Final Determination

Australian Rail Track Corporation's compliance with the Hunter Valley Coal Network Access Undertaking financial model for the 2013 calendar year

6 June 2016

Contents

Summary

The Australian Competition and Consumer Commission (**ACCC**) has conducted an assessment of the Australian Rail Track Corporation's (**ARTC's**) compliance with the financial model in the Hunter Valley Coal Network Access Undertaking (**HVAU**) for the period 1 January 2013 to 31 December 2013 (**the 2013 calendar year**).

The ACCC's Final Determination is that ARTC has undertaken prudent capital expenditure and incurred efficient operating expenditure in accordance with the requirements set out in the HVAU, having corrected an error related to disposals. However, ARTC has not correctly reconciled revenues with the applicable revenue ceiling limit to determine the additional amount to be recovered from Constrained Coal Customers in accordance with the HVAU for the 2013 calendar year. Accordingly, the ACCC's Final Determination is to adjust the additional amount that ARTC can recover from Constrained Coal Customers from $19.6 million to $4.2 million.

ARTC's Hunter Valley rail network is regulated through the HVAU. The HVAU financial model allows ARTC to recover revenue equivalent to its efficient costs in each calendar year for the 'Constrained Network' (currently comprising of rail segments in Pricing Zone 1 and 2), while allowing ARTC to capitalise revenue shortfalls for Pricing Zone 3 into its regulatory value of assets for recovery in future years.[1] ARTC is required to annually submit documentation to the ACCC for an assessment of its compliance with the HVAU financial model.

ARTC submitted documentation for the 2013 calendar year to the ACCC in May 2014 and submitted revised documentation on 1 April 2016 following the ACCC's Draft Determination, which was released in late 2015. In its revised documentation, ARTC submitted that its total costs for the Constrained Network to be recovered from 'Constrained Coal Customers' were $297.6 million and that it had a $19.6 million shortfall in the revenue it received for the Constrained Network for the period. ARTC proposed to recover this shortfall from 'Constrained Coal Customers' (currently comprising of Access Holders whose mines are in Pricing Zones 1 and 2).[2] ARTC also submitted that it had a revenue shortfall for Pricing Zone 3 and proposed to capitalise cumulative losses of $8.7 million into its Pricing Zone 3 regulatory asset base for future recovery.[3]

Assessment process

The ACCC's assessment has involved four stages of public consultation with stakeholders on the key issues of prudency of capital expenditure, efficiency of operating expenditure and reconciliation of revenues. The ACCC also engaged with stakeholders at a number of other stages throughout the assessment process, including meeting with interested parties on a number of occasions so as to ensure that all their views were heard and understood.

Throughout the assessment process, the ACCC received many extensive submissions from stakeholders on complex and technical issues, particularly in relation to ARTC's

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1 'Constrained Network' is defined in section 14.1 of the HVAU. In general terms, the Constrained Network currently comprises rail segments in Pricing Zones 1 and 2 where there is enough volume to enable ARTC to recover its efficient costs each calendar year. 'Loss capitalisation' applies to Pricing Zone 3 because, during the development of the HVAU, there was relatively lower demand for rail services due to the start-up nature of coal mines in the region and, therefore, ARTC was not expecting to be able to recover its efficient costs in each calendar year. ARTC proposed the loss capitalisation model as a way to encourage investment in new assets where there was limited initial demand.

2 'Constrained Coal Customer' is defined in section 14.1 of the HVAU. A Constrained Coal Customer is a coal producer that originates in the Constrained Network, which are currently producers whose mines are in Pricing Zones 1 and 2.

3 Cumulative losses capitalised as at the end of the 2013 Compliance Period include capitalised losses from 2011, 2012 and 2013.

reconciliation of revenues with the applicable revenue ceiling limit. Moreover, the views presented by stakeholders were often opposing, with all parties arguing that they would be unfairly disadvantaged if the ACCC formed a view alternative to their own on the interpretation and application of the HVAU in relation to ARTC's reconciliation.

Within this context, the ACCC has needed to form a final view on each of the issues raised that achieves the overall objectives of the regime, ensures ARTC's compliance with the HVAU and strikes an appropriate balance across all stakeholders. The ACCC has taken into account the definitions, principles and overarching objectives set out in the HVAU and, more broadly, Part IIIA of the *Competition and Consumer Act 2010*—in particular the objective to promote the efficient use of and investment in the Hunter Valley Coal Network. The ACCC also engaged WIK-Consult (**WIK**) to undertake an independent technical assessment of ARTC's costs, which informs the revenue ceiling limit (explained further below).

A summary of the ACCC's final view on each of the key issues is outlined below.

Prudency of capital expenditure

The ACCC has determined that ARTC has demonstrated the prudency of its net capital expenditure and that it is appropriate for ARTC to roll forward total net capital expenditure of $154.4 million into its regulatory value of assets. This amount comprises of 'major' capital expenditure of $126.9 million plus 'minor' capital expenditure of $29.0 million plus interest during construction of $5.4 million less loss on disposals of $7.0 million. Of the total net capital expenditure, $12.9 million is attributed to Pricing Zone 3.

These amounts have been determined from ARTC's revised compliance documentation where a previous error related to loss on disposals (which was noted in the Draft Determination) has been corrected.

Efficiency of operating expenditure

The ACCC has determined that ARTC's operating expenditure is efficient and that it is appropriate for ARTC to include the full amount for recovery for the 2013 calendar year. This includes $102.8 million for the Constrained Group of Mines ($82.8 million in maintenance and expensed project costs and $20.0 million in network control costs and corporate overheads) and $17.3 million for Pricing Zone 3.

These amounts have been determined after ARTC provided further information to the ACCC regarding its maintenance and overhead costs in Pricing Zone 3 and its network control costs (which were the outstanding areas of concern to the ACCC in the Draft Determination). ARTC also made a small number of corrections to the allocation of certain maintenance costs in its revised compliance documentation.

Reconciliation of revenues and costs

The Draft Determination noted the ACCC's preliminary position on the interpretation of the revenue ceiling limit test in the HVAU. Specifically, that the proportion of the prudent and efficient costs incurred within the Constrained Network to be reconciled with revenues received from Constrained Coal Customers should be calculated by subtracting the *incremental* costs associated with Pricing Zone 3 Access Holders' use of Pricing Zone 1. Importantly, the ACCC's view was that this approach would ensure that no group of Access Holders would be paying more than their standalone costs and would remove the existence of cross-subsidies between coal producers.

In contrast, ARTC's application of the ceiling limit test in its compliance documentation carried out this same calculation by subtracting only the *direct* costs (which are a subset of

incremental costs) associated with coal producers originating in Pricing Zone 3 from the costs of the Constrained Network.[4] The ACCC was concerned that this approach led to ARTC overstating the proportion of costs and resulting shortfall in revenue to be recovered from Constrained Coal Customers and that they were being asked to pay more than their standalone costs.

The Draft Determination applied the ACCC's interpretation of the ceiling limit test based on an independent review of the costs of ARTC's Hunter Valley Coal Network and an estimate of the incremental costs of Pricing Zone 3 Access Holders' use of Pricing Zone 1 undertaken by WIK. The Draft Determination found that ARTC's shortfall in revenue to be recovered from Constrained Coal Customers should be revised from $19.6 million to $7.5 million.[5]

As previously noted, stakeholders provided a range of complex, technical and often opposing views on this particular aspect of the Draft Determination. In summary, ARTC and Pricing Zone 3 Access Holders did not agree with the ACCC's position, arguing that ARTC's application was the correct interpretation and approach. In contrast, a number of stakeholders in Pricing Zones 1 and 2 supported the ACCC's position, while some of those stakeholders were concerned that it excluded some further costs for Pricing Zone 1 that Pricing Zone 3 Access Holders should contribute to.

Having regard to the submissions of all stakeholders that were provided throughout the assessment process, the ACCC maintains that its views as presented in the Draft Determination on the interpretation of the ceiling limit in the HVAU are correct and appropriate. In particular, the ACCC's interpretation is consistent with the objectives of the HVAU as removing the scope for cross subsidies between coal producers will result in more efficient pricing signals and investment across the Hunter Valley Coal Network. Also, under the ACCC's interpretation, ARTC remains able to recover its full economic costs, with the timing of the recovery of some costs related to Pricing Zone 3 Access Holders being deferred to future period (which ARTC is compensated for through its loss capitalisation model). While maintaining their overall opposition to the ACCC's interpretation, ARTC and Pricing Zone 3 Access Holders proposed alternative methodologies to WIK's approach to estimating the incremental costs of Pricing Zone 3 Access Holders' use of Pricing Zone 1. The ACCC has conducted further analysis based on the alternative methodologies proposed by stakeholders in their submissions to the Draft Determination. The ACCC's findings through this additional analysis did not support the results claimed by ARTC and Pricing Zone 3 Access Holders in their submissions.

The ACCC maintains that its views as presented in the Draft Determination on the approach to calculating incremental cost are appropriate. The ACCC considers that WIK's approach to the calculation of incremental cost is thorough and robust and is supported by economic theory. The WIK assessment included close consultation with a rail engineering expert. WIK also met with various access holders as well as ARTC, and based its assessment on a substantial amount of information provided by ARTC. Additionally, the ACCC considers that, compared to the alternative methodologies proposed by stakeholders, WIK's approach removes subjectivity around the original rationale for investments in Pricing Zone 1. The ACCC considers that WIK's approach is consistent with the evidence that the investments were ultimately for the benefit of all users of Pricing Zone 1.

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4 'Direct Cost' is defined in section 14.1 of the HVAU as maintenance expenditure, including major periodic maintenance that varies with usage of the Network, and may include other costs that vary with the usage of the Network but excluding Depreciation, assessed on an Efficient basis.

5 ACCC, *Draft Determination on Australian Rail Track Corporation's compliance with the Hunter Valley Coal Network Access Undertaking financial model for the 2013 calendar year* (**Draft Determination**), 30 October 2015, p. 7

Final view

Given the ACCC's views on the interpretation of the ceiling revenue limits and the approach to calculating the incremental cost of Pricing Zone 3 Access Holders' use of Pricing Zone 1, the ACCC has determined that the shortfall in revenue ARTC submitted to be recovered from Constrained Coal Customers needs to be revised.

The ACCC notes that a spreadsheet error was present in WIK analysis set out in the Draft Determination. This error related to the non-inclusion of depreciation associated with certain pre-2011 capital projects. The ACCC also notes ARTC's correction of its error related to disposals and adjustments to its allocation of operating expenditure.

After accounting for these adjustments, the ACCC's Final Determination is that ARTC's shortfall in revenue to be recovered from Constrained Coal Customers for the 2013 calendar year is revised down from $19.6 million to $4.2 million. The effect of the ACCC's Final Determination is also to increase the cumulative losses in Pricing Zone 3 at the end of the 2013 calendar year from $8.7 million to $24.1 million.

1. Introduction

ARTC is an Australian Government owned corporation that was established in 1998 and provides a single point of contact for parties seeking to run trains on the National Interstate Rail Network across Australia and the Hunter Valley Coal Network in NSW. ARTC is vertically separated, providing 'below rail' services (such as the rail track infrastructure) but not 'above rail' services (such as haulage). The National Interstate Rail Network and the Hunter Valley Coal Network are currently subject to two separate access undertakings that were accepted by the ACCC in 2008 and 2011 respectively.

The Hunter Valley Coal Network is predominantly used to transport coal from mines in the Hunter Valley region in NSW to the Port of Newcastle for export and to transport coal to domestic customers, such as power stations. The network is also used by non-coal traffic, including general and bulk freight services (such as grain) and passenger services.

The Hunter Valley Coal Network was previously regulated through the NSW Rail Access Undertaking (**NSWRAU**) administered by the NSW Independent Pricing and Regulatory Tribunal (**IPART**). However, access to the Hunter Valley Coal Network has been regulated through the HVAU since the ACCC accepted the access undertaking in June 2011. The HVAU applies for an initial five year period and is due to expire in June 2016. The ACCC is currently assessing a proposal by ARTC for a replacement HVAU.

The following sections provide information on the HVAU financial model that regulates ARTC's revenues, the annual compliance assessment that the ACCC conducts to ensure ARTC's compliance with the HVAU financial model, and outlines the process for the ACCC's assessment (including several phases of consultation).

1.1. HVAU financial model

Section 4 of the HVAU regulates the amount of revenue that ARTC is entitled to recover from Access Holders for the Hunter Valley Coal Network by implementing revenue floor and ceiling limits.

Section 4.2 of the HVAU sets out the floor revenue limits, which links the minimum revenue that ARTC is required to receive to Direct Cost and Incremental Cost:

> *(a) Access revenue from every Access Holder must at least meet the Direct Cost imposed by that Access Holder.*
>
> *(b) For each Segment or group of Segments, Access revenue from Access Holders should, as an objective, meet the Incremental Cost of those Segments ("Floor Limit").*

The term Direct Cost is defined in the HVAU as efficient maintenance expenditure, while the term Incremental Cost is defined as all costs that could be avoided in the medium term if a Segment was removed from the Network.[6]

Section 4.3 of the HVAU sets out the ceiling revenue limits, which caps the maximum amount of revenue that ARTC is entitled to receive at Economic Cost:

> *(a) In relation to Segments identified as forming part of Pricing Zone 1 and 2 in Schedule E, Access revenue from any Access Holder, or group of Access Holders must not exceed the Economic Cost of those Segments which are*

[6] All capitalised terms are defined in section 14.1 of the HVAU.

required on a standalone basis for the Access Holder or group of Access Holders ("Ceiling Limit").

(b) In relation to Segments identified as forming part of Pricing Zone 3 in Schedule E, the Access revenue from any Access Holder, or group of Access Holders must not exceed the Ceiling Limit where the RAB for those Segments is equal to, or falls below, the RAB Floor Limit for those Segments at the end of the calendar year (t-1).

The term Economic Cost is defined in section 4.5 of the HVAU. It is essentially calculated using a 'building block model' and incorporates allowances for return on assets, return of assets (depreciation) and efficient operating expenditure. The calculation of Economic Cost, therefore, also requires a regulatory value of assets. The regulatory value of assets is rolled forward each year to account for depreciation and prudent capital expenditure.

Reconciliation of revenues received with the ceiling revenue limits, which are calculated based on the Economic Cost of providing services, is applied differently for the various parts of the Network while certain circumstances exist:

- For the Constrained Network, the HVAU applies an 'unders and overs' accounting framework that enables ARTC to recover the full Economic Cost of providing services in each compliance period.[7] That is, if ARTC's revenue for the Constrained Network is less than Economic Cost in a compliance period, then ARTC is entitled to recover the 'under' from Constrained Coal Customers.[8] Conversely, if ARTC's revenue exceeds Economic Cost, then ARTC is required to refund the 'over' to Constrained Coal Customers.
- For Pricing Zone 3 only, the HVAU allows 'loss capitalisation'.[9] That is, until such time as ARTC is able to recover the Economic Cost of Pricing Zone 3, ARTC is allowed to capitalise revenue shortfalls into the Pricing Zone 3 regulatory value of assets for recovery in future periods. Once ARTC is able to recover the full Economic Cost of Pricing Zone 3 (including the losses capitalised from previous years), then Pricing Zone 3 becomes part of the Constrained Network and the 'unders and overs' accounting framework as per the previous point takes effect.

1.2. ACCC annual compliance assessment

Section 4.10 of the HVAU provides for the ACCC to conduct an annual assessment to determine whether ARTC has complied with the HVAU financial model for the calendar year. In particular, the ACCC is required to determine whether:

- ARTC has undertaken prudent capital expenditure and incurred efficient operating expenditure in accordance with the requirements set out in the HVAU.
- ARTC has rolled forward the regulatory value of assets in accordance with the HVAU.

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7 The Constrained Network is defined in section 14.1 of the HVAU as the group of Segments within the Network bounded by the mine loading points and the Newcastle port where access revenue on those Segments is likely to reach or exceed Economic Cost for those Segments on a standalone basis. The Constrained Network currently comprises the Network in Pricing Zones 1 and 2 where ARTC is expected to be able to recover its full Economic Cost.

8 A Constrained Coal Customer is defined in section 14.1 of the HVAU as an Access Holder: (a) who holds Coal Access Rights under a current written access agreement with ARTC; and (b) who paid ARTC for access to the Constrained Network and such payments, other than for Direct Costs, formed part of the annual coal access revenue for the Constrained Group of Mines.

9 Loss capitalisation applies to Pricing Zone 3 because there is currently relatively lower demand for rail services due to the start-up nature of coal mines in the region and, therefore, ARTC is not currently expected to recover its Economic Cost. During the development of the HVAU, ARTC proposed the loss capitalisation model as a way to encourage investment in new assets where there was limited initial demand.

- Pricing Zone 3 forms part of the Constrained Network or whether 'loss capitalisation' continues to apply for that pricing zone as allowed for under the HVAU.
- ARTC has reconciled revenues with the applicable revenue floor and ceiling limits and determined the allocation of any 'unders' or 'overs' to Constrained Coal Customers in accordance with the HVAU.

1.3. ARTC's submissions

ARTC submitted documentation to the ACCC on 21 May 2014 (**ARTC's May 2014 submission**) in order to demonstrate its compliance with the HVAU financial model for the 2013 calendar year. The ACCC's Draft Determination (discussed below) considered ARTC's May 2014 submission.

Following the ACCC's Draft Determination, ARTC submitted revised documentation to the ACCC in confidence on 1 April 2016 addressing a small number of calculation errors in its May 2014 submission. ARTC's revised documentation includes an adjustment relating to asset disposals (as noted on page 4 of the ACCC's Draft Determination) as well as other minor corrections relating to the allocation of costs. On 15, 21 and 26 April 2016, ARTC also submitted additional information to the ACCC on a confidential basis in relation to the incremental cost calculations (discussed further below).

The ACCC's Final Determination incorporates ARTC's revised 1 April 2016 documentation and has also taken into account the additional information provided by ARTC after this date.

ARTC's public submissions relating to the 2013 calendar year and other relevant information are available on the ACCC's website at: http://accc.gov.au/regulated-infrastructure/rail/artc-hunter-valley-access-undertaking.

1.4. Consultation process

The ACCC's public consultation process regarding this assessment involved a number of stages, which included the ACCC issuing:

- a Discussion Paper in May 2014 relating specifically to ARTC's approach to revenue allocation and reconciliation with applicable ceiling revenue limits under the HVAU
- a Consultation Paper in June 2014
- a Position Paper in November 2014
- a Draft Determination in October 2015.

1.4.1. May 2014 Discussion Paper

The ACCC released a Discussion Paper on ARTC's revenue allocation and reconciliation with applicable ceiling revenue limits on 29 May 2014, inviting comments from interested parties on ARTC's approach under the HVAU. The ACCC received submissions from:

- Anglo American Metallurgical Coal Pty Ltd (**Anglo American**)
- ARTC
- Hunter Valley Energy Coal Pty Ltd (**HVEC**), a subsidiary of BHP Billiton Limited (**BHP**)
- Rio Tinto Coal Australia Pty Ltd (**Rio Tinto**)
- Glencore Coal Assets Australia Pty Ltd (**Glencore**)
- Idemitsu Australia Resources Pty Ltd (**Idemitsu**)

- Peabody Australia Mining Pty Ltd (**Peabody**)
- Vale Australia Pty Ltd (**Vale**)
- Whitehaven Coal Ltd (**Whitehaven**)

Stakeholders' comments on this issue have been taken into consideration in this assessment of ARTC's compliance with the HVAU financial model for the 2013 calendar year in order to reduce the regulatory burden on ARTC and stakeholders by continuing to conduct a separate review. The Discussion Paper and submission are available on the ACCC's website at: http://accc.gov.au/regulated-infrastructure/rail/artc-hunter-valley-access-undertaking/revenue-allocation-review.

1.4.2. June 2014 Consultation Paper

The ACCC published a Consultation Paper on 16 June 2014. In that paper, the ACCC invited comments from interested parties on ARTC's May 2014 submission. The ACCC received submissions from:

- Asciano Ltd (**Asciano**)
- BHP
- Glencore
- Rio Tinto

The ACCC notes that submissions did not include substantive comments on ARTC's documentation and the issues identified in the ACCC's Consultation Paper. Rather, submissions called for the ACCC to postpone the annual compliance assessment for the 2013 calendar year until the review of ARTC's revenue allocation and reconciliation with applicable ceiling revenue limits had been completed. As noted above, stakeholders' comments on this issue have been taken into consideration in this assessment of ARTC's compliance with the HVAU financial model for the 2013 calendar year.

The Consultation Paper and submissions are available on the ACCC's website at: http://accc.gov.au/regulated-infrastructure/rail/annual-compliance-assessment-2013.

1.4.3. November 2014 Position Paper

The ACCC published a Position Paper on 26 November 2014. As noted above, the submissions received in response to the June 2014 Consultation Paper did not provide substantive comments on the contents of ARTC's documentation. Accordingly, the ACCC conducted a preliminary assessment of ARTC's compliance for the 2013 calendar year, taking into account the views expressed during the prior consultation and in response to the May 2014 Discussion Paper, and sought submissions from interested parties on these preliminary views. The ACCC received submissions from:

- ARTC
- BHP
- Glencore
- Idemitsu
- Rio Tinto
- Vale
- Whitehaven

Stakeholder views on the November 2014 Position Paper were taken into account in the ACCC's Draft Determination.

The Position Paper and submissions are available on the ACCC's website at: http://accc.gov.au/regulated-infrastructure/rail/annual-compliance-assessment-2013.

1.4.4. Requests for additional information from ARTC

Prior to issuing a Draft Determination, the ACCC also requested additional information from ARTC in order to clarify certain aspects of its documentation and to assist with assessing the prudency and efficiency of expenditure. The ACCC also requested additional information from ARTC that was necessary for an independent consultant's assessment (discussed at section 1.5 below).

ARTC provided a response to those requests on a confidential basis and the ACCC took that information into consideration in its Draft Determination.

1.4.5. Draft determination

On 30 October 2015, the ACCC released a Draft Determination following its assessment of ARTC's May 2014 submission on its compliance with the financial model in the HVAU for the 2013 calendar year.

In its Draft Determination the ACCC also requested additional information from ARTC regarding its capital expenditure and operating expenditure to assist the ACCC's assessment of the prudency and efficiency of that expenditure.

The ACCC received public submissions on its Draft Determination from:

- ARTC
- BHP
- Idemitsu
- Rio Tinto
- Whitehaven

The ACCC also received additional information from some stakeholders on a confidential basis including, as previously noted, information received from ARTC in late April 2016.

Stakeholders' views on the Draft Determination are set out in detail throughout chapter 2 of this document. Chapter 2 also sets out the ACCC's consideration and response to stakeholders' views.

The Draft Determination document and public stakeholder submissions are available on the ACCC's website at: http://accc.gov.au/regulated-infrastructure/rail/annual-compliance-assessment-2013/draft-determination.

