2017, corporate overheads increased in 2018 by 29% (in real terms).

ARTC provided the following explanations for the expenditure changes between 2017 and 2018:

- *\$0.9m of costs relating to Procurement. In April 2018 ARTC implemented a new procurement manual and associated procedures company-wide. The updated manual documented refreshed guidelines for the engagement of suppliers, established a Procurement Threshold Matrix which set out delegations and approval pathways based on anticipated contract values, and set a renewed standard for articulating and demonstrating value for money throughout the procurement process.*
- *\$0.3m increase in Risk and Safety spend. In 2017 ARTC launched its three-year 'Pathway to Zero' Safety Strategy as part of its continued focus on the core organisation value of No Harm. As part of this, a reorganisation of the structure and processes of the corporate team was embedded to better support the management of ARTC's safety management system and coordination of the internal safety audit program to sustain the ongoing implementation of the overall strategy within the individual business units.*
- *\$0.4m of Marketing and Communication costs relating to ARTC's corporate branding and promotional activities.*
- *\$0.5 million increase due to the impact of lower non-Hunter Valley allocator values which has the effect of increasing the share of costs being allocated to the Network.³³*

HRATF's submission to the ACCC's consultation paper raised the increase in ARTC's corporate overhead expenditure due to 'lower non-Hunter Valley allocator values' as a concern, given the increasing overall trend in this operating expense category. HRATF

³³ ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, 15 January 2021, p. 22.

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submitted that ARTC had not provided adequate detail to explain 'this change in allocation'.³⁴

HRATF's submission also questioned the value to users of several of ARTC's overhead costs relating to procurement and marketing. It queried whether ARTC's procurement expenditure had been allocated appropriately, noting that part of ARTC's procurement expenditure related to 'companywide' projects.

The HVAU requires ARTC to allocate corporate overheads and other business-wide costs to the Hunter Valley and other ARTC networks in accordance with Schedule I. The ACCC engaged with ARTC on its cost allocations for 2018. ARTC provided further information, including its cost allocation model, in a confidential submission to the ACCC.

In 2018, the largest corporate overhead cost category that was allocated to the Hunter Valley coal network was 'IT infrastructure and systems', which accounted for nearly one quarter of ARTC's total 2018 corporate overheads. This was followed by 'Executive', 'Finance', 'Management of Enterprise Systems' and 'Engineering Services'. In total, ARTC's top 5 corporate overhead cost categories accounted for nearly three quarters of total corporate overhead costs allocated to the Hunter Valley coal network in 2018.

In accordance with Schedule I of the HVAU, changes in network traffic on the Interstate network influence the proportion of ARTC's corporate overhead expenditure that is allocated to the Hunter Valley network. ARTC stated that Aurizon's (formerly QR National) exit from the intermodal market had the direct effect of decreasing volumes on the Interstate network. This decline increased the portion of ARTC volumes and (through the application of allocators, as per Schedule I) the proportion of overhead expenditure allocated to the Hunter Valley network.

Based on the additional information provided, the ACCC is satisfied with the efficiency of ARTC's corporate overhead expenditure and ARTC's adherence to the Schedule I allocation methodology. The ACCC will continue to closely monitor and engage with ARTC regarding its corporate overhead expenditure and, in particular, those costs relating to procurement and marketing.

4.6. Network control

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

- train control and signalling both on the main line and within the coal terminals
- train planning and programming
- operations and operational customer interface
- incident management and
- communication costs.³⁵

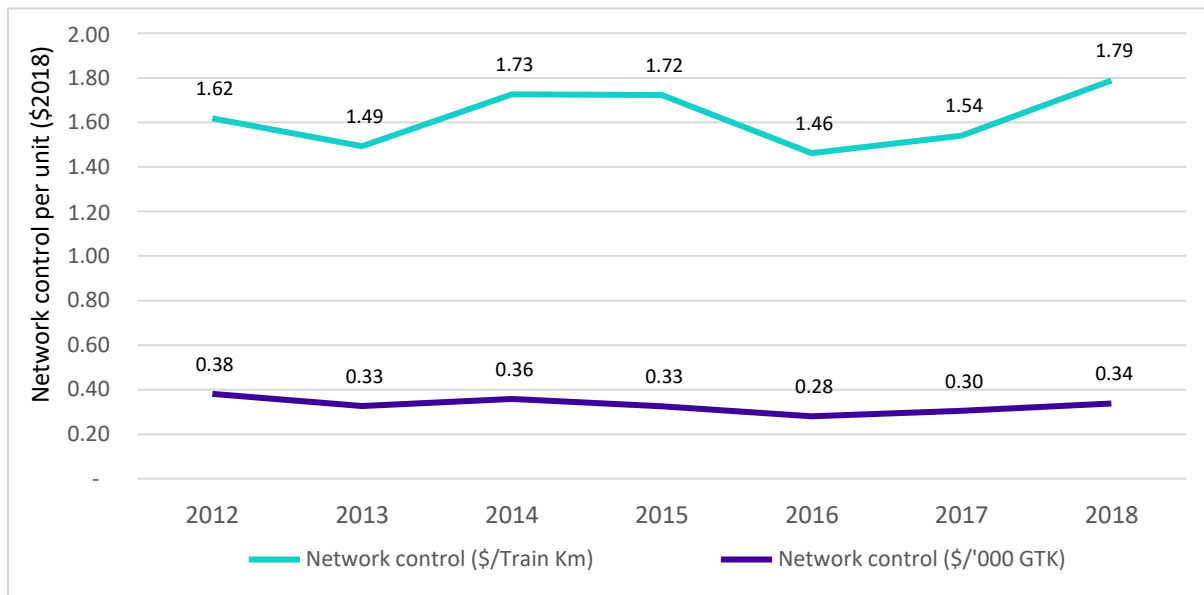
ARTC submitted that its 2018 Network Control expenditure was \$15.8 million, of which \$11.6 million was for the Constrained Network and \$4.2 million was for Zone 3, an increase of 11.5% overall from 2017.