1.5. Independent consultant's assessment

The ACCC engaged WIK to review and assess the costs of ARTC's Hunter Valley Coal Network to determine the incremental costs of Pricing Zone 3 Access Holders' use of Pricing Zone 1 and, therefore, the standalone costs of Pricing Zone 1 and 2 Access Holders. The ACCC specifically asked WIK to:

- Review and assess the extent to which costs in each of the main categories (that is, variable and fixed maintenance costs, other operating costs such as network control costs and overheads, and capital costs) vary with the use by access holders (in

particular, those originating in Pricing Zone 3). This assessment was performed by adopting a long-run perspective.

- Identify and assess a comprehensive set of cost drivers that can serve as proxies for the amount of service provided to access holders or the corresponding amount of resources attributable to that service (for example, kgtkm, train-km, average and maximum axle load, average and maximum train speed, total gross cycle mass, coal throughput, etc.).
- Provide the incremental cost and standalone cost estimates for the 2013 calendar year, as well as an algorithm that would allow the exercise to be repeated for the subsequent years if needed.

WIK identified information that it needed (in addition to that which ARTC had already provided in its compliance submission to the ACCC, including its confidential spreadsheets) in order to complete its assessment.

Accordingly, in order to assist WIK with its assessment, the ACCC requested additional information from ARTC as follows:

Date	Action
10 July 2015	Request for information relating to maintenance costs by activity, details of ARTC's split of fixed and variable components for those maintenance activities, details of individual assets included in the regulatory asset base at the end of 2013, axle load of trains, maintenance overhead costs and network control costs.
24 July 2015	ARTC provided a partial response to the request dated 10 July 2015
14 August 2015	ARTC provided a further response to the request dated 10 July 2015
4 September 2015	Request for supporting documentation relating to capital expenditure projects that occurred prior to mid-2011
17 September 2015	ARTC provided a response to the request dated 4 September 2015

The ACCC received WIK's Final Report on 6 October 2015. The findings of WIK's Final Report have been taken into consideration in the ACCC's assessment and were considered in the ACCC's Draft Determination.

The full report is available on the ACCC's website at http://accc.gov.au/regulated-infrastructure/rail/artc-hunter-valley-access-undertaking.

1.6. Further stakeholder engagement

In addition to the ACCC's public consultation process on this matter (noted in section 1.4), the ACCC engaged with ARTC and other industry stakeholders at a number of stages throughout the assessment process. The ACCC notes that ARTC and industry stakeholders also had opportunities to engage with WIK during its assessment of incremental costs.

The main periods of this stakeholder engagement is set out in the list below, although the ACCC notes that there were several other times when it met with particular stakeholders (including meeting with some stakeholders on multiple other occasions) throughout the process.

Date	Action
September 2014	Following the release of the May 2014 Discussion Paper and the June 2014 Consultation Paper, the ACCC met with industry stakeholders in Newcastle and Brisbane.
February 2015	Following the release of the November 2014 Position Paper, the ACCC met with industry stakeholders in Newcastle and Brisbane.
July 2015	After engaging WIK to conduct the independent assessment of incremental costs, the ACCC and WIK met with industry stakeholders in Newcastle and Brisbane (via phone).
Dec 2015 - Jan 2016	Following the release of the ACCC's Draft Determination, the ACCC met with various industry stakeholders in Melbourne.
April 2016	The ACCC met with various industry stakeholders in Sydney.

1.7. Contact information

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

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2. Key issues

This chapter outlines the ACCC's views on the following key issues relating to the 2013 calendar year:

- Prudency of capital expenditure (section 2.1)
- Efficiency of operating expenditure (section 2.2)
- Reconciliation of revenue and costs (section 2.3)
- Approach to calculating incremental cost (section 2.4)
- True-Up Test audit (section 2.5)

A summary of stakeholders' view received in response to the ACCC' assessment is included in each of these sections where applicable.

As noted in section 1.4, stakeholders' submissions received in response to the ACCC's earlier consultations as well as the ACCC's preliminary views on the issues raised in those submissions are set out in greater detail in the ACCC's Draft Determination document.

2.1. Prudency of capital expenditure

Subsections 4.4(a) and (b) of the HVAU define net capital expenditure as capital additions, plus interest costs incurred during construction, less the written down value of any disposals.

Importantly, the HVAU requires that, for capital expenditure to be included in the regulatory value of assets, it must be incurred on a 'prudent' basis. Subsection 4.10(d)(iii) of the HVAU explicitly provides that, if capital expenditure has been endorsed by the RCG in accordance with the consultation obligations set out in section 9 of the HVAU, then the ACCC will accept that capital expenditure as prudent. The RCG is a representative group made up of a range of stakeholders, including access holders and above rail operations and the Hunter Valley Coal Chain Coordinator (**HVCCC**) (in a non-voting capacity).

The HVAU also provides that ARTC can 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) as well as the written down value of disposals all incurred on a prudent basis.[10]

2.1.1. ARTC's May 2014 Compliance Documentation

ARTC sought to roll forward into its regulatory value of assets total net capital expenditure of $155.2 million, comprising of 'major' capital expenditure of $126.9 million plus 'minor' capital expenditure of $29 million plus interest during construction of $5.4 million less loss on disposals of $6.2 million. Of the total net capital expenditure, ARTC attributed $12.95 million to Pricing Zone 3.

ARTC confidentially provided the ACCC with evidence of RCG endorsement of capital expenditure amounts. ARTC's confidential spreadsheets provided details and calculations of interest during construction and disposals.

2.1.2. Stakeholders' submissions

The ACCC received stakeholder submissions on ARTC's prudency of capital expenditure in relation to the ACCC's November 2014 Position Paper. These stakeholder comments are

[10] See section 4.4 of the HVAU.

summarised below and are set out in greater detail in the ACCC's Draft Determination document.

Vale stated that it supports the additional transparency that has been achieved with ARTC's release of the bi-annual report on minor capital expenditure. However, Vale noted that it is concerned about the internal ARTC governance structure in place to monitor and manage the expenditure of the individual minor capital projects.[11]

Whitehaven and Idemitsu commented that ARTC has generally followed the requirements of the HVAU in its prudency of capital expenditure. Idemitsu however noted that further transparency could be provided by ARTC on post-commissioning costs of major capital expenditure.

Idemitsu also suggested that ARTC provide a clearer reconciliation between RCG-endorsed projects and those included in the annual compliance assessment.[12] Similarly, Glencore noted that although ARTC is reasonable in its openness at RCG meetings (and in monthly reports), there is no way to reconcile RCG-sanctioned spending to the net capital expenditure additions in ARTC's calculations. In this regard, Glencore called for greater transparency to enable easier reconciliation around project approvals, spending on approved projects and additions to the RAB.[13]

Whitehaven noted that it is comfortable with the interest during construction and disposal amounts as submitted by ARTC, while Glencore stated that ARTC's regulatory value of assets appeared to be overvalued by proceeds from disposals.[14]

The ACCC notes that no stakeholders provided further comments on ARTC's prudency of capital expenditure following the ACCC's Draft Determination.

2.1.3. ARTC's further submissions

The ACCC's Draft Determination set out that ARTC has demonstrated the prudency of its net capital expenditure and has rolled forward the amount into its regulatory value of assets in accordance with the HVAU financial model, subject to correction of an error related to disposals.

In response to the Draft Determination, ARTC submitted that it agreed with the error identified and the correction as proposed by the ACCC.[15] ARTC submitted that other things being equal, the result is a reduction in the revenue Ceiling Limit of $65,606.[16] ARTC also submitted that it:

> *has become aware of several minor allocations requiring adjustment. While these are not material to the result, ARTC intends to correct these allocations in the final set of models provided to the ACCC once all other matters have been finalised.*[17]

As noted in section 1.3, ARTC submitted a revised confidential financial model to the ACCC on 1 April 2016 to address the error regarding the loss on disposals as well as a small number of other calculation corrections.

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11 ACCC, Draft Determination, p. 15.

12 Ibid, p. 15.

13 Ibid, p. 15.

14 Ibid, p. 15.

15 ARTC, *Submission In Response To The Draft Determination Regarding ARTC 2013 Compliance Assessment* (**ARTC submission on the Draft Determination**), January 2016, p. 9.

16 Ibid, p. 9.

17 Ibid, p. 9.

2.1.4. ACCC's Final Determination

In light of the adjustments ARTC has made in its revised compliance documentation the ACCC's final views on ARTC's prudency of capital expenditure are set out below.

Major capital expenditure additions

The HVAU explicitly provides that, if capital expenditure has been endorsed by the RCG, then the ACCC must accept that the capital expenditure is prudent. Consistent with the Draft Determination, and taking into account the correction regarding the loss on disposals, the ACCC's Final Determination is that ARTC may roll forward the full major capital expenditure amount of $126 898 239 into the regulatory value of assets for the 2013 calendar year.[18]

Minor capital expenditure additions

Similarly, and consistent with the Draft Determination, the ACCC's is satisfied that ARTC has shown evidence of RCG endorsement for the full minor capital expenditure amount of $29 039 480. As such the ACCC's Final Determination is that ARTC may roll forward this amount into the regulatory value of assets for the 2013 calendar year.[19]

Interest during construction

No stakeholders raised concerns in relation to the projects and associated interest during construction. As such, consistent with the Draft Determination, the ACCC's Final Determination is that ARTC may roll forward the full interest during construction amount of $5 421 587 into the regulatory value of assets for the 2013 calendar year.[20]

Disposals

The ACCC's Draft Determination noted that ARTC had erroneously reduced the regulatory value of assets by the net loss on disposals, rather than the total value of disposals. ARTC proposed to correct this error when it submitted revised compliance documentation, which would result in the total value of loss on disposals being revised from $6 171 987 to $6 981 504.

In ARTC's revised compliance documentation submitted on 1 April 2016, ARTC adjusted the total value of loss on disposals to reflect the above change. Accordingly, the ACCC's Final Determination is ARTC's loss on disposals value of $6 981 504 for the 2013 calendar year is appropriate.[21]

ACCC's final view on ARTC's prudency of capital expenditure

The ACCC's assessment of ARTC's prudency of capital expenditure has had regard to the relevant factors in the definition of "Prudent" in the HVAU. Given the ACCC's views on the above matters, the ACCC has determined that ARTC has demonstrated the prudency of its net capital expenditure and it is appropriate for ARTC to roll forward total net capital expenditure of $154.4 million into its regulatory value of assets. This amount comprises of 'major' capital expenditure of $126.9 million plus 'minor' capital expenditure of $29.0 million plus interest during construction of $5.4 million less loss on disposals of $7.0 million. Of the total net capital expenditure, $12.9 million is attributed to Pricing Zone 3.

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18 ACCC, Draft Determination, p. 16.

19 Ibid, p. 17.

20 Ibid, p. 17.

21 Ibid, p. 17.

2.2. Efficiency of operating expenditure

Subsection 4.10(e) of the HVAU provides for the ACCC to assess the efficiency of ARTC's operating expenditure. Efficient costs and operating expenditure in turn informs the determination of the Economic Cost and the maximum amount of revenue that ARTC is entitled to receive.

Subsection 2(c) of Schedule G of the HVAU requires ARTC to submit, amongst other particulars, a detailed breakdown of the Economic Costs for the review period into standard operating cost line items, return and depreciation, as well as provide comparative values from the previous review period.

2.2.1. ARTC's May 2014 Compliance Documentation

ARTC sought to recover operating expenditure of $102.7 million for the Constrained Group of Mines, consisting of $82.8 million in maintenance and expensed project costs and $20 million in network control costs and corporate overheads.[22] ARTC also sought to recover $17.3 million for Pricing Zone 3.[23]

ARTC submitted that the overall cost of maintenance expenditure for the 2013 calendar year was largely in alignment with expenditure in 2012, but that it was significantly lower than the forecasted expenditure advised to Access Holders in late 2012.[24]

In relation to expensed projects, ARTC submitted that:

> *An unexpected cost in fixed maintenance of $8.97M arose through the expensing of projects associated with the PWCS Terminal 4 (T4) expansion. A suite of projects were endorsed by the RCG prior to 2013 to enable the rail track capacity to match the additional capacity provided by T4. For each project, RCG endorsement is required to proceed to the next stage. For the T4 projects, the RCG did not endorse project advancement due to the deferral of the T4 project by PWCS and the capital spent was sought to be expensed in 2013.*
>
> *The expensed projects and the associated costs were discussed with the access holders during quarterly access holder meetings in November 2013 and February 2014. In addition, a consolidated list of expensed projects was provided to the RCG in March 2014 to add further transparency. This information paper did not seek endorsement but provided advice that in accordance with the previously endorsed project phases, projects were being expensed. No objections were raised by the RCG to the expensing of these projects in 2013.*[25]

ARTC submitted that network control costs for the 2013 calendar year were $10.9 million, which was similar to the level of network control costs approved by the ACCC for the 2012 calendar year.[26] In terms of corporate overhead costs, ARTC submitted that these were $1.6 million lower for the Constrained Network in the 2013 calendar year than the costs incurred during 2012. ARTC stated that this decrease was due to:

> *…the increased share of Interstate non-coal train kms of total ARTC network train kms when compared with the Constrained Coal train kms resulting in a reduction in costs allocated to the Constrained Network. In addition, a restructure within ARTC*

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22 ARTC, *Initial Compliance Submission*, May 2014, p. 19.

23 Ibid, p. 9.

24 Ibid, p. 21.

25 Ibid, p. 21.

26 Ibid, pp. 8, 22.

saw the Technical Services division being absorbed by other business divisions and so relevant associated Technical Services cost could be directly identified with specific corridors rather than being allocated as a system wide cost and allocated to the Hunter Valley corridor on a Train Km basis.[27]

2.2.2. Stakeholders' submissions

The ACCC received stakeholder submissions on ARTC's efficiency of operating expenditure in relation to the ACCC's November 2014 Position Paper. Stakeholder comments are summarised below. The ACCC's Draft Determination set out stakeholders detailed comments.

Vale commented on ARTC's maintenance expenditure, stating that it is unclear whether the reduction in maintenance scope for 2013 means that the network has deteriorated, or that the scope was not required. Vale also suggested that ARTC should focus on productivity improvements during the coming years to assist the productivity drive being undertaken by coal producers to remain competitive in the global coal market.[28]

Glencore suggested that there should be more transparency on corporate overheads and how these indirect costs are allocated to segments and zones. Glencore and Idemitsu suggested that further detail should be provided around forecasts for future year's operating expenditure.[29]

Idemitsu also commented that ARTC needs to improve the information on maintenance expenditure provided to stakeholders, but noted that ARTC has incurred efficient operating expenditure in accordance with the requirements of the HVAU.[30]

Whitehaven and Idemitsu commented on the information disparities between the Constrained and Unconstrained Networks and noted that ARTC could provide more information on operating expenditure affecting Pricing Zone 3.[31]

Rio Tinto commented on ARTC's expensed project costs associated with the Port Waratah Coal Services (PWCS) Terminal 4 (T4) expansion and that a proportionate share of the $8.97 million in T4 project costs must be expensed across all Access Holders, not simply those within the Constrained Network. Whitehaven suggested that the process for expensing these project costs was followed by ARTC and that it gained approval through the RCG.[32]

2.2.3. ARTC's further submissions

The ACCC's Draft Determination set out that ARTC had demonstrated the efficiency of the majority of its operating expenditure. This includes ARTC's maintenance costs in the Constrained Network, ARTC's expensed project costs and ARTC's corporate overheads in the Constrained Network.[33]

However, in its Draft Determination the ACCC noted the following aspects where further information was required before the ACCC could form a view on the remaining expenditure:

- In relation to Pricing Zone 3, the ACCC was not satisfied that the information provided by ARTC was sufficient to explain the level of ARTC's maintenance costs of

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27 Ibid, p. 23.

28 ACCC, Draft Determination, p. 19.

29 Ibid, p. 19.

30 Ibid, p. 19.

31 Ibid, p. 20.

32 Ibid, p. 20.

33 Ibid, pp. 21-24.

$12.9 million for 2013. In particular, full track reconditioning expenditure in 2013 was considerably higher in Pricing Zone 3 than in any past year and was substantially larger than ARTC's forecast expenditure for 2013.

- In relation to network control costs, ARTC incurred unusually higher costs during 2012 and provided no clear explanation as to why network control costs remain at those levels for the 2013 calendar year. The ACCC therefore sought further information from ARTC about the reasons for higher network control costs during 2013 before forming a final view on the efficiency of network control costs of $9.3 million.
- The ACCC was also not satisfied that ARTC had demonstrated the efficiency of its network control costs and overheads of $4.4 million for Pricing Zone 3. Accordingly, the ACCC sought further information from ARTC before forming a view on the efficiency of these costs for the 2013 calendar year.[34]

In response to the ACCC's Draft Determination, ARTC provided further information to the ACCC (in confidence) regarding its maintenance and overhead costs in Pricing Zone 3 and its network control costs across the Hunter Valley Coal Network for the 2013 calendar year.

Additionally, in providing its revised compliance documentation to the ACCC on 1 April 2016, ARTC made a small number of corrections to the allocation of certain maintenance costs. Costs that were initially allocated to segments in Pricing Zone 1 were corrected to be allocated to segments in Pricing Zone 2. A further correction related to the allocation of maintenance costs within Pricing Zone 1.

ARTC states that the overall impact of these corrections results in a relatively small increase in the revenue shortfall from Constrained Coal Customers.

2.2.4. ACCC's Final Determination

The ACCC's view on the efficiency of ARTC's operating expenditure is set out below under the four categories:

- maintenance costs (such as major periodical maintenance and reactive corrective routine maintenance)
- expensed projects costs
- network control costs (such as labour and materials associated with train control, signalling and operations) and corporate overheads (such as labour and materials associated with head office functions, including human resources, legal, finance etc)
- other matters (such as performance incentives).

Maintenance costs

Consistent with its Draft Determination, the ACCC considers that ARTC's maintenance costs for the Constrained Group of Mines of $73.8 million for the 2013 calendar year are efficient.[35]

Regarding maintenance costs in Pricing Zone 3, information provided by ARTC in response to the Draft Determination set out additional detail around the increases in maintenance costs in the 2013 calendar year. In particular, ARTC noted that full track reconditioning works and associated expenditure increased due to ARTC undertaking a significantly larger number of these projects in Pricing Zone 3 compared to the previous year.

[34] Ibid, pp. 4-5.

[35] Ibid, pp. 21-22.

ARTC also noted that other maintenance expenditure, such as resurfacing and turnout re-timbering increased in Pricing Zone 3 largely due to the increase in volumes traversing this part of the network in 2013. A further increase in maintenance expenditure related to engineering investigations in ARTC's preparations to increase volumes and axle loads from 25 TAL to 30 TAL in Pricing Zone 3.

ARTC previously provided the ACCC with historical and forecast expenditure amounts for the top six maintenance activities during 2013. This data assisted the ACCC to analyse the efficiency of ARTC's 2013 full track reconditioning and resurfacing maintenance costs taking into consideration the additional information and reasoning provided by ARTC following the Draft Determination. The ACCC observed that although full track reconditioning costs increased significantly from the previous year, these costs were to cover a larger number of reconditioning projects compared to those in 2012. The ACCC also observed that on a unit (volume) basis, resurfacing costs were largely in line with the previous year.

Accordingly, in light of the additional information provided in confidence by ARTC regarding the increased maintenance costs in Pricing Zone 3, the ACCC considers that maintenance costs in Pricing Zone 3 of $14.3 million for the 2013 calendar year are efficient.

As noted in the Draft Determination, the ACCC will continue to seek detailed supporting information from ARTC on its maintenance costs in future annual compliance assessments. The ACCC also encourages ARTC's to provide industry stakeholders with as much information as possible going forward on ARTC's maintenance expenditure across all pricing zones.

Expensed project costs

Consistent with its Draft Determination, the ACCC considers that it is appropriate for ARTC to include expensed project costs of $8.97 million for the 2013 calendar year.[36]

The ACCC notes that Rio Tinto raised ARTC's expensing of project costs associated with the PWCS T4 expansion in the context of the ACCC's consideration of ARTC's revenue and cost allocation and the approach to calculating the incremental cost of Pricing Zone 3 Access Holder's use of Pricing Zone 1.

The ACCC's response to Rio Tinto's submission on this issue is set out in section 2.4.4 of this document.

Corporate overheads

The ACCC's Draft Determination noted that given the reduction in ARTC's corporate overhead costs for the Constrained Group of Mines (compared to the previous year), as well as further information from ARTC and WIK's assessment, ARTC's corporate overheads of $10.7 million for 2013 are efficient.[37] The ACCC's final position on these costs has not changed.

Regarding overhead costs in Pricing Zone 3, information provided by ARTC in response to the Draft Determination gave the ACCC a level of contextual background around ARTC's overhead costs in Pricing Zone 3 which was not previously provided. ARTC's explanation for increasing overhead costs in Pricing Zone 3 largely related to the degree of increase in volumes (measured by train kilometres) in Pricing Zone 3 relative to other pricing zones in 2013 (with the allocation of overheads being based on volumes).

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[36] Ibid, pp. 22-23.

[37] Ibid, pp. 23-24.

The ACCC considers that given the relative changes in volumes in each pricing zone between 2012 and 2013 and the process of allocating overhead based on volumes it is reasonable for overheads to increase for Pricing Zone 3 while decreasing for Pricing Zones 1 and 2. Accordingly the ACCC considers that ARTC's corporate overhead costs submitted for Pricing Zone 3 of $1.3 million for the 2013 calendar year are efficient.

Similar to maintenance costs, the ACCC also encourages ARTC to provide industry stakeholders with as much information as possible regarding its allocation of corporate overhead costs across pricing zones.

Network control costs

As noted above, in the Draft Determination the ACCC noted that ARTC's compliance documentation for 2013 did not outline why network control costs in Pricing Zones 1 and 2 remained at the unusually higher costs level incurred during 2012. In addition, the ACCC was not satisfied that the information provided by ARTC was sufficient to demonstrate the efficiency of its network control costs in Pricing Zone 3 for 2013. Accordingly, the ACCC sought further information from ARTC on the reasons for higher costs during 2013 before forming a view on the efficiency of network control costs of $9.3 million for Pricing Zones 1 and 2, and $1.7 million for Pricing Zone 3.

Additional information provided by ARTC regarding its network control costs generally notes that the driver of higher network control costs in 2013 was higher total labour costs. These costs arose from a combination of an increase in operations, additional employees and higher total working hours at ARTC's Network Control Centre North in 2013.

In light of the additional information provided by ARTC, the ACCC considers that ARTC's network control costs for the Hunter Valley network, across Pricing Zones 1, 2 and 3 in 2013 were reasonable.

Other matters

As noted in the Draft Determination, ARTC had previously intended to develop a performance incentive scheme following the conclusion of its True-Up Test review.

ARTC stated in its response to the ACCC's Position Paper that it undertook consultation with relevant stakeholders on a performance incentive scheme, including through the release of a draft set of incentives. ARTC noted that a common theme in the submissions it received from its consultation was that 'productivity based incentives are either not favoured or considered less important'.[38] As such, ARTC has decided not to propose a productivity related positive incentive mechanism at this time. However, ARTC noted that it:

> *…remains open to consideration of a reasonable productivity based positive performance incentive in the future, subject to certain threshold issues being resolved such as the application of such an incentive alongside the existing Ceiling Limit under the HVAU.*[39]

The ACCC notes that a performance incentive scheme is one matter under consideration in the current development of the 2016 HVAU.

ACCC's final view on ARTC's efficiency of operating expenditure

The ACCC's assessment of ARTC's efficiency of operating expenditure has had regard to the relevant factors in the definition of "Efficient" in the HVAU. Given the ACCC's views on

[38] ARTC, *Submission to the ACCC's Position Paper*, 3 February 2015, p.16.

[39] Ibid, p. 16.

the above matters, overall, the ACCC considers that ARTC's operating expenditure is efficient and it is appropriate for ARTC to include the full amount for recovery for the 2013 calendar year. This includes $102.8 million for the Constrained Group of Mines ($82.8 million in maintenance and expensed project costs and $20 million in network control costs and corporate overheads) and $17.3 million for Pricing Zone 3.

2.3. Reconciliation of revenue and costs

The financial model set out in section 4 of the HVAU caps the maximum amount of revenue that ARTC is entitled to receive at Economic Cost. The term Economic Cost is defined in section 4.5 of the HVAU. It is essentially calculated using a 'building block model' and incorporates allowances for return on assets, return of assets (depreciation) and efficient operating expenditure.

Section 4.3 of the HVAU sets out the ceiling revenue limit for the different parts of the Hunter Valley Coal Network as follows:

> *(a) In relation to Segments identified as forming part of Pricing Zone 1 and 2 in Schedule E, Access revenue from any Access Holder, or group of Access Holders must not exceed the Economic Cost of those Segments which are required on a standalone basis for the Access Holder or group of Access Holders ("Ceiling Limit").*
>
> *(b) In relation to Segments identified as forming part of Pricing Zone 3 in Schedule E, the Access revenue from any Access Holder, or group of Access Holders must not exceed the Ceiling Limit where the RAB for those Segments is equal to, or falls below, the RAB Floor Limit for those Segments at the end of the calendar year (t-1).*

The ACCC's consideration of ARTC's compliance with the ceiling revenue tests in the HVAU has been a key aspect of the overall assessment.

2.3.1. ARTC's May 2014 Compliance Documentation

ARTC provided a detailed calculation of the total costs for the Constrained Network, submitting that $297.5 million was to be recovered from Constrained Coal Customers for the 2013 calendar year.[40] ARTC further submitted that, because there remained cumulative losses for Pricing Zone 3 (and, therefore, does not form part of the Constrained Network), it did not need to provide detailed reconciliations with the ceiling revenue limit for Pricing Zone 3.[41]

In relation to revenue received in the 2013 calendar year, ARTC submitted that it had received $277.9 million from Constrained Coal Customers and $65.1 million from Pricing Zone 3 Access Holders. ARTC submitted that all of the revenue received from Constrained Coal Customers was to be reconciled with the costs incurred within the Constrained Network. Of the amount of revenue received from Pricing Zone 3 Access Holders, ARTC submitted that $2.5 million was to be reconciled with the costs incurred within the Constrained Network (representing their Direct Costs associated with traversing Pricing Zone 1) and $62.6 million was to be reconciled with the costs incurred in Pricing Zone 3.

The above is summarised in the following tables. Note that comparative reconciliations with the adjusted final figures are set out later in table 3.4.

[40] ARTC, *Initial Compliance Submission*, May 2014, p. 19.

[41] Ibid, p. 13.

Table 1: ARTC's initial submission on reconciliation of revenues and costs for the Constrained Group of Mines

2013	ARTC ($)
Total efficient costs (including direct costs associated with Pricing Zone 3 producers)	300 030 434
less direct costs associated with Pricing Zone 3 producers	2 497 914*
Costs for the Constrained Group of Mines	297 532 519
less revenue received for the Constrained Group of Mines	277 929 657
Shortfall in revenue for the Constrained Group of Mines	19 602 862

Table 2: ARTC's initial submission on reconciliation of revenues from Pricing Zone 3 Access Holders with costs incurred within Pricing Zone 3

2013	ARTC ($)
Total cumulative losses for Pricing Zone 3 at the beginning of the year	10 438 669
add total efficient costs of Pricing Zone 3 for the period	60 951 405**
less revenue received from Pricing Zone 3 producers that is to be reconciled with costs incurred within Pricing Zone 3	62 588 568
Total cumulative losses for Pricing Zone 3 at the end of the year	8 801 506

* As noted later in this document, in ARTC's revised compliance documentation submitted on 1 April 2016 this figure is $2,423,026.

** Note that this figure has been calculated as the difference between the opening and closing cumulative losses less revenue received.

2.3.2. Stakeholders' submissions

As outlined in section 1.4, prior to issuing its Draft Determination the ACCC undertook extensive consultation with industry on ARTC's approach to revenue allocation and compliance with the ceiling revenue test in the HVAU. In particular, these processes included the ACCC releasing a Position Paper in November 2014 as well as other consultation processes such as the ACCC's May 2014 Discussion Paper.

The ACCC's Position Paper, as well as the Draft Determination set out the ACCC's view that the proportion of the efficient costs incurred within the Constrained Network to be reconciled with the revenue received from Constrained Coal Customers should be calculated by subtracting the incremental costs (of which direct costs are a subset) associated with Pricing Zone 3 Access Holders' use of Pricing Zone 1 rather than just the direct costs.

Stakeholders commented on a range of issues in responding to the ACCC's Position Paper and other consultations. These views are set out in detail throughout the ACCC's Draft Determination document and are summarised below, together with stakeholders' submissions on the Draft Determination.

Stakeholder comments on ARTC's compliance with the ceiling revenue test in the HVAU are arranged into the following categories:

- transparency
- regulatory certainty and the impact on investment decisions

- equity across coal producers and cross subsidies
- interpretation of the ceiling revenue test

The ACCC notes that stakeholder comments on the proposed approach to assessing incremental cost are set out in section 2.4 of this document.

Transparency

Pricing Zone 1 and 2 producers submitted that there had not been sufficient transparency about ARTC's revenue allocation approach and that stakeholders had not been aware of how it operated. For example, Rio Tinto noted that the ACCC's May 2014 Discussion Paper had revealed significant new information on ARTC's revenue allocation process to the industry.[42] BHP raised concern with the level of disclosure of ARTC's revenue allocation process, claiming that Access Holders were not sufficiently informed about this process. Vale submitted that the level of transparency could be improved through examples to demonstrate the likely outcomes of proposed changes and allow stakeholders to make better informed decisions.[43]

Pricing Zone 3 producers, however, submitted that stakeholders should have been aware of ARTC's revenue allocation process and that the process was widely known.[44]

Regulatory certainty and impact on investment decisions

Pricing Zone 3 producers submitted that the ACCC's proposed approach to interpreting the ceiling test in this assessment reduces regulatory certainty.

In response to the Draft Determination Idemitsu again submitted that a change in approach to revenue allocation undermines regulatory certainty. In particular, Idemitsu submitted that:

> *If the Draft Determination is confirmed, then future investment decisions will need to reflect the increased risk of investing in an environment in which the basis on which access rights are priced is uncertain in the long term, and in which even the terms of the existing undertaking cannot be relied upon.*[45]

Idemitsu noted the difference between WIK's estimate of incremental costs of Pricing Zone 3 Access Holders' use of Pricing Zone 1 ($14.6 million) compared to ARTC's calculation of direct costs ($2.5 million). Idemitsu suggested that the materiality of this difference only increases the extent to which regulatory certainty would be undermined by this decision, rather than providing a justification for abandoning the established application of the undertaking.[46]

Idemitsu considered that the Draft Determination does not reflect an appropriate consideration of regulatory certainty, particularly the impacts on the investment decisions of existing and potential Gunnedah Basin coal producers, and is inconsistent with the principles of good regulatory policy and practice.[47]

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[42] Rio Tinto, Submission on the ACCC's Consultation Paper, 9 July 2014, p. 1; BHP, Submission on the ACCC's Position Paper, 29 January 2015, p. 2; Glencore, Submission on the ACCC's Position Paper, 29 January 2015, p. 2.

[43] ACCC, Draft Determination, pp. 27-28.

[44] Ibid, p. 28.

[45] Idemitsu, Submission on the ACCC's Draft Determination, January 2016, p. 6.

[46] Ibid, pp. 6-7.

[47] Ibid, p. 8.

Whitehaven submitted that:

> *changing the ceiling revenue limits through an adjustment to the stand alone cost test during the term of the current HVAU is not appropriate, leads to investment uncertainty and may reduce competition between producers and the international competitiveness of the Hunter Valley coal market.*

Whitehaven submitted that the ACCC should only include the proposed new methodology for estimating incremental cost of Pricing Zone 3 Access Holders' use of Pricing Zone 1 and 2 in the new HVAU.[48]

Impact on competition

Pricing Zone 3 producers considered that ARTC's revenue allocation approach is in the interests of competition. For instance, Idemitsu submitted that ARTC's approach encourages the entry of new coal producers and ensures the development and growth of the NSW coal market.[49] In response to the Draft Determination Idemitsu submitted that the survival of existing mines in the current market environment is challenging and the potential consequences on competition in the coal market of transferring substantial additional costs to Pricing Zone 3 producers must be considered by the ACCC.[50]

Idemitsu submitted that:

> *The attempt by certain PZ1 producers to overturn the established operation of the HVAU during its term, if successful, will improve their competitive position, while having a disproportionate impact on the competitiveness of the PZ3 producers. This would further increase the competitive disadvantage of Gunnedah Basin producers in regard to rail freight.*
>
> *The disproportional impact of the Draft Determination on PZ3 producers arises due to the relative tonnages railed from each zone. For example, $12m of costs transferred from PZ1 to PZ3, as proposed by WIK, will reduce PZ1 costs by around 8c/t, while impacting the competitiveness of PZ3 producers by 80c/t. We make this point simply to point out that the consequences of an inappropriate decision are not symmetrical in terms of potential impacts on competition in the coal market*.[51]

Whitehaven submits that the adjustment to revenue allocation proposed by the Draft Determination could have the unintentional consequences of distorting competition both within the Hunter Valley coal market and internationally. Whitehaven submitted that:

> *if the Draft Determination is adopted it will result in PZ1 producers receiving an access price decrease over the next 5 years while PZ3 producers will receive an access price increase over the same period*.[52]

Whitehaven further submitted that changes in the process could lead to a reduction in production from Pricing Zone 3, lead to less ability to blend in higher quality coal originating from Pricing Zone 3 with other lower quality coal, and subsequently mean a significant decrease in the international competitiveness of Hunter Valley coal.[53]

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[48] Whitehaven, Submission on the ACCC's Draft Determination, 15 January 2016, p. 1.

[49] Idemitsu submission on the ACCC's Position Paper,30 January 2015, p. 7.

[50] Idemitsu submission on the ACCC's Draft Determination, p. 11.

[51] Ibid, p. 11.

[52] Whitehaven, Submission on the ACCC's Draft Determination, p. 2.

[53] Ibid, p. 3.

Equity across coal producers and cross subsidies

Pricing Zone 1 and 2 producers considered that under ARTC's approach to revenue allocation Pricing Zone 1 and 2 producers were effectively cross-subsidising Pricing Zone 3 producers. For instance, BHP, Vale and Glencore indicated that cross subsidisation exists between producers under ARTC's current approach. Rio Tinto also submitted that if there were no changes to ARTC's current approach, Constrained Network Access Holders would continue to be significantly disadvantaged in terms of access pricing.[54]

Pricing Zone 3 producers, however, submitted that any impact of ARTC's current revenue allocation process is immaterial.[55]

In response to the Draft Determination Idemitsu submitted that it does not consider the perceived equity concerns arising from a potential cross-subsidisation between Pricing Zone 1 and 2 producers and Pricing Zone 3 producers as a relevant consideration for the ACCC's assessment.[56] Rather, Idemitsu consider that the inequity arises from taking a short term and selective view of the pricing arrangements.

> *A longer term view suggests that any perceived short term 'subsidy' is in fact an efficient arrangement and is in the long term interests of both ARTC and of PZ1/2 producers, while consideration of the full package of pricing arrangements under the HVAU points to PZ3 producers paying a share of system costs which is more than would be expected if developed on a cost-reflective basis.*[57]

Idemitsu considers over the longer term, it is expected that further growth in Pricing Zone 3 will see producers in that region making an increasing contribution to Pricing Zone 1 costs, such that the contribution ultimately exceeds the full incremental costs of Pricing Zone 3 use of this segment.[58]

Idemitsu further submits that a number of other features of the HVAU are currently inequitable from the perspective of Pricing Zone 3 producers. These include a lack of any distance taper in pricing, and Pricing Zone 3 being given a Rail Asset Base (RAB) value per km which is significantly greater than that of Pricing Zone 1 or 2, despite the inferior service capability of the asset (i.e. a shorter maximum train length).[59]

On the issue of loss capitalisation, Idemitsu recognised that this feature of the HVAU has an important role in reducing the immediate impact of the Draft Determination on the short term viability of mines in Pricing Zone 3. However, Idemitsu also noted that the Draft Determination, if affirmed, would cause it to revise its long term plan to reflect the risk that access charges may increase, rather than decrease.[60]

Further, Idemitsu submitted that, if the ACCC confirms the Draft Determination, it will be critical that the ACCC seeks ARTC's commitment to recover the resulting capitalised loss over an extended timeframe in order to prevent an immediate and substantial impact on the viability of existing mines. Idemitsu suggests that a timeframe aligned with the life applied to

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[54] Vale, Submission on the ACCC's Position Paper, 21 January 2015, p. 2; BHP Billiton, Submission on the ACCC's Position Paper, 29 January 2015, p. 1; Rio Tinto, Submission on the ACCC's Position Paper, 6 February 2015, p. 4; Glencore, Submission on the ACCC's Position Paper, 29 January 2015, p. 2.

[55] Whitehaven, Submission on the ACCC's Position Paper, 20 January 2015, p. 3.

[56] Idemitsu, Submission on the ACCC's Draft Determination, p. 9.

[57] Ibid, p. 9.

[58] Ibid, p. 9.

[59] Ibid, p. 9.

[60] Ibid, p. 12.

ARTC's Pricing Zone 3 fixed assets (which should be aligned to the Pricing Zone 3 mine lives) is appropriate.[61]

Whitehaven similarly submitted concerns with the equity of other features of the HVAU, including that Pricing Zone 3 producers face higher RAB per kilometre compared to other Pricing Zones, despite having similar track characteristics to Pricing Zone 2. Whitehaven also noted that the original determination of the RAB was not transparent.[62] Whitehaven believes a review of the RAB by Pricing Zone should be undertaken to ensure all producers are paying proportionally equitable returns on ARTC assets.[63]

Whitehaven also re-iterated its position regarding the contribution of Pricing Zone 1 users to Pricing Zone 3 projects that increase the capacity of Pricing Zone 1 (such as increasing the haulage capacity of Pricing Zone 3 trains).

> *Following the arguments put forward by PZ1 producers, any PZ3 project which increases capacity in PZ1 thereby negating or delaying PZ1 major capital expenditure should be contributed to by PZ1 producers using the agreed ACCC methodology.*[64]

Interpretation of the ceiling revenue test

Pricing Zone 1 and 2 producers supported the ACCC's proposed application of the standalone cost approach which includes at least the direct costs plus any capital expenditure projects that were commissioned to increase capacity in Pricing Zone 1 for Pricing Zone 3 Access Holders. Vale, Rio Tinto and BHP considered that Access Holders should contribute to the full cost of the capacity they consume in a given pricing zone.[65]

Glencore submitted that ARTC's revenue allocation and ceiling limit calculations must be revised for the 2012 and 2013 annual compliance assessments to remove any cross subsidy, however Glencore does not consider that the incremental cost of Pricing Zone 3 Access Holders use of Pricing Zone 1 needs to be quantified.[66]

Pricing Zone 3 producers submitted that the ACCC's proposed approach to standalone and incremental costs is inconsistent with historical methods applied to Pricing Zone 2 and with the method previously approved by the ACCC.[67]

In response to the Draft Determination Idemitsu outlined the contention among stakeholders around the interpretation of the ceiling revenue test as follows:

> *In calculating the Ceiling Limit, the assessment of the 'Economic Cost of a Segment' must be undertaken on a standalone basis.*
>
> *However, the term 'standalone basis' is not defined in the HVAU. Given that the undefined term 'standalone basis' is used in the calculation of the Ceiling Limit, this provides flexibility as to how the Ceiling Limit must be calculated.*
>
> *This flexibility has given rise to a difference of opinion as between the ACCC and ARTC as to the correct approach to calculating the Ceiling Limit (despite ARTC's*

[61] Ibid, p. 12.

[62] Whitehaven, Submission on the ACCC's Draft Determination, p. 3.

[63] Ibid, p. 3.

[64] Ibid, p. 4.

[65] Vale, Submission on the ACCC's Position Paper, p. 2; Rio Tinto, Submission on the ACCC's Position Paper, p. 2; BHP, Submission on the ACCC's Position Paper, p. 1.

[66] ACCC, Draft Determination, p. 29.

[67] Idemitsu, Submission on the ACCC's Position Paper, 30 January 2015, p. 6.

approach being documented and explained to the ACCC prior to approval of the HVAU by the ACCC).[68]

Idemitsu re-iterated that it does not agree with the ACCC's proposal regarding the deduction of incremental costs (rather than Direct Costs) for the purpose of calculating the Ceiling Limit.

> *Idemitsu considers that 'standalone basis' must be taken to have the meaning given to that term by ARTC pursuant to its calculation of the Ceiling Limit in its annual compliance submission for the 2013 calendar year because this meaning of 'standalone basis':*
>
> - *was sufficiently communicated to, and well-understood by, the ACCC prior to the ACCC's approval of the HVAU;*
> - *formed the basis on which the relevant provisions of the HVAU were approved by the ACCC; and*
> - *subsequent to the approval of the HVAU, has been approved by the ACCC in each of ARTC's annual compliance assessments during the term of the HVAU.*[69]

Idemitsu further submitted that:

> *The ACCC is therefore bound, by its own conduct in approving the HVAU in the relevant context, to give the term 'standalone basis' the meaning given to that term when the ACCC approved the HVAU, as documented and explained by ARTC. Given that ARTC's interpretation of 'standalone basis' was clearly communicated to, and understood by, the ACCC prior to approval of the HVAU and formed the basis of the ACCC's approval of the relevant provisions, the ACCC cannot now impose a new definition of 'standalone basis' which is inconsistent with the meaning given to the term when the ACCC approved the HVAU.*[70]
>
> *… any attempt by the ACCC to change the meaning of 'standalone basis' during the term of the HVAU would exceed the ACCC's powers, is against accepted regulatory practice and is contrary to the fundamental principle of undertakings providing regulatory certainty during their term*.[71]

Idemitsu also commented on the provision of information to the ACCC regarding ARTC's intended approach to revenue allocation in the development of the HVAU. Idemitsu noted that the ACCC acknowledged ARTC's approach to revenue allocation in the development of the HVAU. Idemitsu listed a number of documents and communications which it considered outlined this understanding.[72]

Idemitsu submitted that the information provided by ARTC to the ACCC in relation to the proposed revenue allocation method and the application of the Ceiling Limit under the HVAU is relevant to the provisions of the HVAU as it was ultimately accepted and must therefore be taken into account by the ACCC.

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[68] Idemitsu, Submission on the ACCC's Draft Determination, p. 13.

[69] Ibid, p. 16.

[70] Ibid, p. 16.

[71] Ibid, p. 17.

[72] Ibid, pp. 18-21.

Idemitsu further submitted that:

> *The ACCC approved the HVAU in the context of these communications. Given that ARTC's revenue allocation methodology was clearly communicated to the ACCC prior to approval of the HVAU, the ACCC cannot now impose a new definition of 'standalone basis' during the term of the HVAU which is inconsistent with the revenue allocation methodology explained by ARTC, and understood by the ACCC, at the time the ACCC approved the HVAU.*[73]

2.3.3. ARTC's submissions

Consistent with ARTC's earlier submissions, ARTC re-iterated its disagreement with the approach taken in the ACCC's Draft Determination to include the incremental costs of Pricing Zone 3 Access Holders' use of Pricing Zone 1 and 2 to establish the relevant economic cost for Constrained Coal Customers. ARTC submitted that it remains of the view that the approach adopted in its 2013 submission is in compliance with the HVAU.[74]

ARTC's submission commented on a range of aspects of the Draft Determination but focused more on the WIK analysis of incremental cost, which the ACCC used to form the base of the Draft Determination. ARTC's views on the WIK analysis are set out in section 2.4.

ARTC, however, set out that while its submission on the Draft Determination does not fully re-iterate arguments provided in previous ARTC submissions on this assessment, this should not be interpreted as a change in ARTC's position.[75] ARTC submitted that:

> *[its] primary concern continues to be that the draft decision is contrary to a fundamental objective which underpins our rationale for seeking to establish long-term voluntary undertakings with the ACCC. That objective is to deliver regulatory and commercial certainty to ARTC and our customers for the term of an undertaking and as such we believe that the optimal timeframe for implementing a change of this nature would be from the commencement of the 2016 Hunter Valley Access Undertaking.*[76]

ARTC's arguments in support of its position, provided in its submission on the Draft Determination as well as in earlier submissions, are summarised below in the following categories:

- Transparency
- Cross subsidies
- Interpretation of the ceiling revenue test
- Regulatory certainty and impact on investment decisions
- Risks to ARTC.

Transparency

ARTC's view is that it provided coal producers with a significant amount of detail on its proposed revenue allocation approach during the ARTC and ACCC's consultation on the 2011 HVAU. ARTC also noted that coal producers had an opportunity to provide views at the

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73 Ibid, p. 21.