Figure 20 shows Network Control expenditure on a per GTK and Train Km basis, in real terms, from 2012 to 2018.

³⁴ HRATF, *Australian Rail Track Corporation's compliance with the Hunter Valley Coal Network Access Undertaking for 2018*, 24 March 2021, p. 4.

³⁵ ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, 15 January 2021, p. 18.

Figure 20: Network Control expenditure per unit (real \$2018), 2012 to 2018



Source: ARTC, confidential financial model 2018; Australian Bureau of Statistics, [Consumer Price Index - Table 5 CPI: Groups, Index Numbers by Capital City, Sydney](#) 2012 to 2018.

Note: Chart shows expenditure for the Hunter Valley coal network.

Figure 20 illustrates that network control expenditure fluctuated between 2012 and 2018 on both a GTK and Train Km basis (in real terms). However, expenditure increased significantly, using both measures, between 2016 and 2018. On a GTK basis, costs remained below the highs of 2012 and 2014. However, on a Train Km basis costs were the highest ever recorded.

ARTC stated that the movement in Network Control expenditure was primarily driven by:

- *\$1.1m in new operating costs relating to the ongoing ARTC Network Control Optimisation (ANCO) Project. As project implementation progressed in 2018, licence fees to support the hosting and integration of external data sources needed to support the live ANCO dynamic operating environment within the existing ARTC IT system began to be incurred. As mentioned in prior submissions, new operating costs related to the execution of the ANCO project will continue, costs to date are in line with project progress reporting.*
- *\$0.4m increase in labour costs. In January 2017 a 4 team 12-hour staff roster was implemented for Network Controllers. Following feedback from employees and the Office of the National Rail Safety Regulator since implementation and throughout 2018, in January 2019 the roster was amended to a 5 team 8-hour roster addressing key safety and fatigue concerns. During consultation and implementation of the new roster, additional staff were employed in preparation for the new roster implementation. Costs of this additional headcount was offset by reduction in overtime and sick leave in the same period resulting in an overall \$0.4 mil increase in labour costs.³⁶*

HRATF's consultation paper submission questioned the increase in ARTC's network control costs, specifically ARTC's ANCO Project, asking whether (and if so, when) the project is 'expected to deliver cost savings, not just future increases, for users'.³⁷

³⁶ ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, 15 January 2021, pp. 18-19.

³⁷ HRATF, *Australian Rail Track Corporation's compliance with the Hunter Valley Coal Network Access Undertaking for 2018*, 24 March 2021, 24 March 2021, p. 3.

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The ACCC subsequently engaged ARTC on this issue and ARTC provided the following response:

The ANCO project was derived to increase network capacity and efficiency via technology tools as an alternate means than constructing additional capital funded crossing loops, the traditional method to capacity increases in a rail network. The ANCO solution in essence is utilising real operational data across the entire network, to advance trains in a more optimal manner via non-linear mathematical optimisation techniques, reducing the overall train waiting time on the network now and over time and avoiding additional capital expense of crossing loops where trains wait to cross each other, increase the utilisation of the existing installed network infrastructure.

It also improves Supply Chain productivity by providing real-time operational visibility, allowing for the dynamic management of the effects of network variation, removing the need to create buffering (dwell) time in the plan and enabling more effective utilisation of existing capacity to build increased capacity into the installed assets.

Given the stage of the project, the tangible operating cost benefits as outlined in the original business case are yet to be fully realised. As required by the HVAU, the formal close out report will quantify the realised benefit against the endorsed Business Case at the conclusion of the ANCO Horizon 1 project.

Based on the information ARTC provided, the ACCC accepts that the ANCO Project is expected to deliver tangible financial benefits to users across the Hunter Valley network through future cost savings and network optimisation. The ACCC will continue to monitor the ANCO Project in its future annual compliance processes to ensure these financial benefits materialise for access holders.

4.7. Loss on disposals

As discussed in chapter 3.5, ARTC reported a net loss on asset disposals of \$12 million in 2018. This resulted from disposals with a written down value of \$12.7 million and proceeds from sale of approximately \$0.6 million.³⁸ The recovery rate (defined as proceeds as a percentage of written down value) fell from 6.5% in 2017 to 5.1% in 2018. Re-railing was the only activity with significant proceeds from disposal. About half the value of disposals related to bridges, culverts, weighbridges, track strengthening, resleepering and signalling, for which there were no sales proceeds.

Regarding the asset recovery rate for 2018, ARTC noted that:

This was primarily due to the nature of the capital projects and activities undertaken during the year, with the overall scope of network re-railing activities, the driver of scrap rail recovery, decreasing compared to 2017.³⁹

ARTC also submitted that although the price per tonne for scrap steel increased in 2018 (\$250 per tonne in 2017 to \$266 per tonne in 2018), the quantity of steel sold for scrap decreased substantially (from around 3,058 tonnes to 2,422 tonnes).

In its submission to the ACCC's consultation paper, HRATF claims that there is 'limited transparency around the cost implications of asset disposals associated with most of ARTC's capital expenditure (particularly corridor capital expenditure) as part of the RCG process'. In its stakeholder submission, HRATF sought a greater focus on loss on disposals, given the increasing costs in this area.

³⁸ Rounding accounts for the difference.

³⁹ ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Attachment 1: Hunter Valley Operating Costs*, 15 January 2021, p. 17.

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The ACCC has analysed information provided by ARTC. The ACCC is satisfied that the losses incurred on disposals were reasonable, given the type and condition of material disposed. However, ACCC analysis (not shown) indicates there is an increasing trend in loss on disposals. The ACCC will continue to closely monitor ARTC's loss on disposals in future annual compliance processes.