74 ARTC, Submission on the ACCC's Draft Determination, p. 4.

75 Ibid, p. 4.

76 Ibid, p. 4.

time and that the ACCC would have considered stakeholders views when accepting the HVAU.[77]

Cross subsidies

ARTC does not consider that its approach leads to cross subsidisation or inefficient pricing between Pricing Zones under a longer term and whole of network perspective.[78]

Interpretation of the ceiling revenue test in the HVAU

In its response to the ACCC's Position Paper, ARTC stated that 'standalone' in the HVAU must 'be interpreted in the context of the provisions and operation of the HVAU and not as an independent concept to be purely defined by reference to economic theory'.[79]

ARTC submits that the ACCC's interpretation of the revenue ceiling test set out in the Draft Determination introduces regulatory uncertainty and undermines ARTC's confidence in its ability to invest in the network.[80]

ARTC re-iterated that during the development of the 2011 HVAU, and subsequently during compliance assessments for the 2011 H2 and 2012 calendar years, the ACCC was aware of ARTC's revenue allocation policy. ARTC submits that:

> *the ACCC's approval of the 2011 HVAU does not mention incremental costs at all, let alone incremental capital costs.*[81]

ARTC further submits that:

> *the introduction of a significant change of interpretation of this nature should be done in conjunction with the 2016 HVAU. This would allow ARTC to adjust its investment decision processes, including any adjustments to the undertaking required, in an appropriate manner, rather than being required to accept a reinterpretation of past decisions that were consistent with the regulatory decisions made up until now.*[82]

In response to the Draft Determination, ARTC submit that the ACCC has not indicated what information is now available for the 2013 compliance year to give rise to a change in interpretation that was not previously available when those earlier decisions were made.[83]

Regulatory certainty and impact on investment decisions

ARTC argued that its interpretation is consistent with that applied under the NSWRAU and that the ACCC was advised by ARTC how it intended to allocate revenue. ARTC suggested that the ACCC's approach would raise concerns with regulatory certainty.[84]

ARTC also noted that, while the ACCC's Draft Determination does not propose to reopen the ACCC's previous compliance assessment decisions, a change to the interpretation of the ceiling revenue test would indirectly reopen these decisions.

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77 ACCC, Draft Determination, p. 33.

78 Ibid, p. 33.

79 Ibid,, p. 32.

80 ARTC, Submission on the ACCC's Draft Determination, p. 22.

81 Ibid, p. 21.

82 Ibid, p. 22.

83 Ibid, p. 21.

84 ACCC, Draft Determination, p. 33.

Specifically, ARTC submitted:

> *To recategorise the costs associated with these investments (depreciation and return) as having some portions fixed and some incremental now is to indirectly reopen the original decisions as to the nature of the underlying asset for its own determinations for 2012, 2011 H2 and the approval of the 2011 HVAU. It would also indirectly reopen the decisions made by IPART for the years between 2008/09 and 2010/11 financial years in order to recategorise these expenditures*.[85]
>
> *ARTC cannot understand why this does not amount to reopening those prior decisions even if it does not amount to retrospectively changing the 2012 and 2011H2 outcomes.*[86]

ARTC also responded to the Draft Determination regarding the investment distortions arising from ARTC's approach to revenue allocation:

> *The major investments in new capacity in the network during the life of the 2011 HVAU (to June 2016) have already been commissioned or are already committed. A change to policy now will not impact on ARTC's decision-making until after the intended expiry of the 2011 HVAU in June 2016.*[87]

Risks to ARTC

ARTC submitted that the assessment of risks to ARTC in the Draft Determination is inaccurate.

ARTC believes that whilst there are mechanisms such as take-or-pay contracts, accelerated depreciation, the rate of return, the 'unders and overs' accounting framework and loss capitalisation, which contribute to the overall network risk management, they do not mitigate the specific risk of this Draft Determination.

ARTC makes the following observations on these mechanisms:

- Take-or-pay components only cover ARTC's fixed costs, and, by definition, an increase in the incremental costs is not covered by this provision.
- An approach that allocates costs as incremental rather than fixed would, in the case that the investments are not fully depreciated, leave ARTC in a position that the costs cannot be recovered against the remaining Pricing Zone 1 traffic. This highlights an increased stranding risk for ARTC, not only in Pricing Zone 3, but also in Pricing Zone 2 and potentially even at the periphery of Pricing Zone 1.[88]
- Rate of return was agreed with coal producers and approved by the ACCC under a set of risk assumptions including the treatment of capital costs as fixed costs. A change to this assumption would require a reassessment as to the adequacy of the current rate of return, given the increased risk exposure to ARTC.
- As 'unders and overs' applies to the Constrained Group of Mines, it does not provide any risk mitigation to ARTC with respect to the increased allocation of incremental cost to Pricing Zone 3 traffics.

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85 ARTC, Submission on the ACCC's Draft Determination, p. 18.

86 Ibid, p. 17.

87 Ibid, p. 22.

88 Ibid, p. 19.

- ARTC sees loss capitalisation as an ineffective mechanism to mitigate stranding risk, and believes that loss capitalisation does not serve to guarantee an eventual repayment of accumulated losses.[89]

2.3.4. ACCC's Final Determination

This section provides the ACCC's views on ARTC's interpretation of the ceiling revenue test in the HVAU, including the ACCC's view on each of the following specific issues raised by ARTC and other stakeholders:

- Transparency
- Interpretation of the ceiling revenue test
- Regulatory certainty
- Impact on investment decisions
- Competition
- Cross subsidies
- Risks to ARTC.

Following the ACCC's views on each of the specific issues above, the ACCC sets out its Final Determination regarding the interpretation of the ceiling revenue limits in the HVAU. The approach to calculating incremental cost, which informs the ceiling revenue limit is discussed in section 2.4.

Transparency

The ACCC notes Pricing Zone 3 producers' submissions on the Draft Determination, as well as previous submissions from ARTC and other stakeholders on the transparency of how the HVAU is applied.

The ACCC acknowledges that ARTC provided a significant amount of information to the ACCC and coal producers during the development of the HVAU, and that some of this information was publically available. However, some of this information was not made public or consulted on as it was provided to the ACCC on a confidential basis.

Throughout this assessment process third party stakeholders have expressed mixed views on the level of transparency around the intended application of the ceiling revenue test. While Pricing Zone 3 producers submit that ARTC's intended approach should have been widely known, Pricing Zone 1 and 2 producers submitted that they did not have sufficient transparency and clarity surrounding ARTC's intention.[90]

As noted in the Draft Determination, the ACCC considers that transparency around ARTC's reconciliations is paramount to allow parties to make informed decisions and encourage efficient use of and investment in the Hunter Valley Coal Network.[91]

The ACCC remains of the view that there had been a lack of transparency and a degree of uncertainty in relation to ARTC's revenue allocation approach prior to the extensive consultation with stakeholders undertaken throughout this assessment. The ACCC is applying the HVAU in this assessment after being informed by a significant amount of information such as industry consultation processes, WIK's thorough examination of ARTC's

[89] Ibid, p. 20.

[90] ACCC, Draft Determination, p. 36.

[91] Ibid, p. 36.

costs, examination of subsequent submissions and further investigation of ARTC documents.

Through this assessment, the ACCC has sought to improve the level of transparency around ARTC's approach to revenue allocation and hence increase the level of certainty going forward for Access Holders.

Interpretation of the ceiling revenue limits

The ceiling revenue limits are set out in subsection 4.3(a) of the HVAU:

> In relation to the Segments identified as forming part of Pricing Zone 1 and 2 in Schedule E [of the HVAU], Access revenue from any Access Holder, or group of Access Holders must not exceed the Economic Cost of those Segments which are required on a stand alone basis for the Access Holder or group of Access Holders.

As outlined in the Draft Determination, the ACCC's view is that ARTC's application of the ceiling revenue test is inconsistent with subsection 4.3(a) of the HVAU.

The ACCC's view is that the ceiling revenue limit is the Economic Cost determined 'on a stand alone basis'. That is, the ceiling revenue limit for Constrained Coal Customers is equal to the full Economic Cost for the Segments in Pricing Zones 1 and 2 minus the incremental costs (rather than the Direct Costs) for the use of those segments by Access Holders originating outside those Segments (i.e. Pricing Zone 3 Access Holders).

In forming this view, the ACCC notes that the HVAU provides definitions for Economic Cost (see section 4.5 of the HVAU). The Economic Cost of a Segment is essentially the prudent and efficient cost determined using the sum of the underlying components or 'building blocks' consisting of a return on assets, depreciation and efficient operating expenditure. That is, the HVAU entitles ARTC to receive revenue equal to the sum of its prudent and efficient costs. The ACCC notes that the definition of Economic Cost also requires that 'all costs are to be assessed on a stand alone basis'.

The HVAU does not provide a definition for what is meant by 'on a stand alone basis'. However, the concept of standalone costs has a well-accepted meaning in economics dating back to the seminal paper by Gerald Faulhaber published in 1975.[92] In a 2002 paper (also cited in the ACCC's November 2014 Position Paper and Draft Determination), Faulhaber described the meaning of standalone cost in the following way:

> *… the stand-alone cost of any service or group of services of an enterprise is the cost of providing that service (at the existing or "test" demand level) or group of services by themselves, without any other service that is provided by the enterprise. A closely related concept is that of "incremental cost". The incremental cost of a service or group of services is the additional cost of providing that service or group of services over and above the cost of providing all the remaining services.*[93]

The ACCC notes that Pricing Zone 1 and 2 stakeholders provided in principle support for the ACCC's position. Further, BHP and Rio Tinto submitted their support for the ACCC's views on the interpretation and application of the revenue ceiling test under the current HVAU.

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92 G Faulhaber, *Cross-Subsidization: Pricing in Public Enterprises*, American Economic Review, 65, 1975, pp. 966-977. The literature on stand alone cost is reviewed in S Brown and D Sibley, *The Theory of Public Utility Pricing*, Cambridge University Press, 1986, pp. 52-54. See also W Baumol, J Panzar and R Willig, *Contestable Markets and the Theory of Industry Structure* (Harcourt Brace Jovanovich, 1982), pp.351-356, for an exposition of the stand-alone cost test and the incremental cost test.

93 G Faulhaber, *Cross-subsidy analysis with more than two services*, August 2002, p. 1. Accessible at: http://assets.wharton.upenn.edu/~faulhabe/cross%20subsidy%20analysis.pdf.

Other stakeholders such as ARTC, Whitehaven and Idemitsu, do not agree with the ACCC's position. These stakeholders have also argued that now is not the time for the ACCC to seek ARTC to change its application of the ceiling test, and that any such change should only be considered in detail for any future undertaking.

The ACCC notes that Idemitsu submitted:

> *the undefined term 'standalone basis' is used in the calculation of the Ceiling Limit provides flexibility as to how the Ceiling Limit must be calculated*.[94]

The ACCC notes Idemitsu's submission on the Draft Determination that, through approving the HVAU and making previous decisions on the application revenue ceiling test in the HVAU, the ACCC has implied an accepted definition of 'stand alone basis'.

While the ACCC did not object to ARTC's approach to applying the ceiling revenue test in the 2012 annual compliance assessment, the significant amount of information now available to the ACCC through the consultation processes and in-depth analysis of ARTC's costs has revealed that it is no longer appropriate. The ACCC considers that continuing to apply the ARTC approach in the calculation of the ceiling revenue test would result in outcomes that are not consistent with the objectives of the HVAU.

In the absence of definitions regarding terms in the ceiling test being set out in the HVAU, the ACCC has applied the terms of the ceiling test consistent with how they are understood and accepted in economics. This is noted above in Faulhaber's paper, and referred to in other economic literature.

Additionally, the ACCC is of the view that its interpretation and application of the ceiling test best achieves the objectives of the HVAU such as the 'use of transparent and detailed methodologies, principles and processes for determining access revenue limits, terms and conditions' and 'promoting economically efficient investment, use and operation of the Network'. For example, the removal of cross-subsidies between producers and ensuring greater transparency around the costs parties contribute to, which informs investment and operating decisions.

A further point made by ARTC was that the ACCC's interpretation of standalone costs would create an inconsistency in the application of the floor revenue limits and the ceiling revenue limits in section 4.2 and 4.3 of the HVAU respectively. As noted in the Draft Determination, the ACCC remains of the view that while the two limits form the boundaries of the range of permissible ARTC revenue, this does not mean that they must be determined on the same basis. As such, the ACCC does not consider that this application of standalone cost would create an inconsistency in the application of the floor revenue limits and the ceiling revenue limits in section 4.2 and 4.3 of the HVAU respectively.[95]

Further to this, the ACCC notes that section 4.2 sets the floor limits for access revenue and that section does not prevent ARTC from charging Pricing Zone 3 producers more than the floor limits.

Regulatory certainty

The ACCC understands that ARTC has continued to apply the methodology it used when regulated under the NSWRAU. ARTC and Pricing Zone 3 producers argue that for the purposes of regulatory certainty, ARTC should continue to apply this same approach during the remaining term of the HVAU.

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[94] Idemitsu, Submission on the ACCC's Draft Determination, p. 13.

[95] ACCC, Draft Determination, p. 40.

The ACCC, however, notes that the HVAU is not the same as the NSWRAU as it includes additional features such as the application of loss capitalisation in Pricing Zone 3 and alternative reconciliations for Pricing Zone 3 compared to the Constrained Network. The ACCC also notes that the environment in which the NSWRAU and HVAU have operated has changed over time. For instance, there has been increasing volumes traversing the network over time resulting in congestion in Pricing Zone 1 in particular and creating greater need for investment during the life of the HVAU.

Given these differences, the ACCC does not consider the fact that ARTC applied its approach under the NSWRAU to be an appropriate reason for no change when the information currently before the ACCC indicates that ARTC's approach does not comply with the ceiling revenue limits set out in section 4.3 of the HVAU.

Whitehaven and Idemitsu also argued that if the ACCC adopts its interpretation of the ceiling revenue test it would have the effect of undermining regulatory certainty as this approach differs from the ARTC approach previously applied and that the ACCC accepted for the 2012 annual compliance assessment. Similarly, ARTC submitted that if the ACCC adopts its interpretation of the ceiling revenue test it would indirectly reopen previous ACCC decisions on the HVAU by treating the value of assets in a different way to how they were treated in previous decisions.[96]

Consistent with the Draft Determination, the ACCC does not consider that ARTC and Pricing Zone 3 producers' arguments about reduced regulatory certainty provides a sufficient basis for accepting ARTC's approach. This is particularly the case when the information now before the ACCC arising from stakeholder consultation following the release of the 2012 annual compliance assessment clearly indicates that this is not appropriate for the 2013 calendar year. The ACCC's extensive consultation process is set out in section 1.4 of this document.

The Draft Determination also noted that the ACCC did not intend to revisit its annual compliance assessment in relation to the 2012 and earlier assessments because doing so after having made a final determination would reduce regulatory certainty. The ACCC notes that stakeholders provided mixed views on this issue. ARTC and Pricing Zone 3 producers supported the ACCC's position while some Pricing Zone 1 and 2 producers asked the ACCC to revisit its previous compliance assessments on the HVAU in light of the currently available information.

The ACCC affirms its position in the Draft Determination and considers that its interpretation of the ceiling revenue test and the proposed application of this through the WIK analysis do not affect the outcomes of the 2011 H2 and 2012 compliance assessments of the HVAU. While the WIK analysis accounts for investments that occurred in years prior to 2013, the treatment of these investments and the outcome of this treatment occurs only with respect to revenue allocation for the 2013 calendar year.

Given the ACCC's interpretation of the ceiling revenue test, the ACCC considers that this is best achieved by adopting the WIK analysis and applying its methodology across the period in which it considered investments, that is, for the period from 2008 to 2013. This is discussed further in this document in section 2.4.4.

Overall, the ACCC considers that in the interests of promoting regulatory certainty going forward it would not be conducive to revisit previous compliance assessments. As previously noted, the ACCC considers that the extensive process of this assessment will provide all stakeholders with a greater level of transparency and certainty going forward.

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[96] ARTC, Submission on the ACCC's Draft Determination, p. 18.

Impact on investment decisions

ARTC and Pricing Zone 3 producers consider that ARTC's current application of the ceiling revenue test would encourage greater investment in Pricing Zone 3 than might otherwise be the case.

ARTC also submitted that adopting the ACCC's interpretation of the ceiling revenue test would have little to no effect on the investment decisions for the remaining life of the 2011 HVAU, as all investments in this period have already been committed.

The ACCC notes that ARTC sought to allow for loss capitalisation in Pricing Zone 3 through the HVAU as a way to encourage investment in new assets where there was limited initial demand. Other aspects of the HVAU such as take-or-pay contracts, accelerated depreciation, the rate of return, the 'unders and overs' accounting framework also encourage ARTC to invest in Pricing Zone 3 by enabling ARTC to manage its overall risks.

The ACCC also notes that its role in assessing ARTC's compliance with the financial model in the HVAU is an ongoing activity that assesses ARTC's compliance with the HVAU for a given year. The ACCC's assessments seek to provide transparency so that producers can understand their true costs relating to the Hunter Valley Coal Network, which will impact on future investment decisions they make about their mines and the network as a whole.

As noted in the Draft Determination, the ACCC is of the view that, to the extent that ARTC's approach leads to cross-subsidies between access holders, then ARTC's approach would likely have distorted past investment decisions. If this is not rectified it will continue to send inefficient investment signals to the Hunter Valley supply chain.

As explained further below, the ACCC remains of the view that there is a material cross-subsidy between Pricing Zone 1 and 2 producers and Pricing Zone 3 producers, and that correcting this is consistent with the HVAU objective of 'promoting economically efficient investment, use and operation of the Network'.

Competition

Pricing Zone 3 producers consider that adopting the ACCC's interpretation of the revenue ceiling test would also have negative implications on the ability for Pricing Zone 3 producers to compete in the coal export industry. In particular, Pricing Zone 3 producers submit that the relative effects would advantage Pricing Zone 1 producers while placing additional costs on Pricing Zone 3 producers.[97] Pricing Zone 3 producers also submit that under the terms of the HVAU, they already face a relative disadvantage on rail freight costs due to, for example, a higher $RAB/km.

The ACCC understands the relative industry positions of Pricing Zone 1 producers compared to Pricing Zone 3 producers, where the latter are newer and growing entrants into the industry. In this regard the ACCC notes some objectives of the HVAU in increasing competition and encouraging customer confidence and market growth in the Hunter Valley coal industry.

The ACCC however also notes other objectives of the HVAU that relate to the efficient use of resources, the promotion of efficient investment and use of resources as well as the interests of all Access Holders. The ACCC considers that ARTC's current application of the ceiling revenue test does not best go to achieving these objectives, particularly in the case where there are cross-subsidies between producers.

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[97] Whitehaven, Submission on the ACCC's Draft Determination, pp. 2-3; Idemitsu, Submission on the ACCC's Draft Determination, p. 11.

The ACCC notes Whitehaven's submissions suggesting a review of the RAB by Pricing Zone. The ACCC's role in conducting annual assessments of ARTC's compliance with the financial model in the HVAU, however, does not extend to a review of various RAB's for different pricing zones. In the case of existing assets at the time of accepting the HVAU, the opening RAB values were determined under IPART. The opening RAB values for new segments to be incorporated into the HVAU are determined through separate assessments in consultation with industry (such as the ACCC's assessment of the Gap to Turrawan segments in 2014). Access Holders will, however, have an opportunity to provide further input into issues such as these in the development of the 2016 HVAU, currently being proposed by ARTC.

Cross subsidies

The ACCC notes that stakeholders have expressed mixed views on the presence and size of any cross-subsidy under ARTC's current application of the ceiling revenue test.

ARTC considered that it is not clear that cross-subsidies exist, particularly over the longer term. Whitehaven considered that any cross-subsidy would likely be immaterial, while stakeholders such as Rio Tinto, BHP, Vale and Glencore are concerned that material cross-subsidies do arise.

The ACCC notes Idemitsu's submission on the Draft Determination and acknowledges that some statements made in its Draft Decision in March 2010 in relation to the undertaking that ARTC had proposed in 2009 could potentially be read to discount the possibility of cross-subsidies arising in the context of the HVAU where services pay only for their Direct Costs.

However, as also noted in the Draft Determination, the ACCC is now presented with information which indicates that a material cross-subsidy does arise. In particular, the $12.1 million difference between the Direct Costs assessed by ARTC and the incremental costs assessed by WIK (under a conservative approach) indicates that Constrained Coal Customers are cross-subsidising Pricing Zone 3 Access Holders who would otherwise bear these costs.[98]

The ACCC therefore remains of the view that the existence of cross-subsidies in the context of the HVAU is inconsistent with the financial model under the undertaking as well as the HVAU objectives such as 'increasing competition and ensuring efficient use of resources', 'providing access in a transparent, efficient and non-discriminatory manner'.

Risks to ARTC

The ACCC noted in its Draft Determination that the array of existing mechanisms in the HVAU, such as take-or-pay contracts, accelerated depreciation, the rate of return and loss capitalisation (which was proposed by ARTC) adequately compensate ARTC for the risks associated with its investments on the Hunter Valley Coal Network and in particular in Pricing Zone 3. The 'unders and overs' accounting framework provides a further ability for ARTC to mitigate its broader risks.

In response ARTC submitted that these mechanisms in the HVAU would not adequately compensate it for risks associated with the ACCC adopting its interpretation of the ceiling revenue test. In particular ARTC claims that the ACCC's proposed approach would increase ARTC's exposure to stranding risk.

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[98] ACCC, Draft Determination, p. 38. The ACCC notes that a spreadsheet error was present in WIK analysis set out in the Draft Determination. This error related to the non-inclusion of depreciation associated with certain pre-2011 capital projects. The ACCC also notes ARTC's correction of its error related to disposals and adjustments to its allocation of operating expenditure. Taking account of these adjustments, the difference between the direct costs assessed by ARTC and the incremental costs assessed by WIK is increased to $15.4 million. See ceiling test calculations in table 3.4.

The ACCC however remains of the view that the number, variety and scope of the mechanisms in the HVAU designed to mitigate ARTC's risks are significant and can be used to counter perceived risks. For example, ARTC argued for the loss capitalisation mechanism (which applies to Pricing Zone 3) and accelerated depreciation to be included in the HVAU during its development. At that time ARTC stated that:

> *There are a number of options that ARTC could pursue to mitigate its asset stranding risk, especially in respect of new investment including:*
>
> - *capitalisation of initial economic losses incurred on new infrastructure for later recovery through access charges; and*
> - *adoption of accelerated depreciation in certain circumstances.*[99]

Overall, while an allocation of incremental costs would lead to a larger share of costs being allocated to Pricing Zone 3 producers relative to Direct Costs as applied by ARTC, the ACCC does not consider that this results in a significant increase in risk that ARTC is not already compensated for through its existing mechanisms. Importantly, the ACCC notes that ARTC remains entitled to recover its full economic costs with the timing of the recovery of some costs related to Pricing Zone 3 Access Holders being deferred to future period (which ARTC is compensated for through its loss capitalisation model).

As such, the ACCC does not consider that the perceived increase in risk to ARTC is a sufficient reason for the ACCC to accept ARTC's approach when the information now available clearly indicates that this is not appropriate.

ACCC's final view on the reconciliation of revenues and costs

The ACCC notes that stakeholders have provided a range of complex and often opposing views on the issue of ARTC's application of the ceiling revenue limits. For example, while ARTC and Pricing Zone 3 producers did not agree with the ACCC's position set out in the November 2014 Position Paper and the Draft Determination, a number of stakeholders supported the ACCC's position and some were concerned that it did not go far enough.

The ACCC's position as set out in the Draft Determination resulted from a number of processes following the 2012 HVAU compliance assessment when the ACCC undertook a review seeking specific stakeholder views on the application of the ceiling revenue limits.

Having regard to the submissions of all stakeholders that were provided throughout the assessment process, the ACCC maintains that its views as presented in the Draft Determination on the interpretation of the ceiling limit in the HVAU are correct and appropriate. The ACCC notes that the additional information obtained through the consultation processes identified that the methodology applied by ARTC meant Pricing Zone 1 and 2 Access Holders were being charged more than their stand alone costs and cross subsidising Pricing Zone 3 Access Holders. This has resulted in inefficient pricing signals and is likely to affect efficient investment, which is inconsistent with the objectives of the HVAU and Part IIIA of the CCA more broadly.

Overall the ACCC remains of the view that its interpretation of the ceiling revenue test is consistent with the objectives of the HVAU, as it promotes transparency as well as economically efficient investment, use and operation of the Hunter Valley Coal Network. Importantly, the ACCC's interpretation removes the existence of cross-subsidies between Constrained Coal Customers and Pricing Zone 3 producers. Additionally, under the ACCC's interpretation, ARTC remains able to recover its full economic costs, with the timing of the

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[99] New South Wales Rail Access Undertaking (NSWRAU), *Review of Rate of Return and Remaining Mine Life of Hunter Valley Mines*, ARTC Response to IPART Issues Papers, 9 April 2009, p. 32.

recovery of costs related to Pricing Zone 3 Access Holders being deferred to future period (which ARTC is compensated for through its loss capitalisation model).

Accordingly, the ACCC's final determination is that ARTC has not correctly reconciled revenues with the applicable revenue ceiling limit to determine the additional amount to be recovered from Constrained Coal Customers in accordance with the HVAU. Specifically, that the proportion of the prudent and efficient costs incurred within the Constrained Network to be reconciled with revenues received from Constrained Coal Customers should be calculated by subtracting the *incremental* costs associated with Pricing Zone 3 Access Holders' use of Pricing Zone 1 rather than the *direct* costs as submitted by ARTC.

In light of the ACCC's view on the interpretation of the ceiling revenue test, the following section discusses the application of this test and the approach to calculating incremental costs of Pricing Zone 3 producers' use of Pricing Zone 1.

2.4. Approach to calculating incremental cost

Given the ACCC's views on reconciliation of revenue and costs under the HVAU (noted in section 2.3), this section relates to the approach to calculating the costs of ARTC's Hunter Valley Coal Network to determine the incremental costs of Pricing Zone 3 Access Holders' use of Pricing Zone 1.

The section first explains the assessment undertaken by WIK to calculate incremental costs. This section also sets out stakeholders' response to the WIK assessment and various alternative approaches to estimating incremental costs proposed by ARTC and other stakeholders. The section concludes with the ACCC's determination on the appropriate approach to calculating incremental cost applicable to Pricing Zone 3 producers.

2.4.1. WIK's assessment of incremental cost

WIK considered the concept of incremental costs based on economic literature and regulatory practice, assessed a comprehensive set of ARTC's cost drivers, and developed a cost model to estimate the incremental costs for all mine-port combinations included in ARTC's ceiling test model.

Definition of incremental costs

WIK noted that incremental costs are 'costs that a firm incurs in providing a service relative to not providing that service at all'[100]. WIK noted that the considered time horizon is crucial in determining whether costs are incremental or not. Specifically, WIK observed that incremental costs are often assessed over the long term in economic literature and regulatory practice, whereas ARTC approximates incremental costs by short term direct costs. WIK's stated approach estimates 'incremental costs understood as costs that are avoidable in the long term'[101]. When assessing ARTC's approach to incremental costs, WIK concluded that:

> *From our perspective, direct costs can only be an adequate approximation of short-run incremental costs. In the longer run, direct costs are only a subset of incremental costs. More costs could be avoided if a service or a segment was no longer provided. In particular, incremental costs include depreciation and costs of capital for assets if the specific assets are related to the provision of additional capacity, or are otherwise required because of network usage.*
>
> *In our understanding, the ARTC substantially underestimates incremental costs by equating them with short-run variable maintenance costs.*[102]

WIK's approach to estimating incremental costs builds on ARTC's data and methodology to the maximum possible extent. WIK suggested that because some cost elements that could be seen as incremental in the long term were not considered, its approach provides a conservative estimation of the incremental costs of Pricing Zone 3 Access Holders' use of Pricing Zone 1 and 2.[103] In particular, WIK did not consider:[104]

- corporate overhead costs—if Pricing Zone 3 was removed from the network, there may be effects on corporate overheads and on their allocation to the network.

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[100] WIK-Consult, *Assessment of the Incremental Costs of Pricing Zone 3 Access Holders' Use of Pricing Zone 1 and 2 of the Australian Rail Track Corporation's Hunter Valley Rail Network* (**WIK report**), 30 September 2015, p. 18.

[101] Ibid, p. 18.

[102] Ibid, p. 20.

[103] Ibid, pp. 20-22.

[104] Ibid, pp. 21-22.

However, WIK considered corporate overheads as common costs that are unavoidable.

- investment projects and related additions to the regulatory asset base before mid-2008—ARTC did not have data on investment projects and related additions prior to mid-2008, which resulted in WIK considering all costs related to existing assets before mid-2008 as unavoidable. WIK also did not consider capital expenditure projects commissioned prior to mid-2008 due to unavailable data.

WIK's technical assessment of cost variability

To determine the incremental costs of Pricing Zone 3 Access Holders' use of Pricing Zone 1 and 2, WIK reviewed and assessed the split between fixed and variable (usage related) costs for ARTC's maintenance activities, as well as evaluating ARTC's minor and major capital expenditure projects as related to usage or capacity enhancement respectively.[105] For each of the cost categories, WIK allocated a relatively small share of the usage and capacity related costs to Pricing Zone 3 Access Holders, given their small share of total traffic volumes on the network.[106] WIK's methods for determining the incremental component of these costs are explained further below.

WIK also sought further information on maintenance overhead costs and network control costs from ARTC on the origin and allocation of these costs, but the additional information was not sufficient for WIK's purpose.[107] As a result, WIK could not estimate a breakdown of these costs into incremental and fixed proportions and so did not alter ARTC's cost estimations in the model.

Assessment of maintenance costs

WIK reviewed 117 maintenance activities to identify the cause and then allocate the corresponding cost drivers of each particular activity. WIK considered there were 80 relevant maintenance activities, which were carried out in line segments in Pricing Zone 1 and 2 that were used by Pricing Zone 3 Access Holders. WIK estimated the relative cost share of each activity caused by the different cost drivers and defined the variable percentage.

WIK's assessment determined that ARTC's allocation of maintenance costs into fixed and variable costs was generally plausible.[108] WIK regarded ARTC's approach to apportion variability in 25 per cent steps as a good and practicable approach. However, WIK did make adjustments to some of ARTC's cost allocations, as WIK notes:

> *…where the cost positions reach higher amounts and where the main cost drivers are GTK [gross tonne kilometres] or Tkm [train kilometres] (indicating for incremental cost) and where "minor fixed component", "small fixed component" or alike wordings describe that just a small part of the costs are driven by time and are hence fixed, even the smallest step (25%) leads in our opinion to a too big distortion.*
>
> *Therefore the cost allocations were slightly adjusted in smaller steps and towards more realistic portions for incremental (GTK / Tkm depending) or fixed (time) related costs.*[109]

[105] Ibid, p. 25.
[106] Ibid, p. 44.
[107] Ibid, pp. 28-29.
[108] Ibid, p. 26.
[109] Ibid, p. 26.

Assessment of major and minor capital expenditures

WIK reviewed 65 major capital expenditure projects (that is, projects related to investment in capacity). WIK assessed these projects questioning their sole necessity to facilitate capacity growth and found 27 relevant projects.[110]

WIK reviewed 427 minor capital expenditure projects (that is, projects deemed to be more reinvestments into infrastructure). WIK assessed these projects as per its assessment of the maintenance activities. For each of the 227 relevant projects, WIK identified the cause for the project and assigned the main cost drivers to define the incremental cost.[111]

WIK agreed with ARTC's approach to apportion variability of minor capital expenditure in 25 per cent steps. However, as per the assessment of maintenance costs, WIK found that smaller steps were favoured when reaching the limits (for example, for very small fixed/variable share; a 90/10 split was favoured over a 75/25 split).[112]

WIK's incremental cost model and results

WIK created an incremental cost model that uses matrix multiplication techniques to estimate the incremental costs for all mine-port combinations included in ARTC's ceiling test model, including those with Pricing Zone 3 Access Holders' use of Pricing Zone 1 and 2. The details of the incremental cost model and its calculation methodology can be found in WIK's full report.

WIK estimated that the incremental cost of Pricing Zone 3 Access Holders' use of Pricing Zone 1 and 2 for the 2013 calendar year was $14.6 million and the standalone costs of Pricing Zone 1 and 2 Access Holders as $282.1 million.[113] As noted, WIK considers that ARTC substantially underestimates incremental costs by equating them with short run variable maintenance costs. WIK considers that its estimation of incremental costs is conservative as it did not consider cost elements to be incremental if there was any doubt.[114]

2.4.2. Stakeholders' views on the approach to calculating incremental cost

While some stakeholders did not agree with the ACCC's position on revenue allocation as set out in the Draft Determination, all stakeholders were minded to comment on the WIK methodology to estimate incremental cost of Pricing Zone 3 Access Holders' use of Pricing Zone 1. In doing so some stakeholders also proposed alternative approaches to calculating incremental cost.

Stakeholder comments are summarised below. Pricing Zone 1 and 2 Access Holders generally supported the WIK methodology, while Pricing Zone 3 Access Holders and ARTC provided a number of alternative views.

BHP

BHP, through its subsidiary HVEC, provided a submission supported by a report by Frontier Economics. BHP is supportive of the ACCC's Draft Determination and the ACCC's approach to determine the incremental costs of Pricing Zone 3 Access Holders' use of Pricing Zone 1 and 2. BHP submits:

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110 Ibid, pp. 23-25.

111 Ibid, pp. 23-25.

112 Ibid, p. 29.

113 Ibid, p. 44.

114 Ibid, p. 44.

> *Consistent with HVEC's previous submissions to ARTC and the ACCC (and supported by Frontier's analysis), WIK has, in HVEC's view, correctly concluded that the ARTC's approach to calculating incremental costs has been flawed and has resulted in a cross-subsidy by Pricing Zone 1 and 2 users in favour of Pricing Zone 3 users. This has resulted in Pricing Zone 3 users failing to adequately contribute to the cost of their incremental usage of Pricing Zones 1 and 2.*[115]
>
> *WIK's investigation of the cost variability of services supplied in Pricing Zones 1 and 2 is thorough and the approach to the estimation of long run relationships is transparent and reasonable.*[116]

BHP is concerned, however, that the exclusion of pre-2008 capital costs serves to make WIK's estimate unduly conservative. Specifically, BHP submits that it endorses the following comments made by Frontier in relation to WIK's analysis:

> *WIK's approach is conservative. The issues of pre-2008 investments should be further considered because a full accounting of these costs could have a material impact on the assessment of the extent of any cross-subsidy and therefore, on the efficient distribution of costs between users. HVEC requests the ACCC explore further whether other calculations using pre-2008 investments are possible and lead to materially different results. The lack of transparency around the details of these pre-2008 capital investments makes it difficult to assess their materiality relative to the post-2008 investments.*[117]

Rio Tinto

Rio Tinto also submits that it is broadly supportive of the ACCC's Draft Determination and the ACCC's approach to determine the incremental costs of Pricing Zone 3 Access Holders' use of Pricing Zone 1 and 2.

> *RTCA notes that, at a high level, WIK's methodology reflects the project-by-project assessment and investment timeframe recommended by RTCA in our most recent submission on this matter. RTCA is also satisfied with the resulting analysis on the basis that WIK appear to have utilised the best available datasets, including contract/volume data, and employed the same combinatorial modelling techniques utilised by ARTC in developing their results.*[118]

Rio Tinto, however, questions the following specific cost allocations as determined by WIK and consider that this means that the level of Pricing Zone 1 incremental costs determined and allocated to Pricing Zone 3 users will be understated.

> *RTCA is of the view that in several cases even 90% variability may be understating the volume dependent nature of the expenditure or maintenance activity.*
>
> *RTCA is comfortable with the approach employed by WIK for calendar year 2013, but believes a future review by ARTC should consider whether up to 100% of the expenditure for some key maintenance initiatives and minor capital could be justified as variable.*[119]

Rio Tinto submits that it supports WIK's assessment of the incremental capacity contribution of major capital expenditure projects tabulated in Appendix A from page 84. Rio Tinto does

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[115] BHP, Submission on the ACCC's Draft Determination, 15 January 2016, p. 1.

[116] ibid, p. 2.

[117] ibid, p. 2.

[118] Rio Tinto, Submission on the ACCC's Draft Determination, 15 January 2016, p. 1.

[119] ibid, pp. 1-2.

not agree, however, with the 50 per cent increment applied to project "8665 No.3 Departure Road at KCT". Rather, Rio Tinto's preferred approach is to therefore consider all investment in Pricing Zone 1 around the port terminals as being for the benefit of all users of Pricing Zone 1, resulting in 100 per cent of this project being incremental.[120]

Rio Tinto also reiterated its concerns regarding the expensing of Terminal 4 projects. In particular, Rio Tinto submits:

> *RTCA believes all network investment in Pricing Zone 1 around the port terminals has been, or would have been in the case of Terminal 4, for the benefit of all users of Pricing Zone 1. T4 projects in particular would have been classified as 100% incremental capacity had they been developed, therefore, RTCA can see no argument for excluding Pricing Zone 3 Access Holders from contributing to the recovery of the expense.*[121]

Whitehaven

Whitehaven, with the assistance of reviews of maintenance expenditure and minor and major capital projects, used information from its consultants Lycopodium and EJC to estimate incremental cost for Pricing Zone 3 users using a methodology Whitehaven would recommend for inclusion in the new HVAU.[122] Whitehaven provided a report prepared by Lycopodium and EJC to the ACCC on a confidential basis.

Whitehaven's submission proposes incremental costs of $3.4 million should be allocated to Pricing Zone 3 users in 2013.[123] Whitehaven's submission makes the following points about the determination of which major capital expenditure projects should be classified as incremental:

- New capacity projects should only considered incremental if they:
    - are used by Pricing Zone 3 producers, and
    - would not be required by Pricing Zone 1 in the absence of Pricing Zone 3 producers.
- Adjustments should be made for differences in train load. Pricing Zone 3 trains were only 25 TAL in 2013 versus 30 TAL in Pricing Zone 1 and this was not adequately considered by WIK in allocating maintenance costs.[124]

Under this approach, Whitehaven submits that 85 per cent (since 2008) to 95 per cent (since mid-2010) of the new capacity works are not assessed as incremental. Only one major capital project (Nundah Bank) was assessed as incremental.

Whitehaven's submission takes a similar view of the treatment of incremental maintenance and minor capital renewal projects as WIK, but considers that other adjustment factors for axle load and train length should be applied when calculating incremental costs for Pricing Zone 3 Access Holders.

Whitehaven submits that:

> *a 0.84 adjustment factor should be applied to all PZ1 capital projects when allocating to PZ3 producers to adjust for higher capital costs of 30tal longer trains.*[125]

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120 ibid, pp. 2.

121 ibid, pp. 2-3.

122 Whitehaven, Submission on the ACCC's Draft Determination, p. 2.

123 Ibid, p. 5.

124 Ibid, pp. 4-6.

125 Ibid, p. 4.

Idemitsu

Idemitsu's submission notes concerns with the WIK approach to estimating incremental cost and discusses a series of four alternative methodologies to the estimation. In support of its position, Idemitsu commissioned a report by Lunarr Advisory and The Simulation Group that reviewed major ARTC capital projects (costing more than $10 million) to assess whether they would have been required on a stand-alone basis.[126]

Idemitsu submits the WIK assessment is unlikely to provide a reasonable estimate of the stand-alone costs of Pricing Zone 1 and 2 standalone costs as a number of projects which WIK identifies as being incremental (the cost of which is shared between Pricing Zones 1, 2 and 3) would have been required by Pricing Zone 1 and 2 on a standalone basis.[127]

Idemitsu considers that*:*

- Some of the projects, despite delivering capacity which was required by both Pricing Zone 1 and 2 and Pricing Zone 3 users, would have been required to deliver the requirements of Pricing Zone 1 and 2 users alone.
    - Idemitsu provided the Maitland to Minimbah third track project as an example, arguing that the third track is a 'lumpy' investment, and the additional capacity which became available to Pricing Zone 3 as a result of the project would have been created with or without this demand.[128]
- Some of the projects were not driven by demand. Rather, these projects were wholly or predominantly undertaken to reduce congestion or reduce the impacts of maintenance activities, and these issues would have existed and required resolution with or without the demand of Pricing Zone 3 customers.
    - Idemitsu lists three projects it considers were driven predominately by maintenance or other considerations, but acknowledges that the level of demand may have had some impact on the need for these projects.[129]

Idemitsu further submits that:

> *the WIK methodology fails to consider the triggers for particular projects (other than classifying projects are being for, or not for, the purpose of capacity enhancement) and therefore fails to consider whether specific projects would have been required on a standalone basis for PZ1/2 users.*[130]

The alternative approach to estimating incremental cost proposed by Lunarr Advisory considers a combination of four methodologies for the identification of standalone costs. These include one qualitative assessment and three quantitative tests to identify projects which would have been incurred by Pricing Zone 1 and 2 on a stand-alone basis using volume measures.

The overall Lunarr Advisory assessment concluded that only one of the nine major capital investment projects should be considered incremental and eligible for sharing between all users including Pricing Zone 3.[131] This project was the Nundah Bank third track, valued at around 10 per cent the total value of the projects identified by WIK.

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126 Lunarr Advisory, *Determination of PZ1&2 stand-alone projects for Hunter Valley Access Undertaking* (**Lunarr report**) 25 January 2016, p. 5.

127 Idemitsu, Submission on the ACCC's Draft Determination, p. 24.

128 Ibid, p. 25.

129 Ibid, p. 26.

130 Ibid, p. 25.

131 Ibid, p. 4;, Lunarr report, p. 36

Idemitsu submits that none of the individual methodologies used by Lunarr are perfect and that the complexity of the issue and the imperfect nature of any of the alternative approaches highlights the inappropriateness of seeking to develop a new measure of incremental and standalone costs during the term of the undertaking.[132]

2.4.3. ARTC's views on the approach to calculating incremental cost

ARTC's submits that WIK's analysis is overly simplistic and that many of the conclusions reached in the WIK report appear to be of a subjective nature.[133] ARTC challenges the WIK analysis on three main areas:

- The WIK analysis does not take into account the complexity of the Hunter Valley coal chain and the operations of the network.
- The methodology does not achieve a clear recognition of the avoidable costs associated with any specific service or group of services provided by ARTC for past activities.[134]
- The analysis appears to ignore the basis for constructing projects and the extent to which users require the project.[135]

ARTC's summary of the WIK analysis is set out below.

> *The WIK methodology takes a set of expenditures, including capital, assesses them as incremental and then spreads these across the available allocation units (either GTK or Train Km) for actual operations in 2013. This does not assess whether the costs were, in fact, avoidable to a particular traffic or group of traffics and whether the investments would have been committed in the absence of PZ 3 volumes.*[136]
>
> *the interrelated nature of the Hunter Valley network and wider coal chain make it inappropriate to adopt an aggregated and simplistic approach to a complicated system behaviour. This [WIK] approach does not reflect the differing relationships between capacity and volume which vary significantly across Access Holders and is impacted by the varying nature of coal export terminal operations and train operations.*[137]

ARTC submits that:

> *there is no analysis to identify the network users for whom the capacity is being provided. ARTC believes that this facet of the review requires serious consideration when the contractual triggers to the creation of this investment and the timing of the users who triggered it is thoroughly explored.*[138]

ARTC notes that a useful proxy to determine the avoidable nature of the investment is to look at who approved the project and compare that to the volumes against which the cost is attributed.[139]

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132 Idemitsu, Submission on the ACCC's Draft Determination, pp. 26, 30.

133 ARTC, Submission on the ACCC's Draft Determination, pp. 7, 29.

134 Ibid, p. 11.

135 Ibid, pp. 5-6.

136 Ibid, p. 12.

137 Ibid, p. 13.

138 Ibid, p. 6.

139 Ibid, pp. 12-13.

The concept of incremental cost

ARTC's submission sets out its views on incremental cost at a conceptual level. ARTC submits that:

> *it is appropriate to allocate long run avoidable costs with the service that requires application of those costs in circumstances where such costs are actually avoidable and can be clearly and unambiguously identified with a particular service.*[140]

However, ARTC considers that an approach to allocate capital costs as incremental costs is inconsistent with the concept of incremental cost. ARTC explains:

> *A capital expenditure, once committed cannot be uncommitted and is considered a sunk cost. ARTC accepts it is possible that a prospective capital expenditure can be categorised as incremental if it can be allocated against specific traffics, but once the expenditure is committed it can no longer be described as avoidable, unless the relevant asset could reasonably be optimised out of the network.*
>
> *Committed capital costs would therefore be in the nature of a fixed cost and, by extension, costs necessarily recognised as pertaining directly to the capital expenditure, in this instance depreciation of the asset and a return on capital, must also be considered fixed.*[141]

ARTC submits that in regards to the Hunter Valley network, capital investments are often undertaken to provide additional capacity that exceeds the actual capacity demand to enable the resulting investment to cope with peak demand. ARTC submits that in this instance:

> *Allocating the cost over all users, especially where future users were not contracted at the time of the investment decision, therefore defrays the cost of the initial investment to the original incremental user. This is an average not incremental cost allocation and therefore the incremental cost to the initial user is significantly understated as the incremental impact of the initial investment is defrayed.*[142]

ARTC concludes on this point that the impact of incremental costs should only be allocated against volumes committed at the time the project was commissioned.[143]

ARTC also outlines that the task to attribute costs to a particular service is complex and that this is because users' demand for capacity varies over time (with peaks and troughs) with ARTC needing to provide capacity well above the sum of the individually contracted volumes in order to meet peak demand.[144] ARTC notes that these circumstances indicate that:

> *it is a far from simple exercise to assign capacity to a particular load point or Access Holder, a group of traffics or even originating Pricing Zone as being unambiguously avoidable and serves to highlight why it would be an impractical exercise to judge capital costs as though they were incremental to a particular tranche of volume in isolation of the factors present at the time of the investment.*[145]

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140 Ibid, p. 11.