4.8. ACCC operating expenditure determination for 2018

The ACCC's Final Determination is that ARTC has incurred Efficient costs and Efficient operating expenditure as shown in Table 4 in accordance with section 4.5(b) of the HVAU, for 2018. The ACCC also determines that no change is required for the total unders and over amount or allocation and the closing RAB.⁴⁰

The ACCC acknowledges that stakeholders hold concerns with the increasing trend in operating expenditure over the past few years and the significant increase in 2018. Although the ACCC is satisfied that ARTC's operating expenditure is efficient for 2018, there are multiple projects that ARTC incurred expenditure for in 2018 that are expected to provide efficiency benefits to stakeholders in future years. The ACCC will seek evidence of efficiency benefits to stakeholders arising from the following operating expenditure categories in future annual compliance submissions:

- business unit management (specifically, the Capacity Fastrack Initiative and Asset Management Improvement Program)
- corporate overheads (particularly procurement and marketing)
- network control (specifically, ANCO).

The ACCC may continue to seek information about infrastructure maintenance expenditure, particularly for rail defects, to ensure ARTC is managing assets efficiently.

The ACCC also notes that some costs, such as loss on disposals, can fluctuate widely from year to year due to a range of factors external to ARTC, and significant increases in one year may not constitute an ongoing trend or issue.

The ACCC will continue to closely examine any increases in operating expenditure in future annual compliance assessments, particularly the above cost categories and any categories with significant ongoing increases, to ensure costs are Efficient.

⁴⁰ 'Efficient' is defined under section 14.1 of the HVAU.

5. ACCC's Final Determination for the Constrained Network

Section 4.10(d)(ii) of the HVAU requires the ACCC to determine whether ARTC has reconciled access revenue with the applicable Ceiling Limit.

The Ceiling Limit is defined as the Economic Cost, which includes both operating costs and capital charges. Capital charges comprise depreciation and return on assets, which in turn require calculation of the RAB Floor Limit.

5.1. RAB Floor Limit roll forward

Table 6 shows ARTC's reported RAB Floor Limit roll forward for the Constrained Network in 2018.

Table 6: RAB Floor Limit roll forward for Constrained Network, 2018

	(\$)
Opening RAB Floor Limit	1 433 084 861
add CPI indexation	28 024 771
add Net Capital Expenditure	40 662 984
less Depreciation	(68 713 626)
Closing RAB Floor Limit	1 433 058 990

Source: ARTC, confidential financial model 2018.

In 2018, the closing RAB Floor Limit for the Constrained Network was similar to the opening value of the RAB Floor Limit (approximately \$1.4 billion).

While CPI indexation and new capital expenditure increased the RAB Floor Limit, these were offset by depreciation. Net capital expenditure was significantly lower than depreciation, indicating limited expansion in the network.

Further information on the individual components of the RAB Floor Limit roll forward is available in Chapter 2. The CPI and depreciation values are outlined below.

5.1.1. CPI

ARTC applied a CPI indexation factor of 1.96%. This was calculated as the percentage increase in CPI (All Groups, Sydney) from 112.5 in September quarter 2017 to 114.7 for the September quarter 2018. The ACCC considers that ARTC has applied the appropriate indexation in accordance with section 4.4(b) of the HVAU.

5.1.2. Depreciation

Depreciation is charged on the inflation-adjusted opening balance of the RAB Floor Limit and on half of Net Capital Expenditure incurred during the compliance year.⁴¹ It is calculated by dividing the value of assets by their remaining useful life. Using straight line depreciation and an average remaining useful life of assets of 21 years, the annual depreciation rate is 4.76%.⁴²

⁴¹ Depreciation on the other half of Net Capital Expenditure incurred during the compliance year is charged the following year, after expenditure has been added to the RAB Floor Limit.

⁴² S4.7(c) of the HVAU states the useful life is 23 years commencing 1 July 2016.

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5.1.3. ACCC RAB Floor Limit roll forward for the Constrained Network determination for 2018

The ACCC's Final Determination is that ARTC has undertaken the roll forward of the RAB Floor Limit for the Constrained Network in accordance with the HVAU, resulting in a closing RAB Floor Limit value as shown in Table 6.

5.2. Ceiling Limit Test

Table 7 shows ARTC's reported Ceiling Limit Test for the Constrained Network for 2018.

Table 7: Ceiling Limit Test for the Constrained Network, 2018

	(\$)
Operating Expenditure	127 209 487
add Depreciation	61 004 062
add Return on assets	68 446 731
Ceiling Limit (Economic Cost)	256 660 280
Access Revenue	226 630 814
Under recovery	(30 029 466)

Source: ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Submission*, 17 June 2021, p. 22.

Note: The return on assets was based on a real pre-tax rate return of 5.38% for 2018, as outlined in chapter 2.3.3 of this Final Determination.

ARTC's original compliance submission had operating expenditure of approximately \$127.9 million. This was then reduced to \$127.2 million following ARTC's revised 17 June 2021 submission, which removed approximately \$700,000 from the Ceiling Limit (Economic Cost) for the Constrained Network (see Table 2).

Based on ARTC's revised submission, ARTC's calculations showed an under recovery of \$30.0 million from the Constrained Network in 2018. This is derived from revenue of \$226.6 million, less the Ceiling Limit of \$256.7 million.⁴³

5.2.1. ACCC Ceiling Limit Test determination for 2018

The ACCC's Final Determination is that ARTC has undertaken the relevant calculations for the reconciliation of Access revenue and the applicable Ceiling Limit in its revised submission correctly, resulting in an under recovery of revenue as shown in Table 7.

5.3. Unders and overs

To comply with section 4.9(b) of the HVAU, ARTC calculated the allocation of the total 'unders and overs' amount between individual Constrained Coal Customers for 2018, and provided the information to the ACCC in a confidential spreadsheet. The proportion allocated to each Constrained Coal Customer is based on the proportion of Access revenue paid by each customer.