141 Ibid, p. 11.

142 Ibid, p. 12.

143 Ibid, p. 12.

144 Ibid, p. 15.

145 Ibid, p. 16.

Consideration of major capital projects

ARTC notes that approach to determine incremental costs arising from major capital projects is a critical area of analysis given that the WIK review showed that the costs of these projects make up the majority of incremental costs to be apportioned to Pricing Zone 3 Access Holders.[146]

ARTC considers that WIK's approach to consider any major capital project that delivers additional capacity as one that is either wholly or largely incremental to be insufficient. ARTC submits that:

> *to accept this [WIK's view] would be to accept that almost all major capital projects are incremental – but this indiscriminate view can only be helpful if one is considering avoidability to the whole network, i.e. what is the cost if all the traffic on the network ceases.*[147]
>
> *The Draft Determination appears to view an expansion of capacity as a general cost that all should pay for in some way and yet justifies this view on the basis that the cost is avoidable.*[148]

ARTC submits that under the WIK approach there is no indication of what capacity each project is meant to provide or for whom, and that:

> *There is only a cursory explanation provided as to any assessment of other reasons why a major capital project might have been undertaken or these alternative benefits.*[149]

ARTC's view is that the result is a simplistic view of the requirements of the network and the reasons for particular projects. ARTC notes that WIK have taken the view that if a project looks like it may result in more capacity, then it must have been undertaken as a capacity expansion project.[150]

ARTC subsequently notes that:

> *to regard a project as being incremental surely requires the identification of the specific beneficiaries and any other reasons why the project would be undertaken before coming to a conclusion that an element of the cost should be treated as incremental.*[151]

ARTC's recommended approach to estimating incremental costs builds on its arguments and attempts to consider the purpose and beneficiaries of major capital projects on more of a case by case basis. ARTC's recommended approach is detailed further below.

Timing considerations around projects

ARTC submits that the WIK analysis does not appropriately consider the timing of traffic on the Pricing Zone 3 line. In particular, ARTC submits:

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146 Ibid, p. 30.

147 Ibid, p. 30.

148 Ibid, p. 30.

149 Ibid, p. 30.

150 Ibid, p. 30.

151 Ibid, p. 31.

> *At the time that ARTC committed to a number of the investments reflected in the WIK analysis, much of the increase in traffics originating in PZ 3 had not been contracted with ARTC, nor even committed to by the relevant mining company.*
>
> *A substantial proportion of the Major Projects included in the WIK analysis were committed to prior to the major volume increases in traffics originating from PZ 3 being either contracted or even committed. For example, the Maules Creek mine which commenced contracted railings in 2015 was not given mining consent until October 2012.*[152]

ARTC, however, recognises that investment decisions may have been influenced in part by prospective volumes.[153]

Allocation of incremental costs

ARTC submits that WIK's allocation of incremental costs to all users based on actual usage is not appropriate. ARTC argue that such an allocation would be appropriate in the situation where costs varied more directly with usage, and that this is not the case in the Hunter Valley network.[154]

Additionally, ARTC submits that:

> *the use of actual volumes and no identification of the volumes causing the investment suggest that the ACCC expects that the allocation will vary with actual usage from year to year. That is, other things being equal, the stand alone costs for the current Constrained Network will vary each year dependent on the variation in use of the incremental cost components, including the use of those assets by unconstrained traffics*.[155]

Following on from its submission, ARTC articulated a further view that if the WIK methodology was adopted, a more appropriate allocation mechanism would be based on the tonnes associated with contracted paths (contracted volume). ARTC considers that this would provide more certainty on a forward looking basis and ensure capacity costs are allocated to the capacity commitments made by Access Holders.

Other shortcomings of the WIK analysis

ARTC's submission also sets out what it considers to be a number of other more specific shortcomings of the WIK analysis. These are summarised below.

- ARTC submits that the 2011 HVAU provides for the depreciation of assets over the average remaining life of the coal mines serviced by the network. ARTC notes that, as an average, this remaining life does not reflect any particular mine life and this is inconsistent with a proposition that investments are related to a specific traffic or groups of traffics that would be avoidable if the traffics were not present.[156]
- ARTC submits that it is unclear from the Draft Determination how it is meant to treat the capital costs associated with the capacity that is consumed by contracted volumes that will terminate prior to the expiration of the average mine life period.[157]

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[152] Ibid, p. 17.

[153] Ibid, p. 17.

[154] Ibid, pp. 34-35.

[155] Ibid, p. 35.

[156] Ibid, p. 16.

[157] Ibid, p. 16.

- ARTC considers the WIK approach to assessing maintenance costs lacks sufficient detail.[158]
- ARTC submits that WIK's approach to classifying corridor capital projects (i.e. projects that relate to the replacement or renewal of existing assets) as incremental is inconsistent. ARTC notes an example where WIK has classified the costs of a turnout renewal project as 75 per cent incremental, however ARTC argues that:

  > *the wearing out of the asset and upgrading the rail weight due to usage over the long run does not make that investment incremental in the sense that is being used in the Draft Determination. The turnout would be incremental in the sense proposed in the Draft Determination if it was added to provide additional capacity to the network.*
  >
  > *To say that 75% of the cost of renewing the turnout is incremental is a misunderstanding of the use of the term in the Draft Determination. As long as any traffics require to enter Carrington coal terminal, this turnout will be required*.[159]

  ARTC further notes that:

  > *it could only accept that a project had some portion that was incremental to a particular element of traffic after consideration on a case by case basis. Given that Corridor Capital costs contribute $0.3m to the amount excluded from the stand alone cost of the Constrained Network, ARTC contends that such a long and detailed analysis would be prohibitively expensive and time-consuming compared to the potential benefit.*[160]

- ARTC argues that the justification for certain capital expenditure projects is more complex than the WIK analysis suggests. In particular, ARTC argues that the capital expenditure projects to construct additional tracks (or third road projects) were not only required for capacity enhancement, but also for a number of other reasons such as improved scheduling and operational reliability.[161]

  ARTC submits that the Nundah Bank third road project was constructed partly to provide additional capacity. However, the initial proposed signalling solution (which could have addressed the capacity need) was rejected by the Rail Investment Group in favour of a more expensive solution to build a third road. ARTC therefore argues that:

  > *To categorise this project as being 100% incremental to provide additional capacity would be a significant miscategorisation*.[162]

- ARTC rejects WIK's view that the WIK treatment of shared maintenance costs (or maintenance overheads) and network control costs might lead to an underestimate of incremental costs. ARTC consider that even if sufficient information was available, it would be unusual to consider these costs as incremental.[163]
- ARTC considers that WIK should have consulted with the HVCCC and that not doing so was a significant flaw in the study's methodology and requires explanation.

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158 Ibid, pp. 29-30.

159 Ibid, p. 33.

160 Ibid, p. 33.

161 Ibid, pp. 23-24.

162 Ibid, p. 24.

163 Ibid, pp. 26-27.

ARTC's recommended approach to assessing incremental costs

In response to the ACCC's Draft Determination and the WIK analysis, ARTC engaged engineering consultant E3 Advisory to provide an alternative assessment of the allocation of costs that should be apportioned as incremental using the ACCC's interpretation of the ceiling revenue test.[164]

ARTC submits the E3 Advisory review considered that same elements of costs studied by WIK. ARTC however sought separate advice from E3 Advisory on the following specific areas:

- *An assessment of which major projects in PZ 1 can be considered as incremental to PZ 3 users through an examination of the initial approval and justification for the project. The WIK approach appears to ignore the basis for constructing the project and fails to consider the complexity and interrelated nature of elements of the Hunter Valley Coal Chain.*
- *Consideration of how best to quantify any costs that could be considered incremental. The WIK methodology appears to include the capital charge related to the entire cost of the project averaged over actual usage. This approach does not recognise the extent to which users require the project and is inconsistent with the basis on which capacity in the Hunter Valley is contracted.*
- *A review of the WIK cost allocation for maintenance activities which appears to be primarily a desk-top analysis with limited rationale for the fixed and variable weighting identified by WIK. The current cost allocations have been applied consistently by ARTC for approximately ten years in the Hunter Valley Coal Network and have been previously verified by an IPART initiated review.*[165]

In its consideration of which major capital projects should be considered incremental to Pricing Zone 3 Access Holders, E3 Advisory reviewed the certain documentation to determine if Pricing Zone 3 users are specifically referenced as driving the purpose or as the beneficiaries of the projects. The documentation E3 Advisory reviewed includes:

- ARTC's investment framework for major projects
- the role of the annual Hunter Valley Corridor Capacity Strategy which outlined requirements for future major investments in the network
- ARTC's internal governance processes in approving projects
- the role of the RCG, and prior to July 2011 RIG, in the project endorsement process
- the stated primary and secondary benefits of specific projects identified for Pricing Zone 3
- actual and forecast growth in contracted capacity volumes by Pricing Zone
- interrelationships between projects where these were apparent.[166]

In contrast to the WIK review, the E3 Advisory assessment considered proportions of projects that could be reasonably identified as having been undertaken specifically for Pricing Zone 3 Access Holders.[167]

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164 Ibid, p. 4.

165 Ibid, p. 5.

166 Ibid, p. 31.

167 Ibid, p. 31.

E3 Advisory's assessment found that most of the major capital projects identified by WIK as being incremental would not be incremental to Pricing Zone 3 users. The results of E3 Advisory's consideration of major capital projects and how they compare to the WIK analysis are summarised in the table below.

Table 3: Comparison of E3 Advisory assessment of increment proportion to WIK analysis[168]

Project Number/Description	WIK Incremental %	E3 Advisory Incremental %
5255 Maitland to Minimbah 3rd Road Stage 2	100%	0%
5811 Nundah Bank 3rd Road	100%	0%
3858 Maitland to Minimbah 3rd Road Stage 1	100%	0%
3579 Antiene to Grasstree Stage 1 Duplication	100%	25%
3884 St Helliers to Muswellbrook Duplication	100%	10%
3584 Bi-Directional Signalling Maitland to Branxton	100%	0%
6928 Drayton Junction	100%	0%
8665 No. 3 Departure Road Kooragang	50%	0%
3468 Newdell Junction Upgrade	100%	0%
6156 Maitland Junction/CBI	100%	0%
8666 Kooragang Bypass Road Realignment	100%	0%
3578 Muswellbrook Loop Extension	100%	10%
3575 Minimbah 80 kph Running Stage 1	100%	0%

On the treatment of maintenance costs, ARTC submits that:

> *E3 Advisory has reviewed the maintenance tasks and the values of variability assigned by ARTC and WIK and formed their own assessment. E3 Advisory have provided a more detailed explanation of these maintenance tasks and variability in their report.*[169]
>
> *As the judgements made by E3 Advisory are supported by more detail and are consistent with the underlying logic, ARTC is willing to adopt the E3 Advisory values.*
>
> *It is noted that the impact of the WIK assessment would be to increase Direct Costs (i.e. variable maintenance) to PZ 3 traffics in PZ 1 by $0.5m to $3.0m compared to the $2.5m applied by ARTC in the 2013 compliance submission. E3 Advisory's estimate would result in a slightly lower value of $2.4m.*[170]

Overall, the E3 Advisory approach resulted in an incremental costs estimate of $3.6 million to be apportioned to Pricing Zone 3 users. This is higher than ARTC's Direct Cost estimate, but lower than the $14.6 million estimated by WIK and noted by the ACCC the Draft Determination. Regarding the difference in these estimates, ARTC submits:

> *The primary explanation for the variance relates to the consideration of major capital projects committed prior to the commencement of the HVAU. The E3 Advisory*

[168] Ibid, p. 32.

[169] Ibid, p. 29.

[170] Ibid, p. 30.

analysis excludes, or significantly reduces the impact of, a number of projects that were approved on the basis of benefits or volume growth unrelated to PZ 3.[171]

ARTC further submits that:

The three projects for the construction of the third road from Maitland to Minimbah and the Nundah Bank alone contributed 56% of the increase calculated by WIK. These projects were approved prior to there being significant contracted volume growth requests in PZ3.[172]

ARTC expects that the E3 Advisory approach would result in an increase to a calculated incremental cost in the 2014 and 2015 years due to Pricing Zone 3 growth volumes becoming a greater component of the justification for projects commissioned during these compliance periods.[173]

Consistent with its comments on the limitations of the WIK approach, ARTC submits that the E3 Advisory approach:

would provide a solid base to address the ACCC's core issues set out in the Draft Determination; albeit that conceptual concerns remain and ARTC maintains that its current approach is consistent with the provisions of the 2011 HVAU.[174]

2.4.4. ACCC's Final Determination

The ACCC's Draft Determination considered that WIK's assessment provided a thorough and conservative estimate of the incremental costs of Pricing Zone 3 Access Holders' use of Pricing Zone 1.[175] The ACCC however sought feedback from industry on the WIK approach and this aspect of the assessment.

This section provides the ACCC's views on stakeholders' comments on the WIK methodology and stakeholders' alternative approaches to estimating incremental costs. The ACCC also notes that it has undertaken further analysis following stakeholders' feedback on the Draft Determination. This section is arranged as follows:

- The WIK methodology
- Timing of investment projects in the WIK calculation
- Number of investment projects in the WIK calculation
- WIK allocation of incremental cost to users
- Other issues on the WIK approach
- Alternative approaches to calculating incremental cost
- Further ACCC analysis

The ACCC concludes this section with its view on the appropriate methodology to calculate incremental cost applicable to Pricing Zone 3 Access Holders.

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171 Ibid, p. 5.

172 Ibid, p. 5.

173 Ibid, p. 5.

174 Ibid, p. 7.

175 ACCC, Draft Determination, p. 42.

The WIK methodology

As noted above, ARTC as well as Pricing Zone 3 producers outlined concerns with the WIK approach. ARTC's concerns largely relate to its view that the WIK analysis is too simplistic and does not consider the purpose or beneficiaries of the major capital investment projects WIK identifies as being incremental. ARTC's recommended approach to estimating incremental cost subsequently focuses on these aspects, in particular, an assessment of documentation to determine the purpose or beneficiaries of major capital investment projects in Pricing Zone 1.

The ACCC, however, notes that stakeholders including Rio Tinto and BHP supported the WIK methodology.

The ACCC notes, as it did in its Draft Determination, that WIK's assessment provides a thorough, albeit conservative, estimate of the incremental costs of Pricing Zone 3 Access Holders' use of Pricing Zone 1. The ACCC also notes that WIK's assessment in part followed ARTC's existing methodology and allocations of cost.[176]

The ACCC responds to more specific arguments related to the WIK model throughout this section. However, consistent with the Draft Determination, the ACCC considers that the WIK approach to estimating incremental costs applicable to Pricing Zone 3 Access Holders is consistent with the ACCC's interpretation of the ceiling revenue test and incremental cost. This interpretation takes into account capital investments related to the provision of additional capacity to accommodate traffic growth for Pricing Zone 1, 2 and 3. The annualised costs of these investments are then allocated to each group of users based on the annual traffic originating in each pricing zone.[177]

As noted in the WIK report:

> *The major CAPEX projects are almost all asset enhancement driven projects propelled by the need for a higher network capacity due to higher transport volumes needed. In this respect reducing maintenance impacts respectively increasing operational flexibility are also seen as a form of capacity enhancement.*
>
> *Since those projects are generally not required in case of no increase of traffic volume they are deemed to be 100% volume related, hence incremental.*[178]

The ACCC also notes that WIK was aware of and reviewed documentation around the main cost drivers of capital investment projects.[179]

> *We [WIK] reviewed:*
>
> - *Various public information on ARTC and the Hunter Valley Coal Chain Coordinator, including Annual Reports, Pricing Schedules, ARTC's rail maintenance reference documents and guidelines, the Hunter Valley Corridor Capacity Strategy, and Rail Capacity Group (RCG) monthly reports.*
> - *Various previous decisions and regulatory documents published by the ACCC and the Independent Pricing & Regulation Tribunal (IPART), including public consultations and documents relating to other rail network Access Undertakings.*[180]

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176 WIK report, p. 44.

177 This means of allocating costs to different users is well established in utility regulation and pricing. See for example, Alfred E. Kahn, *The Economics of Regulation: Principles and Institutions*, I, MIT Press, 1988, pp. 150-151

178 WIK report, pp. 31-32.

179 WIK report, p. IV.

180 WIK report, p. 5.

Nevertheless, as discussed later in this section, the ACCC undertook further analysis of the purpose and beneficiaries of the major capital investment projects WIK identifies as being incremental. This analysis sought to check the validity of the alternative methodologies proposed by ARTC and Pricing Zone 3 Access Holders, however the ACCC's findings did not support the results claimed by ARTC and Pricing Zone 3 Access Holders.

Timing of investment projects in the WIK calculation

Stakeholders expressed different views on the timing of investment projects included in the WIK calculation of incremental cost applicable to Pricing Zone 3 producers. The WIK analysis considered investment projects from 2008 to 2013.

BHP submits that the WIK analysis is unduly conservative and that investments from before 2008 should be taken into account in the calculation of incremental cost. Conversely, the ACCC notes that other stakeholders, including ARTC in correspondence following its submission on the Draft Determination, argued for a shorter time period for the consideration of major projects.

The ACCC notes that WIK was limited in its ability analyse investment projects prior to 2008 given both the availability and quality of information. In this regard the ACCC is supportive of the WIK analysis which does not consider cost elements to be incremental where there is any doubt.[181] As sufficient and complete data is not available, the ACCC considers it appropriate to not extend the period of consideration prior to 2008.

Importantly, the ACCC considers that the time period applied in the WIK analysis is consistent with the growth of mines in Pricing Zone 3 and the demand for rail capacity from Pricing Zone 3 Access Holders. While the ultimate decision by WIK to only consider projects from 2008 was influenced by the availability of sufficient data, evidence indicates that Pricing Zone 3 producers had commenced operations and were increasing their demand for rail capacity on Pricing Zone 1 from this time onwards. For instance, at least two mines in Pricing Zone 3 commenced operations prior to 2008 and:

- Whitehaven's Werris Creek mine began operating before 2006[182], and
- Idemitsu's Boggabri Coal mine commenced operations in 2006.[183]

The ACCC also notes that other operations were in place to come online soon after and that (as ARTC itself has submitted) ARTC's investment decisions may have been influenced in part by prospective volumes.[184] For instance, the ACCC notes Whitehaven's Narrabri North Coal Project which received project approval in late 2007 with the first train of coal from Narrabri railed in July 2010. A second stage to Whitehaven's Narrabri project was also approved in July 2010.[185]

The ACCC considers that the development of mines in Pricing Zone 3 and the timing of when these operations began coming online and using rail capacity in Pricing Zone 1, as well as the availability of complete data, clearly supports calculating Pricing Zone 3 producers' incremental costs from 2008 onwards. Therefore, while WIK's approach is conservative in light of the availability of sufficient data, it is consistent with the ACCC's interpretation of standalone and incremental costs.

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181 ACCC, Draft Determination, p. 35.

182 Whitehaven, see http://www.whitehavencoal.com.au/about_us/history.cfm

183 B Hansen, *Continuation of Boggabri Coal Mine - Environmental assessment*, December 2010, p. ii, See https://idemitsu.com.au/uploads/files/bcenviro/Boggabri_Coal_EA/Boggabri_Coal_EA_Main_Volume_Part_1.pdf

184 ARTC, Submission on the ACCC's Draft Determination, p. 17.

185 Whitehaven, *Approval received for Narrabri Stage two*, ASX release, http://www.whitehavencoal.com.au/investors/documents/NarrabriMineStageTwoApproval.pdf

Number of investment projects in the WIK calculation

Stakeholders also commented on the number and type of investment projects that are included in the WIK calculation of incremental cost.

Rio Tinto argued for additional investment projects and costs to be included in the WIK calculation while ARTC and Pricing Zone 3 Access Holders argued that fewer investment projects should be considered as incremental to Pricing Zone 3 producers.

Rio Tinto argued for additional costs to be considered as incremental for Pricing Zone 3 Access Holders. Specifically Rio Tinto suggested that the No.3 Departure Road at Koorangang Coal Terminal (KCT) project should be 100 per cent incremental, rather than only 50 per cent incremental as proposed by WIK. WIK's report explains its basis for allocating 50 per cent of capital investment costs for this project to be incremental as follows:

> *We [WIK] assume that the investment into a departure road is mainly driven by asset enhancement for higher network capacity but some share is also to provide higher buffering capacities at port.*[186]

The ACCC considers that WIK's assessment to include the No.3 Departure Road at KCT project in the calculation of incremental costs as reasonable and in line with the ACCC's interpretation of incremental costs. The ACCC considers that the investment provides benefits to all Access Holders from the creation of additional capacity, relieving congestions for all Access Holders that use Pricing Zone 1.

However the ACCC accepts WIK's allocation of 50 per cent of the capital investment costs of this project to be incremental due to other port related capacity enhancements. This is consistent with WIK's approach to not include project costs as incremental where there is any doubt and its conservative calculation of incremental cost. In this regard, the ACCC also notes ARTC and Pricing Zone 3 producers' views that significantly fewer capital investment projects should be classified as incremental to Pricing Zone 3 producers.

Regarding the expensing of T4 projects and excluding these from the calculation of incremental costs, the ACCC notes that only one stakeholder (Rio Tinto) raised this as an issue.

Rio Tinto argues that all Access Holders should contribute to the costs of these projects. The ACCC explained in its Draft Determination that ARTC had sought to recover $8.97 million of costs associated with the concept assessment of the PWCS T4 expansion in its operating expenditure for the Constrained Network, and not from Pricing Zone 3 producers.

The ACCC notes that no other producers in the Constrained Network or otherwise has questioned the expensing of these projects proposed by ARTC. As noted in the Draft Determination, the HVAU allows ARTC the discretion to expense costs associated with undertaking a concept assessment on a one off basis in the year the cost is incurred. This allows ARTC to recover the associated costs in the current period, but not receive an ongoing return on capital. In contrast, the ACCC's assessment of incremental costs relates to capital expenditure endorsed by the RCG to be rolled into the regulatory value of assets, allowing ARTC to earn an ongoing return on capital. As such, the ACCC's final view is that ARTC's approach in this instance is appropriate.[187]

As noted above, ARTC and Pricing Zone 3 producers had concerns with the WIK methodology and proposed alternative calculations of incremental cost based on a smaller

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[186] WIK report, p. 85.

[187] ACCC, Draft Determination, pp. 4-5, 22-23.

number of investment projects. The ACCC's consideration of these approaches is set out in the section below on the alternative approaches to calculating incremental cost.

WIK allocation of incremental cost to users

The ACCC notes ARTC's position in its submission that WIK's approach to allocate incremental costs to pricing zones based on actual usage is not appropriate, and does not reflect the Hunter Valley Coal Network where capital costs are not generally related to usage.[188] ARTC also argues that an allocation mechanism based on actual tonnes provides a lack of certainty as the allocation would vary with actual usage from year to year.[189]

In correspondence following ARTC's submission, ARTC and Pricing Zone 3 producers expressed a further view that if the WIK methodology was adopted, a more appropriate way to allocate incremental costs would be by contracted paths (contracted volumes) rather than by actual usage.

The ACCC considers that its annual compliance assessments are ex post assessments of ARTC's costs to determine the ceiling revenue limits, any 'unders and overs' amounts for Constrained Coal Customers and the amounts of any revenue shortfalls for Pricing Zone 3 Access Holders to be carried over for future years. In this context it is appropriate to take into account the available information on the actual usage of the network by Access Holders and to allocate costs between users based on what they actually used rather than what users were contracted to use.

Accordingly, the ACCC considers that a usage based allocation (such as that adopted in WIK model) represents a fair and reasonable outcome for Access Holders across all pricing zones. Regarding Pricing Zone 3 producers, the ACCC notes WIK's view that:

> *As coal mines in PZ3 are currently being developed, volumes are small compared to volumes in the more mature mines in PZ1 and PZ2. Therefore, PZ3 is allocated a relatively small share of cost from replacement investments, based on 2013 traffic.*[190]

In contrast, using contracted volumes as proposed by ARTC and Pricing Zone 3 Access Holders would potentially be more consistent with conducting an ex ante or forward looking assessment. As discussed below, ARTC and Pricing Zone 3 Access Holders have argued that contracted volumes underpinned the original rationale for investments, informing a forward looking perspective of which investments would need to be undertaken. They argue, therefore, that contracted volumes should also inform which investments should be included in the calculation of incremental costs. Accordingly, the ACCC considers that ARTC and Pricing Zone 3 Access Holders' arguments for the use of contracted volumes as an allocation mechanism are inherently linked to their proposed alternative approaches to the WIK methodology. However, the ACCC does not accept these proposed alternative approaches and the use of contracted volumes is not consistent with the calculation of incremental cost via the WIK methodology.

Other issues on the WIK approach

ARTC and Pricing Zone 3 producers raised a number of other more specific concerns and issues with the WIK methodology. The ACCC's views on these issues are set out below.

- ARTC submits that as the HVAU considers an average life of mines in the Hunter Valley, and does not reflect any particular mine life, this is inconsistent with a proposition that investments are related to a specific traffic or groups of traffics. The ACCC, however,

[188] ARTC, Submission on the ACCC's Draft Determination, pp. 34-35.

[189] Ibid, p. 35.

[190] WIK report, p. V.

considers that its interpretation of incremental cost (where growth in volumes from all pricing zones is the driver for investment in additional capacity) is not inconsistent with an average mine life approach across all pricing zones. In this instance, all pricing zones are considered as driving capacity investments (and are allocated costs according to their use) just as all pricing zones were considered in developing an average mine life. Further, the ACCC notes that capital costs are annualised on the basis of the average remaining mine life, but will only be borne by access seekers to the extent they contribute traffic to the network in a given year.

- ARTC submits that it is unclear from the Draft Determination how it is meant to treat the capital costs associated with the capacity that is consumed by contracted volumes that will terminate prior to the expiration of the average mine life period. The ACCC notes that annual capital costs that extend beyond the life of particular traffic volumes for terminating mines (mines with lives shorter than the average) will be recovered from the traffic volumes for the continuing mines (mines with lives longer than the average). The annualisation of capital costs to reflect the average remaining mine life means that there is allocation of capital costs both away from and towards terminating mines.
- ARTC argues that WIK's approach to assessing corridor capital projects (or renewal projects) as incremental is not appropriate because it does not consider the intended beneficiaries of the original investment. The ACCC, however, considers that WIK's approach regarding these corridor capital projects is consistent with the ACCC's interpretation of incremental costs as the corridor capital projects have been for the benefit and use of all Access Holders and are allocated to Access Holders based on their usage.
- ARTC submits that WIK's analysis of the treatment of maintenance costs lacks sufficient detail and that the analysis on maintenance costs undertaken by E3 Advisory (on behalf of ARTC) is supported by more detail. The ACCC, however, considers that WIK's treatment of maintenance costs is reasonable. In particular, the ACCC notes that WIK's analysis is supported by an assessment of confidential ARTC documents outlining maintenance activities. These documents related to:
    - a detailed break-down of fixed and variable maintenance costs maintenance activity and segment
    - details of split between fixed and variable allocation and an explanation outlining the details of the split of and the basis upon which the split has been applied.[191]
- ARTC submits that WIK should have consulted with the HVCCC during its assessment of incremental costs. The ACCC notes that WIK had in person and/or telephone meetings with a variety of stakeholders, including Access Holders and ARTC (all of which are members of the HVCCC). In these meetings, stakeholders were provided with an opportunity to raise any issues they considered appropriate to the assessment and provide their views directly to WIK. WIK independently considered and formed its own independent view on the issues. Further to this, WIK sought additional information from ARTC on multiple occasions to inform its analysis. WIK did not meet specifically with the HVCCC because it had already consulted with relevant HVCCC members and the WIK methodology does not rely on the initial decisions behind investment expenditure.
- Additionally, the ACCC notes Whitehaven's submission that investments have occurred in Pricing Zone 3 that have freed up train paths in Pricing Zone 1, but WIK has not considered those investments in its assessment. Consistent with the ACCC's Draft Determination, the ACCC considers that it is appropriate to not account for these projects in this context as those investments do not contribute to the Economic Cost for

[191] WIK report, p. 23.

the Constrained Network.[192] Additionally, the freeing up of train paths should ultimately be reflected in lower costs in Pricing Zone 1 that are shared by all Access Holders.

Overall view on the WIK approach

Given the ACCC's consideration of issues set out above, the ACCC remains of the view that WIK's methodology represents a robust and conservative approach to calculating incremental costs of Pricing Zone 3 Access Holders' use of Pricing Zone 1, and is consistent with the ACCC's interpretation of incremental cost.

Nevertheless, the ACCC has carefully considered the alternative approaches submitted by ARTC and Pricing Zone 3 Access Holders' to estimating incremental cost. The ACCC's views on these alternative approaches are set out below.

Alternative approaches to calculating incremental cost

As noted in section 2.3.5, Pricing Zone 3 producers Whitehaven and Idemitsu, through their respective consultants' reports, provided alternative approaches to estimating incremental cost applying to Pricing Zone 3 Access Holder's use of Pricing Zone 1. These alternative approaches took a much narrower perspective on incremental costs for Pricing Zone 3 users and used a mix of qualitative and quantitative methods to estimate incremental costs that could be apportioned to Pricing Zone 3 Access Holders.

ARTC, through its consultant E3 Advisory, also provided an alternative approach to estimating incremental cost focusing on a qualitative review of documentation on the purpose and beneficiaries of investments, a feature that ARTC considered the WIK analysis lacked.

The ACCC acknowledges stakeholders' views and their extensive submissions in providing alternative approaches to estimate incremental cost applicable to Pricing Zone 3 Access Holders.

Each alternative approach largely focuses on the treatment of major capital investment projects, and the extent to which these projects could be considered incremental to Pricing Zone 3 Access Holders.

In general, while there are some similarities in the results of the alternative approaches suggested by ARTC and Pricing Zone 3 Access Holders, there are also differences.

The ACCC notes that the three alternative approaches suggested by ARTC and Pricing Zone 3 producers conclude that five to six major capital investment projects (out of a group of around nine commonly assessed projects) should not be classified as incremental to Pricing Zone 3 Access Holders. The ACCC notes that each alternative approach assesses a slightly different group of capital investment projects. However, for at least three capital projects (that all approaches assessed) the outcomes for the alternative approaches were not consistent:

- Pricing Zone 3 producers conclude that one project (the Nundah Bank third road) could be considered incremental to Pricing Zone 3 producers while ARTC submits that to categorise this particular project as incremental would be a significant miscategorisation.[193]
- ARTC concludes that two projects (the Antiene to Grasstree Stage 1 duplication and the St Helliers to Muswellbrook duplication) could be considered partly incremental

[192] ACCC, Draft Determination, p. 42.

[193] ARTC, Submission on the ACCC's Draft Determination, p. 24.

while Pricing Zone 3 producers conclude that these projects should not be considered incremental.

The approach undertaken by Lunarr Advisory and The Simulation Group (noted in Idemitsu's submission) uses a combination of one qualitative and three separate quantitative methodologies and makes a judgement based on the findings across the four methodologies. While this approach has the benefit of taking a balanced view of the four different methodologies, it also demonstrates how different outcomes can be obtained based on the methodology applied.

In particular, while certain individual methodologies considered by Lunarr Advisory indicate that projects could be considered incremental for five of the nine major capital investment projects, the report concluded that overall only one project should be classified as incremental.[194]

Furthermore, Lunarr Advisory notes that the one qualitative methodology should be provided with at least equal merit against the combination of all three of the quantitative approaches. Despite this, out of three projects where the qualitative methodology indicates that it could be considered incremental, the report concluded that only one of these projects should be classified as incremental.

Overall, while each approach follows a specific methodology, the ACCC considers that the outcomes of each approach are based on a level of subjective judgement in the selection of investments to be included in the calculation of incremental cost. As a likely result, the various alternative assessments of incremental costs undertaken by ARTC's and Pricing Zone 3 producers' consultants do not provide a definitive view, and in some cases provide opposing views.

The ACCC also notes that the bases for the various alternative approaches are not consistent with the ACCC's interpretation of incremental cost.

Further ACCC analysis

Given stakeholder comments on the Draft Determination and WIK analysis in calculating the incremental cost applying to Pricing Zone 3 Access Holders and the outcomes of the alternative approaches to estimating incremental cost, the ACCC considered it appropriate to conduct further analysis prior to reaching a Final Determination.

While the alternative approaches to estimating incremental cost are not consistent with the ACCC's interpretation of incremental cost, the ACCC considered it prudent to check the validity of the alternative methodologies proposed by ARTC and Pricing Zone 3 Access Holders.

The ACCC noted the alternative approaches to assessing incremental cost recommended by ARTC and Pricing Zone 3 producers and followed a similar approach in undertaking its check on the validity of these approaches.

The ACCC's further analysis focused on the treatment of major capital projects in the calculation of incremental cost, which make up a significant proportion of the total incremental cost estimated by WIK.

Accordingly, the ACCC undertook a detailed case-by-case qualitative analysis of the top ten major capital expenditure investment projects (by value) identified by WIK as incremental but viewed by Whitehaven, Idemitsu or ARTC as largely non-incremental with respect to Pricing Zone 3 producers. The total value of these projects was around $775 million (excluding

[194] Lunarr report, pp. 37-38.

interest during construction) (compared to a total of about $778 million identified by WIK as incremental, excluding interest during construction).

The aim of this analysis was, for each of the ten major capital investment projects, to determine:

- their purpose
- considerations made by RCG or the former Rail Investment Group (RIG) when deciding to invest in them
- how they formed part of the wider corridor capacity of the Hunter Valley system
- any other information available at the time that could have formed part of the investment decision.

The top ten major capital investment projects (by value) are listed in the table below.

Table 4: Top ten major capital investment projects (by value, excluding interest during construction)

Project Number	Project name	Value ($m)
5255	Maitland to Minimbah Third Road - Stage 2 - All Phases	353.2
3585	Maitland to Minimbah Third Road – Stage 1 – All Phases	148.3
5811	Nundah Third Track - All Phases	77.8
358401	Bi-Directional signalling Maitland to Branxton - 946/947	45.9
357901	Antiene to Grasstree Stage 1 duplication – 0961	42.7
388401	St Helliers to Muswellbrook duplication	31.4
8665	No.3 Departure Road at KCT	30.8
6928	Drayton Junction Upgrade (Capital)	19.9
346801	Newdell Junction Upgrade	15.7
615660	Maitland Junction/CBI	9.8

The ACCC notes that for five of the ten major capital investment projects, the ACCC reviewed ARTC decision documents that were presented to the RCG or RIG (which include coal producers and above rail operators) which sought their endorsement for capital expenditure for the investment projects.

In addition, the ACCC reviewed ARTC's various Hunter Valley Corridor Capacity Strategy (HVCCS) publications from 2008 to 2013 for information relevant to the ten capital investment projects, as well as other relevant documentation.

The ACCC's main observations from its analysis are as follows.

- The RCG/RIG endorsement documentation and HVCCS publications generally provide high level commentary of the purpose, objectives and likely benefits of the capital investment projects. The documentation generally did not identify any key or exclusive group of users that would specifically benefit from the investment and explicitly link the investment to those users. Rather, the documentation noted network wide benefits for a lot of the projects.
- All ten of the capital investment projects appear to be linked in some form to a need for increased capacity of the rail network, providing benefits to all Access Holders.

- For two projects (Antiene to Grasstree Stage 1 duplication and St Helliers to Muswellbrook duplication) the ACCC considers that the documents suggest clear capacity benefits for Pricing Zone 3 producers as well as other Access Holders. For instance, ARTC's media release following completion of the Antiene to Grasstree duplication notes "*Stage two of the overall project saw the line upgraded from a single track to two tracks side by side between Antiene and Grasstree. This will result in a transit time saving of 15 minutes for Gunnedah trains [originating in Pricing Zone 3] and 19 minutes for Ulan trains [originating in Pricing Zone 2]*".[195]
- A number of projects related to upgraded sections of the main Pricing Zone 1 line. These included the Newdell Junction Upgrade and the Drayton Junction Renewal projects which provided benefits of reduced future maintenance downtime and therefore more constant capacity for all Access Holders. The ACCC notes ARTC's 2007 HVCCS which states that "*[the] Newdell and Drayton Junctions also have high maintenance turnouts, necessitating excessive track maintenance and producing additional train delays".*[196]
- Other projects related to constructing third tracks on steep banks along the main Pricing Zone 1 line to provide additional capacity for all users of the main line. For instance an ARTC media release states that following approval of the Nundah Bank project notes that "*the Nundah Bank project was a key part of the ARTC"s ongoing plan to keep rail capacity ahead of market demand for Hunter Valley coal*". Also, ARTC's 2007 HVCCS described benefits of the Minimbah Third Road at the network level noting that "*Projects involving a Minimbah Third Road reduce delay for 'Hunter Valley' coal trains to around 5 minutes in 2012*".[197]

- Furthermore, the ACCC note that many, if not all of these investments took place during a time when there were forecasts of increasing demand for capacity from the Pricing Zone 2 and 3 regions.
- Finally, for five projects for which formal RCG endorsement documentation the ACCC reviewed, Pricing Zone 3 Access Holders (either Whitehaven or Idemitsu) endorsed the investment expenditure by way of sign off.

A summary of the ACCC's case-by-case analysis including relevant document extracts regarding each of the ten major capital projects are provided in Appendix A.

Overall, the ACCC considers that the need to increase capacity to accommodate increasing demand (including from Pricing Zone 3 producers), was a factor behind the investments, and in many cases, the most obvious factor. This analysis generally supports the WIK analysis view that these major capital investment projects were driven (at least in large part) by the need for capacity enhancements and that Pricing Zone 3 producers would have benefitted from these investments.

ACCC's final view on the approach to calculating incremental cost

Following analysis of stakeholders' submissions on the approach to calculating incremental cost, as well as the ACCC's own further analysis, the ACCC considers that the WIK approach is appropriate.

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[195] ARTC, *Track Duplication Completed as Investment in Hunter Valley Coal Line Continues*, Media release, 21 November 2008, See http://www.artc.com.au/library/news_2008-11-21.pdf

[196] ARTC, *2007-2012 Hunter Valley Corridor Capacity Strategy – Consultation Document*, 29 November 2007, p. 15.

[197] Ibid, pp. 13-14.

Despite ARTC's concerns that many of the conclusions reached in the WIK report appear to be subjective, the ACCC considers that WIK's approach removes a large degree of the subjectivity present in the alternative approaches proposed by stakeholders. This is particularly the case around the original rationale for capital investments in Pricing Zone 1. The ACCC's further analysis (set out above and in Appendix A) clearly shows that it is very difficult to directly link investments to particular pricing zones without making subjective judgements. The contrasting conclusions reached in the proposed alternative approaches from ARTC and Pricing Zone 3 producers also support this.

The ACCC notes that the WIK approach aligns with the ACCC's interpretation of incremental cost as the WIK approach identifies which investments would be incremental for all new traffics (no matter from what pricing zone) and then attributes costs according to relative usage. In this way, the WIK approach does not make subjective judgements about whether users within particular pricing zones have been the primary beneficiaries of investment projects, but rather whether the investments have increased network capacity of Pricing Zone 1 that provides benefits to all users of this pricing zone.

The ACCC also considers that WIK's assessment is very thorough and robust and is supported by economic theory. When WIK undertook its assessment it cooperated with a rail engineering expert, consulted and met with various Access Holders as well as ARTC, and based its assessment on a substantial amount of information provided by ARTC. Furthermore, the ACCC notes that in many cases the WIK analysis accepted and used ARTC's methodology and cost allocations.

As previously noted, a spreadsheet error was present in the WIK analysis set out in the Draft Determination. This error related to the non-inclusion of depreciation associated with certain pre-2011 capital projects. The ACCC also notes ARTC's correction of its error related to disposals and adjustments to its allocation of operating expenditure. After accounting for these adjustments, the incremental cost associated with Pricing Zone 3 Access Holders in Pricing Zone 1 is $17.8 million.

The difference between direct costs associated with Pricing Zone 3 producers of $2.4 million as applied by ARTC in its submission and the incremental costs for Pricing Zone 3 producers calculated in the WIK analysis of $17.8 million is $15.4 million. The ACCC's determination is that this additional amount needs to be deducted from the Ceiling Limit for the Constrained Group of Mines, as set out in table 3.4.

2.5. True-Up Test audit

The HVAU incorporates liability arrangements in the Indicative Access Holder Agreement that provides for the payment of rebates to users for ARTC's failure to deliver contracted path usages. 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.

Subsection 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 perceptions of conflicts of interest on the part of ARTC. ARTC engaged BDO (SA) Pty Ltd (BDO) as auditor for the True-Up Test, which the ACCC approved in accordance with subsection 4.10(f)(ii).

2.5.1. ARTC's May 2014 Compliance Documentation

ARTC submitted that a 'True-Up Test was conducted for each month and quarter (as applicable) during the [2013] Compliance Period'.[198] BDO prepared a final audit report regarding ARTC's True-Up Test for 2013, which was provided to the ACCC on 21 May 2014 as part of ARTC's compliance submission. ARTC submitted that BDO's final audit report concluded that it was not liable for any rebates for the 2013 calendar year.

2.5.2. ARTC's True-Up Test Review

ARTC conducted, in consultation with stakeholders, a review of the operation and effectiveness of the system-wide True-Up Test, as required under section 13.4 of the HVAU.[199] On 5 September 2014, ARTC notified the ACCC that had decided not to propose a variation to the HVAU in response to the matters raised by stakeholders.

2.5.3. ACCC's Final Determination

The True-Up Test is subject to audit by an independent party with the appropriate qualifications in order to ensure the integrity of the test. The ACCC notes that BDO's final audit report concludes that:

> *In our opinion, ARTC has complied, in all material respects, with Schedule 2 of the Access Holder Agreements under the HVAU for the year ended 31 December 2013.*[200]

The ACCC specifically notes BDO's comments that:

> *No system availability shortfall was recorded for any period during the year meaning no accruals were required to be paid.*

Consistent with the ACCC's Draft Determination, on the basis of BDO's report, the ACCC considers that it is appropriate to accept the outcome of the True-Up Test, being that ARTC is not liable for any rebates for the 2013 calendar year.

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198 ARTC, *Initial Compliance Submission*, May 2014, p. 27.

199 ARTC's True Up Test review report can be accessed at: http://www.accc.gov.au/regulated-infrastructure/rail/artc-advices-on-reviews/true-up-test-review

200 BDO, *Independent compliance audit report to Australian Rail Track Corporation Ltd*, 28 March 2014, p. 1.

3. ACCC's Determination

This section sets out the ACCC's Final Determination regarding the annual compliance assessment under ARTC's HVAU for the 2013 calendar year on the following key components:

- RAB roll forward for Pricing Zone 3 (section 3.1)
- RAB Floor Limit roll forward for the entire network and for Pricing Zone 3 (section 3.2)
- Comparison of the RAB and RAB Floor Limit for Pricing Zone 3 (section 3.3)
- Reconciliation of revenue with the applicable Ceiling Limit (section 3.4)
- Allocation of 'unders and overs' amount to access holders (section 3.5).

3.1. RAB roll forward

Section 4.10(d)(i) of the HVAU requires the ACCC to determine whether ARTC has undertaken the roll forward of the RAB in accordance with the HVAU. The RAB is rolled forward in Pricing Zone 3 for comparison with the RAB Floor Limit to determine if 'loss capitalisation' applies.

Section 4.4(a) of the HVAU outlines how the RAB is to be rolled forward annually.

3.1.1. ARTC's Compliance Submission

Applying the RAB roll forward formula, ARTC determined the closing value of the RAB in Pricing Zone 3 for the 2013 Compliance Period to be as follows:

Table 3.1 Pricing Zone 3 RAB roll forward [201]

Value	ARTC's Initial Submission ($)	ARTC's Revised Submission ($)	ACCC Determination ($)
Opening RAB for Pricing Zone 3	286 018 488	286 018 488	286 018 488
add Return on Opening RAB	33 835 987	33 835 987	33 835 987
less Revenue	- 62 588 568	- 62 663 457	- 47 273 032
add Operating Expenditure	17 277 336	17 272 328	17 272 328
add Net Capital Expenditure	12 945 831	12 857 636	12 857 636
add Return on Net Capital Expenditure	765 746	760 529	760 529
Closing RAB for Pricing Zone 3	288 254 821	288 081 511	303 471 936

[201] ARTC, *Compliance Submission 1 January to 31 December 2013,* 21 May 2014, p. 9; ARTC, *Revised Compliance Submission Spreadsheets 1 January to 31 December 2013* CONFIDENTIAL, 1 April 2016.

3.1.2. ACCC determination

Based on the Revised Compliance Submission, the ACCC has determined that ARTC has undertaken the roll forward of the RAB for Pricing Zone 3 in accordance with the HVAU. In making this determination the ACCC has had regard to the formula in section 4.4(a) of the HVAU and the inclusion of efficient costs and prudent capital expenditure, as discussed in section 2 of this document.

Accordingly, the closing RAB for those segments in Pricing Zone 3 as at 31 December 2013 is $303 471 936.

3.2. RAB Floor Limit roll forward

Section 4.10(d)(i) of the HVAU requires the ACCC to determine whether ARTC has undertaken the roll forward of the RAB Floor Limit in accordance with the HVAU. The RAB Floor Limit is rolled forward for the following purposes:

- in Pricing Zones 1 and 2, for calculating components of full economic cost; and
- in Pricing Zone 3, for comparison with the RAB to determine if 'loss capitalisation' applies.

Section 4.4(b) of the HVAU specifies how the RAB Floor Limit is to be rolled forward annually.