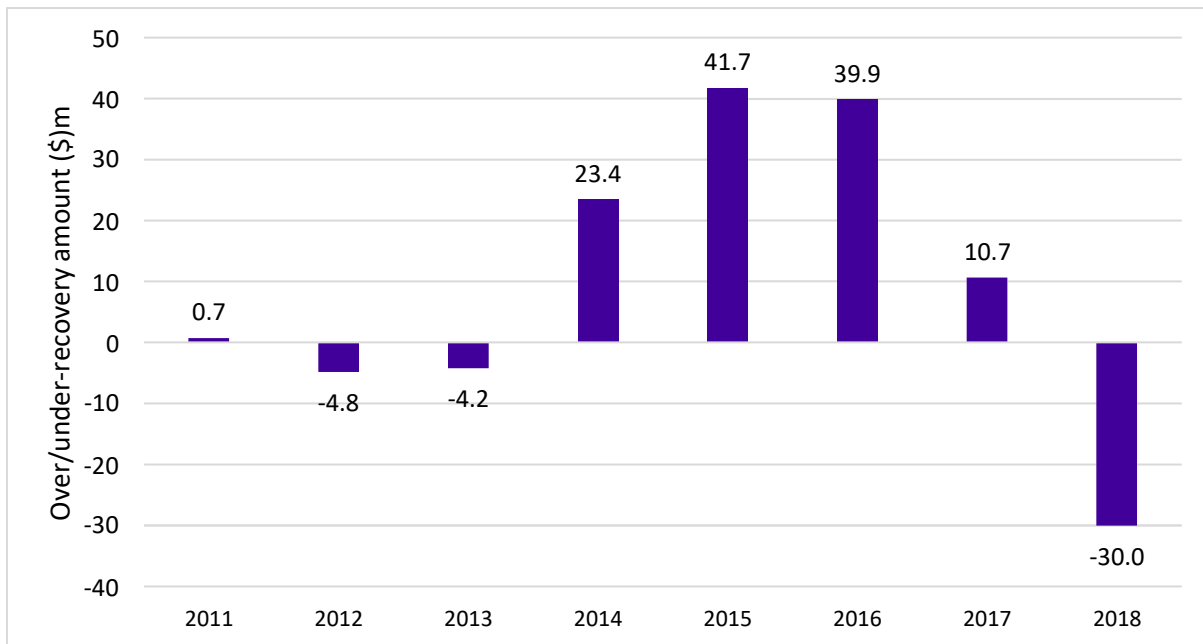
Following publication of this Final Determination, ARTC will arrange for payment from each customer for their share of the \$30.0 million under-recovered revenue. As per section 4.10J of HVAU version 8, payment by Access Holders will be deferred for 6 months from the date of publication of this Final Determination. Payments will then be made in 12 equal monthly instalments from that date.

⁴³ Figures do not add up due to rounding.

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Figure 21 displays the unders and overs amounts for the Constrained Network since 2011.

Figure 21: Unders and overs amounts for the Constrained Network, 2011 to 2018



Source: ACCC final determinations 2011-2017, ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Submission*, 17 June 2021, p 22.

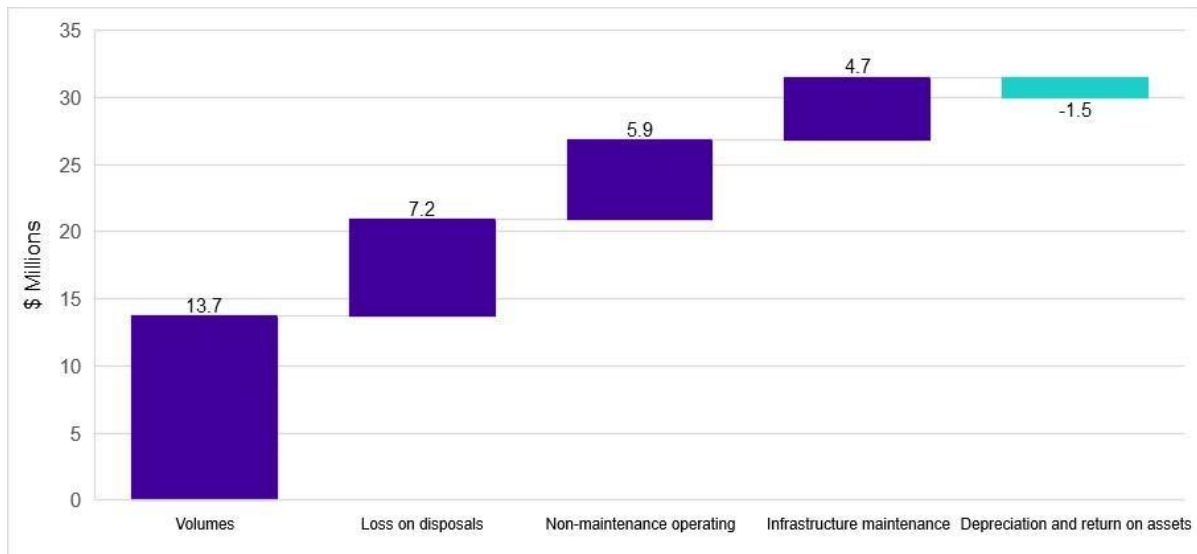
Figure 21 highlights that the \$30.0 million under recovery in 2018 is the first under recovery since 2013, and is the first significant under recovery since the commencement of the HVAU.

5.3.1. Factors contributing to the 2018 under recovery

ARTC must give notification of its Access Charges for any calendar year by 1 November of the previous year. Access Charges should be set so that forecast Access Revenue equals forecast Economic Costs (as per Figure 4). However, some discrepancy between forecasts and actuals is inevitable.

Figure 22 shows the factors contributing to the under recovery of Access Revenue in 2018.

Figure 22: Factors explaining \$30 million under recovery for 2018 annual compliance period



Source: ARTC, *HVAU - 2018 Compliance Submission Overview* (presentation to stakeholders - confidential), December 2020, p.22; ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Submission*, 17 June 2021, p. 24.

Volumes

Access charges are split into take or pay and non-take or pay charges. Take or pay charges are based on contracted volumes for coal export and domestic coal. Take or pay charges accounted for approximately 60% of total charges in 2018, and volumes associated with take or pay charges were largely aligned with forecasts.

The remaining 40% of total charges related to non-take or pay charges and were based on forecasts from coal producers. ARTC obtained volume forecasts 'directly from coal producers' and adjusted these forecasts 'where the profile received was above contract and exceeded network capacity and likely ability to rail the projected volume'.⁴⁴ Actual volumes for these charges were approximately 12.4% lower than forecast, which resulted in actual non-take or pay revenue being 6% lower than forecast. This contributed \$13.7 million to the under recovery (approximately 46%). The ACCC understands that the non-TOP component will account for a lower share of access charges in 2019 and 2020.

Loss on disposals

Actual loss on disposals were \$7.2 million lower than forecast. ARTC submitted that the discrepancy between forecast and actual loss on disposals was because:

*At the time of setting prices, assumptions used to price loss on disposal estimates were based on historical calculations which did not reference the actual network location and commissioning of assets during the calendar year.*⁴⁵

Loss on disposals is discussed further in sub-chapter 4.4.

⁴⁴ ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Submission*, 17 June 2021, p. 24.

⁴⁵ *Ibid*, p. 24.

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Non-maintenance operating expenditure

Non-maintenance operating costs are comprised of network control, business unit management and corporate overhead expenditure. Collectively, these costs were \$5.9 million above forecast. The ACCC sought additional information from ARTC about this discrepancy between forecast and actual costs. ARTC provided the following response:

From a business unit management perspective professional costs relating to AMIP [Asset Management Improvement Program], consultant assistance with procurement of the 120 Stone grinder and support for the Fastrack Initiative were either not budgeted or underbudgeted at the time of setting tariffs for the 2018 calendar. Similarly, costs to support extensive HVAU regulatory activity in the period, including the ACCC's review of the 2015 compliance return and the extensive consultation process for the path-based pricing variation were not forecasted as they could not be anticipated at the time pricing was finalised. ARTC sets the internal budget on a financial year basis and non-maintenance projects are often approved in the March / April leading into that financial year. While best efforts are made, at times this timing may cause an omission to occur in the pricing assumptions set in September the prior year.

Higher than budgeted costs for insurance and the Procurement Transformation Project along with other small changes to costs and allocator values from those forecasted were the primary contributors to the variance from forecast for corporate overheads.

Infrastructure maintenance costs

Infrastructure maintenance costs were \$4.7 million above forecast. ARTC indicated actual costs were above forecasts due to a highly competitive labour market, which resulted in ARTC having difficulty in attracting and retaining key qualified staff. In its compliance submission, ARTC stated that:

Infrastructure maintenance expenditure, particularly Routine Corrective and Reactive Maintenance (RCRM) was heavily influenced by the heating contract labour market during the period. Increased demand for specialist resources especially in the civil and signalling disciplines resulted in higher contract labour prices than what was forecasted at the time of pricing. This impact was also compounded by ARTC's need for additional contract labour to meet on call requirements due to Protected Industrial Action at the Hunter Valley Provisioning centres during the year.⁴⁶

The ACCC sought additional information on this from ARTC, which provided the following response:

Staff turnover throughout the period was significantly higher than prior years. In order to maintain safety and performance standards on the rail network ARTC had to source contractor resources (qualified replacements), at the same time as resourcing permanent ARTC replacements (new recruits for training and development of competency). The cost of qualified contractor resources came at a premium over the cost of internal resource.

Infrastructure maintenance costs are discussed further in sub-chapter 4.3.

⁴⁶ ARTC, Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Submission, p. 24

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Depreciation and return on assets

Depreciation and return on assets were \$1.5 million below forecast. The ACCC sought additional information from ARTC, which provided the following response:

The variance to forecast relating to depreciation and return on assets is primarily attributable to variation in the opening RAB balance for the constrained network calculated at the time of 2018 pricing compared to the actual balance on submission of 2018 compliance. The opening RAB balance for the constrained network used for 2018 pricing forecast was \$14m higher than what has been actualised for 2018 compliance noting at the time of 2018 price development the 2015 compliance assessment remained under review by the ACCC. The capex profile also varied from time of forecast with the Gowrie Gate Bridge and Weighbridges being commissioned in the period.

5.3.2. ACCC unders and overs determination for 2018

The ACCC's Final Determination is that ARTC has undertaken calculations of the allocation of the total unders and overs amount shown in Table 7 in accordance with the HVAU.

6. ACCC's Final Determination for Zone 3

As discussed in Chapter 2, Zone 3 does not form part of the Constrained Network and access revenue recovered from this Zone has not yet fully paid for its accumulated operating and capital costs. Instead, the annual losses incurred in earlier years were aggregated into a loss capitalisation balance, which Zone 3 Access Holders have been paying down since 2015. Loss capitalisation continues to apply to Zone 3 as long as its RAB exceeds its RAB Floor Limit.

The roll forward of the RAB Floor Limit is shown below, followed by the roll forward of the RAB.

6.1. RAB Floor Limit roll forward for Zone 3

Table 8 shows ARTC's reported RAB Floor Limit roll forward for Zone 3.

Table 8: RAB Floor Limit roll forward for Zone 3, 2018

	(\$)
Opening RAB Floor Limit	719 236 740
add CPI indexation	14 065 074
add Net Capital Expenditure	15 012 134
less Depreciation	(34 436 686)
Closing RAB Floor Limit	713 877 261

Source: ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Submission*, 17 June 2021, p. 16.

Note: Totals may not add due to rounding.

The table shows that the RAB Floor Limit for Zone 3 at the end of 2018 was \$713.9 million, a decrease of 0.7% over the year. The additions due to CPI indexation and net capital expenditure were outweighed by the negative effect of depreciation.

6.1.1. ACCC RAB Floor Limit roll forward for Zone 3 determination for 2018

The ACCC's Final Determination is that ARTC has undertaken the roll forward of the RAB Floor Limit for Zone 3 in accordance with the HVAU, resulting in a closing RAB Floor Limit value as shown in Table 8.

6.2. RAB roll forward for Zone 3

Table 9 shows ARTC's reported RAB roll forward for Zone 3, based on ARTC's revised submission (see Table 2).

Table 9: RAB roll forward for Zone 3, 2018

	(\$)
Opening RAB	782 798 363
add Return on Opening RAB	61 919 351
less Net Revenue	(146 354 587)
add revised Operating Expenditure	61 259 301
add Net Capital Expenditure	15 012 134
add Return on Net Capital Expenditure	593 730
Closing RAB	775 228 292

Source: ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Submission*, 17 June 2021, p. 12.

Notes: Totals may not add due to rounding.

Net Revenue is the total access revenue paid by Zone 3 producers for their use of both Zone 1 and Zone 3 (\$169,244,006) less the Incremental Cost of Zone 3 Access Holders' use of Zone 1 (\$22,889,419).

The table demonstrates that the opening RAB for 2018 was \$782.8 million, which was reduced over the year to a closing RAB of \$775.2 million. ARTC's rectification of the input error in its allocation of corporate overheads to the Hunter Valley network, in its 17 June 2021 revised submission, resulted in a reduction of approximately \$200,000 to Zone 3's operating expenditure relative to ARTC's original submission.

The RAB decreased by 0.9% over the year, as revenue exceeded the sum of operating costs, net capital expenditure and return on the RAB. The return on the opening RAB and net capital expenditure was based on a nominal pre-tax rate of return of 7.91% per annum, as set out in Chapter 2.

6.2.1. ACCC RAB roll forward determination for 2018

The ACCC's Final Determination is that ARTC has undertaken the roll forward of the RAB for Zone 3 in accordance with the HVAU, resulting in a closing RAB value as shown in Table 9.

6.3. Loss capitalisation balance for Zone 3

The loss capitalisation balance is the difference between the RAB and the RAB Floor Limit for Zone 3. This balance can be viewed broadly as the accumulated sum of ARTC's operating losses and return on capital invested.

Table 10 shows a comparison between the RAB and the RAB Floor Limit for Zone 3, resulting in a difference of \$61.4 million.

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Table 10: Comparison of RAB and RAB Floor Limit for Zone 3, 2018

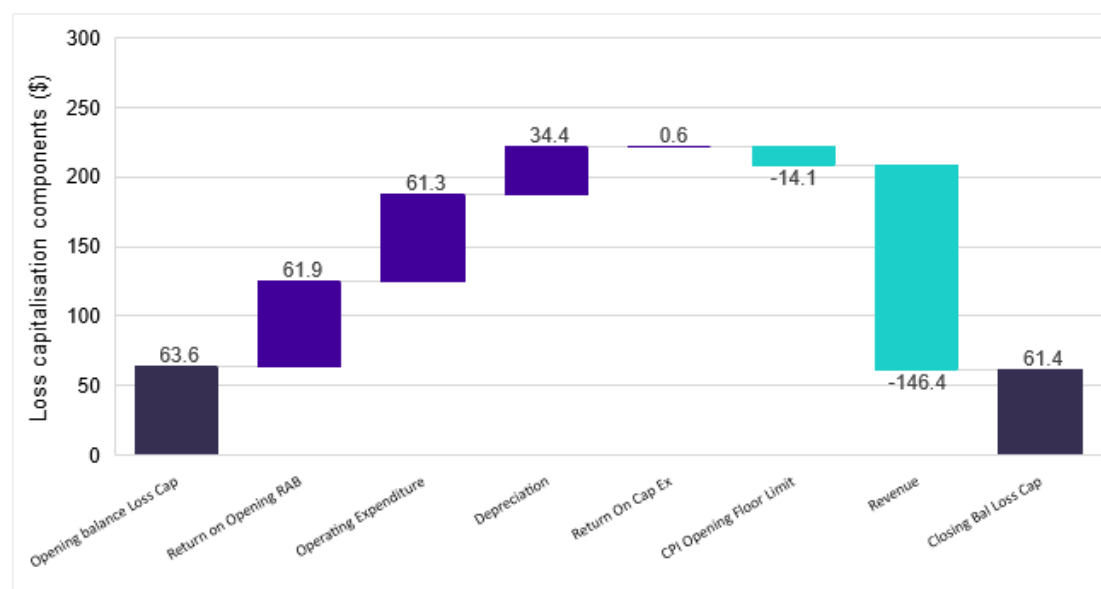
	(\$)
Closing RAB	775 228 292
Closing RAB Floor Limit	713 877 261
Difference (RAB minus RAB FL)	61 351 030

Source: ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Submission*, 17 June 2021, p. 16.

ARTC's initial compliance submission had a closing loss capitalisation balance of approximately \$61.5 million. This was then reduced to \$61.4 million following ARTC's revised submission, which removed approximately \$200,000 from the RAB roll forward and loss capitalisation balance (see Table 2).

The components making up the change in the loss capitalisation balance over 2018 are shown in Figure 23.

Figure 23: Loss capitalisation components for Zone 3, 2018 (\$ million)



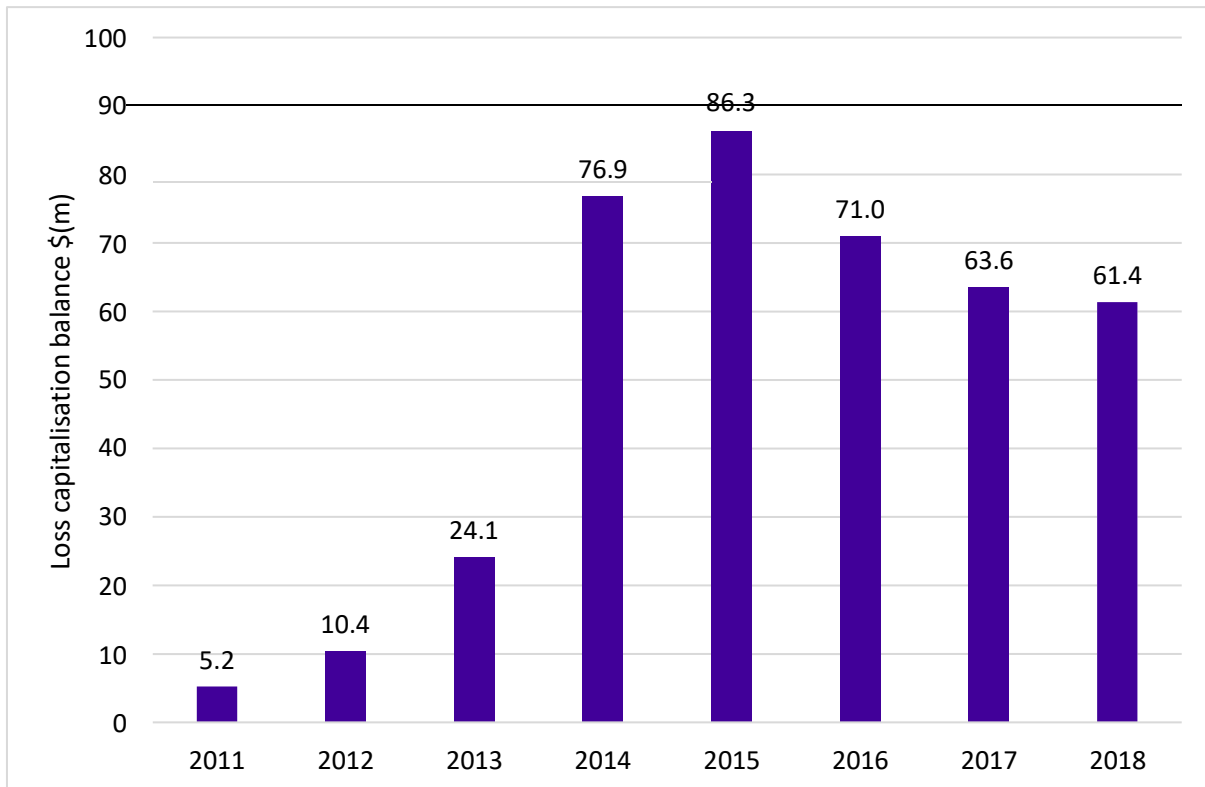
Source: ACCC, *Final Determination: Australian Rail Track Corporation's compliance with the Hunter Valley Coal Access Undertaking financial model for calendar year 2017*, September 2020, p.33; ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Submission*, 17 June 2021, p. 12 and 16.

Note: Opening loss capitalisation balance from ACCC's 2017 final determination; Depreciation and CPI on opening Floor Limit shown in Table 8; Return on opening RAB, operating expenditure, return on capital expenditure and revenue shown in Table 9; Closing loss capitalisation balance shown in Table 10.

Figure 23 illustrates that while the return on the opening RAB, operating expenditure, depreciation and return on capital expenditure components all increased the loss capitalisation balance, these were offset by CPI and net revenue paid by Zone 3 Access Holders. Therefore, the loss capitalisation balance was lower at the end of 2018.

Figure 24 shows the closing loss capitalisation balance for Zone 3 from 2011 to 2018.

Figure 24: Zone 3 closing loss capitalisation balance, 2011 to 2018



Source: ACCC final determinations 2011-2017; ARTC, *Hunter Valley Coal Network Access Undertaking – 2018 Compliance Assessment Submission*, 17 June 2021, p.17.

Figure 24 shows that the loss capitalisation balance decreased for the third consecutive year in 2018.

The loss capitalisation amount will be set to zero as at 31 December 2022, as required under section 4.9J(g) of the HVAU Version 8. Zone 3 Access Holders will need to pay any remaining loss capitalisation amount in 12 equal monthly instalments after publication of ACCC's 2022 annual compliance final determination.

6.3.1. ACCC loss capitalisation determination for 2018

The ACCC's Final Determination is that the RAB exceeds the RAB Floor Limit for Zone 3 at the end of 2018 by the amount shown in Table 10. Therefore loss capitalisation still applies, and ARTC is not required to reconcile access revenue with the applicable Ceiling Limit for Zone 3.

7. True-up test audit

The HVAU incorporates liability arrangements in the Indicative Access Holder Agreement that provide for the payment of rebates to users where ARTC fails to deliver contracted path capacity. The payment of these rebates occurs following the completion of an annual reconciliation process, which is informed by the true-up test.

The true-up test determines whether there was sufficient capacity available on ARTC's rail network in a given period to meet all contracted entitlements, taking into account reductions in capacity caused by maintenance, usage by non-coal trains and other factors.

Section 4.10(f) of the HVAU requires an independent audit of ARTC's compliance with the true-up test, to ensure the integrity of the test and avoid potential conflicts of interest. For the 2018 annual compliance assessment, RSM Australia audited ARTC's true-up test obligations under Schedule 2 of the Indicative Access Holder Agreement, annexed to the HVAU.

RSM Australia's audit report concluded that ARTC had complied, in all material respects, with the true-up test obligations for 2018.⁴⁷ ARTC therefore submitted that, based on the audit report, it is not liable for any rebates under the true-up test for 2018 due to a System Availability Shortfall.

RSM Australia identified two low-risk compliance issues with respect to the timeframe for publishing true-up test reports and a discrepancy noted in the calculation of total path usage in relation to maintenance and non-coal customers. In its submission, ARTC responds to RSM Australia's audit findings and does not propose to re-publish updated results of the true-up test to account for non-material issues.

In particular, RSM Australia found:

- *ARTC's January, July and August 2018 [true-up test] monthly reports were not available on ARTC's website within three weeks of the end of the [true-up test] period, as required by Clause 2.7(a), Schedule 2 of the AHAs and;*
- *errors in total path usage in relation to maintenance and non-coal customers.*⁴⁸

Despite these discrepancies, RSM Australia noted that:

*In aggregate, the compliance matters noted above are not deemed material in amount (quantitatively) and nature (qualitatively), and therefore we have not modified our reasonable assurance conclusion.*⁴⁹

RSM Australia's Final Audit Report concludes that:

*In our opinion, the Australian Rail Track Corporation Limited has complied, in all material respects, to the Hunter Valley Access Undertaking in relation to its obligations under Schedule 2 of the Access Holder Agreements for the 2018 True Up Tests.*⁴⁷

No stakeholders commented on the outcome of the true-up test.

⁴⁷ RSM Australia, *Australian Rail Track Corporation – Hunter Valley Access Undertaking – System Wide True Up Test Audit – Reasonable Assurance Engagement Report*, April 2019, p. 6.

⁴⁸ RSM Australia, *Australian Rail Track Corporation – Hunter Valley Access Undertaking – System Wide True Up Test Audit – Reasonable Assurance Engagement Report*, April 2019, p. 8.

⁴⁹ RSM Australia, *Australian Rail Track Corporation – Hunter Valley Access Undertaking – System Wide True Up Test Audit – Reasonable Assurance Engagement Report*, April 2019, p. 7.

7.1. ACCC true-up test audit determination for 2018

The ACCC's Final Determination is that the annual true-up test was undertaken by an independent auditor (RSM Australia) that satisfies the criteria listed in section 4.10(f)(ii) of the HVAU.

The ACCC also determines that no underpayment of rebates are owing to Access Holders, and there are no overpayments of rebates that ARTC is entitled to recover.

Appendix A: Annual compliance assessment provisions in the HVAU

Version 6

Section 4.10 of the HVAU provides for the ACCC to conduct an annual compliance assessment to determine whether ARTC has complied with access pricing principles under the HVAU. These provisions are set out below (capitalised terms are defined under section 14 of the HVAU).

- a) ARTC will submit to the ACCC by the relevant date each year, in respect of the previous calendar year:
 - i) documentation detailing roll forward of the RAB and the RAB Floor Limit, and comparisons between RAB and RAB Floor Limit;
 - ii) where documentation in (i) above demonstrates that RAB is at or below RAB Floor Limit, documentation detailing calculations relevant to reconciliation of Access revenue with the applicable Ceiling Limit and calculation of any allocation of the total unders and overs amount; and
 - iii) where documentation in (i) above demonstrates that RAB is above RAB Floor Limit in Pricing Zone 3, documentation demonstrating that Indicative Access Charges, or Interim Indicative Access Charges, as applicable, satisfies the requirements in section 4.3(b).
- b) The documentation submitted by ARTC to the ACCC will, unless otherwise agreed with the ACCC and having regard to the relevant circumstances applicable at the time, meet the information provision guidelines and the timeframes set out in Schedule G.
- c) If the ACCC reasonably considers that it requires additional information, other than that provided by ARTC in accordance with Schedule G, in order to carry out its assessment under section 4.10(d), it may request this information from ARTC in accordance with section 3 of Schedule G and upon receipt of such a request ARTC will use reasonable endeavours to provide the information to the ACCC as soon as reasonably practicable.
- d) The ACCC will determine whether ARTC has undertaken:
 - i) roll forward of the RAB and RAB Floor Limit in accordance with the Undertaking and, where the roll forward is not in accordance with the Undertaking, determine what closing RAB or RAB Floor Limit would be in accordance with the Undertaking;
 - ii) when required, the calculations relevant to reconciliation of Access revenue with the applicable Ceiling Limit and calculation of any allocation of the total unders and overs amount in accordance with the Undertaking, and where the calculations are not in accordance with the Undertaking, determine what total unders and overs amount or allocation would be in accordance with the Undertaking having regard to the operation of its unders and overs account;
 - iii) in determining whether ARTC has complied with the provisions of section 4.4 in rolling forward the RAB or the RAB Floor Limit, the ACCC may have regard to the submissions of relevant industry participants but if capital expenditure has been

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endorsed by the RCG in accordance with section 9, the ACCC will not consider whether that capital expenditure is prudent;

- iv) the ACCC will publish its findings on its website and/or circulate to Access Holders in relation to the matters for its determination; and
 - v) ARTC will revise the closing RAB and manage Constrained Coal Customer Accounts in accordance with any determination by the ACCC.
- e) The ACCC will determine whether ARTC has incurred Efficient costs and Efficient operating expenditure in accordance with section 4.5(b), and determine the change (if any) to:
- i) the total 'unders and overs' amount or allocation; and
 - ii) closing RAB in section 4.4(a),

that results from Economic Cost under section 4.5(b) only including Efficient costs and Efficient operating expenditure determined in accordance with section 4.5(b).

Section 4.10(f)(x) of the HVAU also provides that ARTC will provide the final written report of the True-Up Test, as prepared by the independent auditor, to the ACCC to review as part of the annual compliance assessment process under the HVAU.

Section 4.10(f)(xi) of the HVAU requires the ACCC to review the Final Audit Report and decide, and notify ARTC of, any amounts of underpayment of rebates that are owing to Access Holders or amounts of overpayment of rebates ARTC is entitled to recover.

The definition of 'Efficient' in section 14.1 of the HVAU is as follows:

...in respect to costs and operating expenditure, costs incurred by a prudent service provider managing the Network, acting efficiently, having regard to any matters particular to the environment in which management of the Network occurs including:

- a) *the Hunter Valley Coal Chain where a key objective in maintenance planning is to maximise coal chain throughput and reliability;*
- b) *ARTC's obligations to maintain the Network having regard to the terms of applicable Access Agreements and Access Holder Agreements existing at the time; and*
- c) *ARTC's obligations under the law, applicable legislation (including regulations) or the NSW Lease.*

Version 8

Section 4J.10 Annual compliance assessment

- f) The Compliance Assessment for 2018 will be undertaken in accordance with Version 6 of the HVAU, except that the payment of the reconciliation of Constrained Coal Customer Accounts will be deferred for 6 months from the date of the ACCC's final determination, and then payments will be made in 12 equal monthly instalments from that date.