3.2.1. ARTC's Compliance Submission

Applying the RAB Floor Limit roll forward formula outlined above, ARTC determined the RAB Floor Limit closing value for the total network for the 2013 Compliance Period as follows:

Table 3.2 Network RAB Floor Limit roll forward [202]

Value	**ARTC's Initial Submission ($)**	**ARTC's Revised Submission ($)**	**ACCC Determination ($)**
Opening RAB Floor Limit for entire network	1 551 340 789	1 551 340 789	1 551 340 789
add CPI	31 876 866	31 876 866	31 876 866
add Net Capital Expenditure[203]	155 187 320	154 377 803	154 377 803
less Depreciation	- 85 153 141	- 85 114 592	- 85 114 592
Closing RAB Floor Limit for entire network	1 653 251 834	1 652 480 865	1 652 480 865

ARTC also determined the RAB Floor Limit closing value for those segments in Pricing Zone 3 during the 2013 Compliance Period for the purpose of comparing it to the RAB, as follows:

[202] ARTC, *Compliance Submission 1 January to 31 December 2013*, 21 May 2014, p. 12; ARTC, *Revised Compliance Submission Spreadsheets 1 January to 31 December 2013* CONFIDENTIAL, 1 April 2016.

[203] Net Capital Expenditure = Capital Expenditure + Interest During Construction - Disposals

Table 3.3 Pricing Zone 3 RAB Floor Limit roll forward [204]

Value	ARTC's Initial Submission ($)	ARTC's Revised Submission ($)	ACCC Determination ($)
Opening RAB Floor Limit for Pricing Zone 3	275 579 819	275 579 819	275 579 819
add CPI	5 662 599	5 662 599	5 662 599
add Net Capital Expenditure[205]	12 945 831	12 857 636	12 857 636
less Depreciation	- 14 734 933	- 14 730 734	- 14 730 734
Closing RAB Floor Limit for Pricing Zone 3	279 453 315	279 369 320	279 369 320

3.2.2. ACCC determination

Based on the Revised Compliance Submission, the ACCC has determined that ARTC has undertaken the roll forward of the RAB Floor Limit in accordance with the HVAU for the 2013 Compliance Period. In making this determination the ACCC has had regard to the formula in section 4.4(b) of the HVAU and the inclusion of efficient costs and prudent capital expenditure, as discussed in section 2 of this document.

Accordingly, the closing RAB Floor Limit for the total network at 31 December 2013 is $1 652 480 865 and the closing RAB Floor Limit for Pricing Zone 3 is $279 369 320.

3.3. Comparison of the RAB and RAB Floor Limit for Pricing Zone 3

As outlined in sections 3.1 and 3.2 above, the ACCC has determined that the closing RAB value for Pricing Zone 3 for the 2013 Compliance Period is $303 471 936 and the closing RAB Floor Limit for Pricing Zone 3 is $279 369 320.

Given that the RAB is greater than the RAB Floor Limit in Pricing Zone 3, 'loss capitalisation' applies and ARTC is not required reconcile access revenue with the applicable Ceiling Limit for Pricing Zone 3 (see section 4.3(b) of the HVAU).

The ACCC notes that, based on the Revised Compliance Submission, the cumulative losses capitalised into the Pricing Zone 3 asset base as at the end of the 2013 Compliance Period is $24 102 616.[206]

3.4. Reconciliation of revenues with the applicable Ceiling Limit

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

The Ceiling Limit for Pricing Zones 1 and 2 requires that access revenue from any Access Holder or group of Access Holders must not exceed the Economic Cost of those segments

[204] ARTC, *Compliance Submission 1 January to 31 December 2013*, 21 May 2014, p. 13; ARTC, *Revised Compliance Submission Spreadsheets 1 January to 31 December 2013* CONFIDENTIAL, 1 April 2016.

[205] Net Capital Expenditure = Capital Expenditure + Interest During Construction - Disposals

[206] Cumulative losses capitalised = Closing RAB – Closing RAB Floor Limit for Pricing Zone 3, which at the end of the 2013 Compliance Period includes capitalised losses from 2011, 2012 and 2013.

which are required on a standalone basis for the Access Holder or group of Access Holders (see section 4.3(a) of the HVAU). As per section 3.3 above, ARTC is not required to reconcile access revenue with the Ceiling Limit for Pricing Zone 3.

ARTC's ceiling test model calculates the amount of access revenue and the Economic Cost across the segments utilised by a mine or combination of mines. The combination of mines that is closest to, or exceeds, the economic cost for the relevant segments is called the 'Constrained Group of Mines' and the segments comprise the 'constrained' part of the Hunter Valley Coal Network.

3.4.1. ARTC Revised Compliance Submission

ARTC reconciled the access revenue received with costs for the Constrained Group of Mines for the 2013 Compliance Period as follows:

Table 3.4 Ceiling test [207]

Value	ARTC's Initial Submission ($)	ARTC's Revised Submission ($)	ACCC Determination ($)
Operating Expenditure	102 723 043	102 802 409	102 802 409
add Depreciation	70 191 898	70 157 550	70 157 550
add Net loss on disposal	4 449 867	4 449 867	4 449 867
add Return on assets	120 167 711	120 136 453	120 136 453
Economic cost	297 532 519	297 546 279	297 546 279
Less additional incremental costs associated with Pricing Zone 3			15 390 424*
Ceiling Limit for Constrained Group of Mines	**297 532 519**	**297 546 279**	**282 155 855**
Revenue received for Constrained Group of Mines	**277 929 657**	**277 929 657**	**277 929 657**
Difference	**19 602 862**	**19 616 622**	**4 226 197**

* This amount is the difference between direct costs associated with Pricing Zone 3 producers of $2,423,026 as applied by ARTC in its submission and the incremental costs for Pricing Zone 3 producers calculated in WIK analysis of $17,813,450. See section 2.4.4 for further explanation.

3.4.2. ACCC determination

Based on the Revised Compliance Submission and the ACCC's views presented in sections 2.3 and 2.4 of this document,, the ACCC considers that ARTC has not undertaken the reconciliation of access revenue with the applicable Ceiling Limit in accordance with the HVAU. In making this determination the ACCC has had regard to the components of economic cost in section 4.5(a) of the HVAU, the inclusion of efficient operating expenditure (as discussed in section 2.2 of this document) and the allocation of revenue.

[207] ARTC, *Compliance Submission 1 January to 31 December 2013*, 21 May 2014, p. 19; ARTC, *Revised Compliance Submission Spreadsheets 1 January to 31 December 2013* CONFIDENTIAL, 1 April 2016.

In contrast to ARTC's Revised Compliance Submission, the ACCC has determined an under-recovery of $4 226 197 for the 2013 Compliance Period.

3.5. Allocation of unders and overs amount to access holders

Section 4.10(d)(ii) of the HVAU requires the ACCC to determine whether ARTC has allocated the total 'unders and overs' amount to access holders in accordance with the HVAU. The 'unders and overs' amount is determined through the reconciliation of access revenue received with the applicable Ceiling Limit for the 'constrained' network as set out in section 3.4 above.

Based on the Revised Compliance Submission, ARTC's total under-recovery for the 'constrained' network for the 2013 Compliance Period was $4 226 197.

The proportion of this amount that is allocated to each Constrained Coal Customer in accordance with section 4.9 of the HVAU is based on:

> *the proportion of revenue paid for access rights over the Constrained Network by each Constrained Coal Customer, net of any rebate of the take or pay component of the Charges paid to that Constrained Coal Customer.*

As required by section 4.9(b)(ii), ARTC is required to provide an updated spreadsheet to the ACCC (on a confidential basis) that sets out the allocation of the total 'unders and overs' amount for the 2013 Compliance Period.

Appendix A

ACCC analysis of major ARTC capital investment projects

Maitland to Minimbah Third Road – Stage 2

Description	Construction of two sections of third track from Minimbah to Branxton and Greta to Farley.
Value	$353.2 million (excluding interest during construction)
Year of Approval	2010
Year of Construction	2011
Year of Implementation	2012
Lunarr Advisory (Idemitsu) Assessment	Not Incremental
EJC (Whitehaven) Assessment	Not Incremental
E3 Advisory (ARTC) Assessment	Not Incremental
Primary Purpose	Reducing the effect of maintenance works on the network.
RCG Endorsements	The 2011 'Programme final forecast cost' was signed by QR, Whitehaven, Bloomfield Coal, Xstrata Coal, BHP Billiton and Rio Tinto.
Relevant RCG Documentation Comments	• According to the 2011 'Programme final forecast cost' approval the purpose of the submission is to: o *"Inform RCG of project delays and movement in final forecast cost.* o *Seek endorsement to increase budget by $8 million to $368.2 million.* o *Seek endorsement to commence Phase 5 (construction) with commissioning in November 2012."*[208]
Relevant 2011-2020 HVCCS Comments	• The track between Minimbah and Maitland carries the highest volume on the Hunter Valley network and is constructed on relatively poor formation. • As a result, it requires a significant maintenance effort, which is a major contributor to interrupting the continuous flow of trains. • The bi-directional signalling projected completed in 2009 eased the effect of maintenance on this section, but as the volumes grows it becomes increasingly difficult to make use of the opposing direction track. • To provide a better solution, a third track was proposed. Though this track is technically not required for capacity purposes, it provides the least cost method of providing incremental capacity to the network from a holistic perspective.

[208] ARTC, *Maitland to Minimbah Third Track (Stage 2) – Programme Final Forecast Cost*, 2011, p. 2.

Maitland to Minimbah Third Road – Stage 1

Description	ARTC identified the Minimbah Bank as a section of the network with a large minimum headway due to the need for trains to climb the bank. The project involved construction of a new track in the loaded (Up) direction on a reduced grade. This effectively doubled the capacity of the section because two trains could be on the bank simultaneously without the risk that the second would be required to stop.
Value	$148.3 million
Year of Approval	2009
Year of Construction	2010
Year of Implementation	2011
Lunarr Advisory (Idemitsu) Assessment	Not Incremental
EJC (Whitehaven) Assessment	Not Incremental
E3 Advisory (ARTC) Assessment	Not Incremental
Primary Purpose	Reducing delay and providing additional capacity.
RCG Endorsements	The 2010 Update on Forecast Final Cost was endorsed by QR, Whitehaven, Bloomfield Coal, Xstrata Coal, BHP Billiton and Rio Tinto[209]
Relevant 2007-2012 HVCCS Comments	• Minimbah Bank was one of four non-junction sections of the coal rail network in PZ1 where the minimum headway exceeded eight minutes. • One objective was to *"reduce the capacity impacts of coal trains entering at Whittingham Junction."*[210] These are PZ1 trains. However, other comments suggest broad drivers including passenger trains. • *"…*theoretical *analysis suggests that it is necessary to act to provide additional capacity on Minimbah bank in advance of the increase in coal loader capacity in Q4 2009."*[211] • In the absence of port constraints, *"a third road on Minimbah bank offers the only long-term solution."*[212] • The Strategy described benefits at the network level: *"Projects involving a Minimbah Third Road reduce delay for 'Hunter Valley' coal trains to around 5 minutes in 2012."*[213] • Timing of the investment linked to volumes estimated by Hunter Valley Coal Chain Logistics Team (HVCCLT).
Relevant 2009-2018 HVCCS Comments	• The project timing was aligned with the completion of NCIG Stage 1 (port infrastructure) which would coincide with the Minimbah bank reaching capacity.

[209] ARTC, *Minimbah Bank Third Track – Constrained Network – Update on Forecast Final Cost*, 2009, p. 1

[210] ARTC, *2007-2012 Hunter Valley Corridor Capacity Strategy – Consultation Document*, 29 November 2007, p. 12.

[211] Ibid, p. 13.

[212] Ibid, p. 13.

[213] Ibid, p. 14.

	• The chosen third road has a lower gradient. This provides benefits to all users: *"a reduced gradient does not in itself have much effect on operational performance if the train configuration remains the same, but a lower maximum elevation will both improve transit time and reduce fuel consumption."*[214]
Other Notes	• An ARTC media release describes the track as *"a key part of ARTC's ongoing plan to keep rail capacity ahead of market demand for Hunter Valley coal"*[215] and quotes the then-CEO making comments about how demand is forecast to increase in the Hunter Valley.

[214] ARTC, *2009-2018 Hunter Valley Corridor Capacity Strategy – Consultation Document*, June 2009, p. 13.

[215] ARTC, *Minimbah Bank Third Track Project completed*, Media release, 2010, https://www.artc.com.au/2010/06/04/2010-06-08-130914/.

Nundah Third Track

Description	ARTC identified Nundah Bank, approximately 10km north-west of Singleton, as a future capacity and operational constraint on the Hunter Valley Network, primarily due to the steep grades in the up direction, resulting in large headways.[216] This project relates to the construction of an additional (third) track up the steep grade.
Value	$77.8 million (excluding interest during construction)
Year of Approval	2011
Year of Construction	2012
Year of Implementation	2013
Lunarr Advisory (Idemitsu) Assessment	Incremental
EJC (Whitehaven) Assessment	Partly Incremental
E3 Advisory (ARTC) Assessment	Not Incremental
Primary Purpose	To provide capacity ahead of demand while minimising capital expenditure.
RCG Endorsements	Whitehaven, Rio Tinto, QR, Xstrata, Bloomfield Coal, BHP Billiton
Relevant RCG Documentation Comments	• *"The Nundah Bank Project is one of a number of major projects required to improve capacity of the Hunter Valley Network... Based on current forecasts the existing capacity of the bank is expected to become a constraint by Q1 2013. Therefore this Project is programmed to be delivered prior to Q1 2013 and is designed to remove the constraint to meet contracted coal volumes".*[217] • The necessity of the project was based on assumptions including that contract demand will be realised and Nundah Bank would become a constraint on the coal chain network.[218] • ARTC explains the basis for this (third track) solution as *"operational modelling has determined that the required capacity cannot be achieved by solely re-signalling the current tracks. Therefore triplication of a short section of the Main North Lines at Nundah Bank is seen as the only feasible proposal in terms of achieving network capacity by infrastructure changes".*[219] • Benefits of the project are described as: o *"Increased railway capacity at Nundah Bank;*

[216] ARTC, *Nundah Bank Third Track Project, Phase IV Project Approval, Investment Proposal Detailed Submission*, 2011, p. 5.

[217] Ibid, pp. 3-5.

[218] Ibid, p. 16.

[219] Ibid, p. 3.

	o *Ten minute signalling headways on Nundah Bank;* o *Improve operational performance; and* o *Improve the recovery of failed rolling stock on the Bank".*[220]
Relevant 2011-2020 HVCCS Comments	• *ARTC's* 2009 HVCCS document notes that "*the capacity of Nundah bank is reached in Q1 2012 if there is no port capacity constraint and Q3 2012 under the assumed port capacity expansion program, and that demand is very close to capacity for 2011*".[221] • ARTC notes "*The third tracks on Minimbah and Nundah banks (and to a lesser extent the Minimbah – Maitland Third Track) are going to increase the flexibility of operations and improve sequencing ability*".[222] • *ARTC* also notes in its 2009 HVCCS "*The major capacity driven change [of the 2009 Strategy] is the inclusion of the Nundah bank third road, with completion by Q3 2012*".[223] • ARTC's 2012 Strategy document provides an progress update on the project and notes "*The 2009 – 2018 Hunter Valley Strategy recommended pursuing a third track and this project has now moved with industry support into construction. The agreed option is a minimalist solution with construction of a new track at the existing 1 in 80 grade between 249.5 km and 245.24 km*".[224]
Other Notes	• ARTC's media release following approval of the project notes "*the Nundah Bank project was a key part of the ARTC"s ongoing plan to keep rail capacity ahead of market demand for Hunter Valley coal*".[225] • "*The ARTC is therefore implementing a strategy of line improvements endeavouring to keep system capacity ahead of industry demands. The design and construction of the Nundah Bank project is central to meeting the strategy's objectives*".[226]

220 ARTC, *Nundah Bank Third Track Project, Phase IV Project Approval, Investment Proposal Detailed Submission*, 2011, p .3.

221 ARTC, *2009-2018 Hunter Valley Corridor Capacity Strategy – Consultation Document*, June 2009, p. 13.

222 Ibid, p. 31.

223 Ibid, p. 33.

224 ARTC, *2012-2021 Hunter Valley Corridor Capacity Strategy – Consultation Document*, April 2012, p. 23.

225 ARTC, 'Nundah Bank rail upgrade a major boost for Hunter Valley coal corridor', Media release, 16 October 2011, See https://www.artc.com.au/2011/10/16/2011-10-17-110116/

226 Ibid.

Bi-directional signalling Maitland to Branxton

Description	This project involves replacing old signalling equipment to allow trains to travel in either direction on either track.
Value	$45.9 million
Year of Approval	2007
Year of Construction	2008
Year of Implementation	2009
Lunarr Advisory (Idemitsu) Assessment	Not Incremental
EJC (Whitehaven) Assessment	Not Incremental
E3 Advisory (ARTC) Assessment	Not Incremental
Primary Purpose	Reducing maintenance impacts and increasing operational flexibility.
Relevant 2007-2012 HVCCS Comments	• *Analysis* by ARTC and HVCC suggests bi-directional signalling *"would deliver at least 1.5 million tonnes of capacity that will contributed directly to increasing the capacity of the entire coal chain, as it will feed trains to the port unloaders when they would otherwise be idle."*[227] • Further, *"at current coal prices it is believed that this project will have a payback period of significantly less than five years, suggesting that early delivery of this project is well justified."*[228]
Other Notes	• Arup, *who* designed the signalling system, describe it as achieving eight-minute headways on both lines to *"meet current capacity targets for loaded coal trains running at 60km/h."*[229]

[227] ARTC, *2007-2012 Hunter Valley Corridor Capacity Strategy – Consultation Document*, 29 November 2007, p. 29.

[228] Ibid, p. 29.

[229] Arup, *Maitland to Branxton rail signalling*, 2015, See http://www.arup.com/Projects/Maitland_to_Branxton_Rail_Signalling.aspx

Antiene to Grasstree Stage 1 Duplication

Description	There were two single-track sections of the Main North line between Antiene and Muswellbrook where the capacity was lower than the rest of the Newcastle to Muswellbrook line. This project relates to the first section between Antiene and Grasstree Summit (about 7 km). The second section is between St Heliers and Muswellbrook Yard (about 2 km). The second section is considered as a separate but related project.
Value	$42.7 million
Year of Approval	2007
Year of Construction	2008
Year of Implementation	2009
Lunarr Advisory (Idemitsu) Assessment	Not Incremental
EJC (Whitehaven) Assessment	Not Incremental
E3 Advisory (ARTC) Assessment	Partly Incremental
Primary Purpose	Project objectives for the Antiene to Grasstree Track Duplication include, among other specific objectives: • "*enhancing the railway capacity by providing additional train paths and operational flexibility* • *reducing train delays* • *supporting future introduction of heavy haul 32TAL* • *accommodating future 80km/hr running for coal trains*".[230]
RCG/RIG Endorsements	Pacific National, QR
Relevant RCG/RIG Documentation Comments	• The RIG documents refer to the two duplication projects but make some specific references to the objectives and benefits of duplicating the Antiene to Grasstree Summit section: o "*The Antiene to Muswellbrook Track Duplication project, of which Antiene to Grasstree is a part of, is one of a number of related major projects required to improve capacity on the Hunter Valley network to meet projected growth of coal exports. As Lower and Middle Hunter coal reserves reduce, future coal production and rail haulage growth will be increasingly drawn from Upper Hunter mines, and new mines in the Muswellbrook, Gunnedah [PZ3] and Ulan [PZ2] areas…* *Without this project the rail network will be unable to handle projected haulage campaigns from increased existing mine*

[230] ARTC, *Antiene to Grasstree Duplication – Approval for Construction*, 2008, p. 7.

production and new mine projects currently planned".[231]

- "*Train operations on this section of the rail corridor have been considered tolerable to date but this will not be the case as the number of coal trains increase through Muswellbrook*".[232]

- Project benefits include:
  - "*reducing the average train delays (per round trip) in Q4 2008 for Gunnedah and Ulan trains of 15 minutes and 19 minutes respectively*
  - *increased capacity between Antiene and Grasstree from approximately 30 MGT to 200 MGT*
  - *providing capacity for the forecast in coal traffic, increasing available daily freight paths from 21 to 96 (upon completion of the entire Antiene to Muswellbrook duplication)*".[233]

Relevant 2007-2012 HVCCS Comments

- The capacity of Antiene to Grasstree and St Heliers to Muswellbrook these single track sections is well below forecast demand within the next five years as a result of new mine developments along the Ulan line (i.e. PZ2) and the Muswellbrook–Werris Creek–Narrabri lines (PZ3).[234]
- "*the heaviest coal volumes are at the lower end of the Hunter Valley, but the expected growth in coal mining along the Ulan line [PZ2] and in the Gunnedah basin [PZ3] is likely to produce significant changes in coal demand and traffic patterns over the next few years, necessitating a strong focus in this Strategy on the single track sections of the network north of Antiene*".[235]
- Three main options were identified to address issues with the Antiene to Grasstree and St Heliers to Muswellbrook track sections:
  - A deviation of the Ulan line to connect with the main line at Antiene rather than Muswellbrook
  - Fewer, longer trains
  - Full duplication of the existing single track sections between Antiene and Muswellbrook.
- The decision to adopt option 3 (full duplication) came as the other two options were deemed to only assist to a limited degree. ARTC considered that option 1 would "*only partly resolve the immediate capacity problems, because the main line would still need to be retained and enhanced to cater for the forecast growth in services to and from Werris Creek, Gunnedah, Boggabri and Narrabri [i.e. PZ3]*".[236]
- ARTC notes *"The full duplication option would technically provide a jump in capacity from the current nominal 35 mtpa to around 200 mtpa, making the limiting constraints the limited capacities of the Ulan and Werris Creek/Gunnedah lines".*[237]

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231 ARTC, *Antiene to Grasstree Duplication – Approval for Construction*, 2008, p. 4.

232 Ibid, p. 6.

233 ARTC, *Antiene to Grasstree Duplication – Approval for Construction Project Evaluation Submission coversheet*, 2008, p. 1.

234 ARTC, *2007-2012 Hunter Valley Corridor Capacity Strategy – Consultation Document*, ARTC, 29 November 2007, p. 18.

235 Ibid, p. 3.

236 Ibid, p. 18.

237 Ibid, p. 19.

- In relation to how ARTC would undertake works on both the Antiene to Grasstree and the St Heliers and Muswellbrook duplications, ARTC notes "*The choice between a staged approach and full duplication as a single project essentially depends on their costs, with the savings achieved by delaying expenditure being offset by the additional construction costs of fragmented projects with greater mobilisation costs and fewer economies of scale*."
- In the 2007 HVCCS ARTC proposed to "deliver the full duplication between Antiene and Muswellbrook essentially as a single project, but with Antiene – Grasstree expected to be completed approximately 6 to 9 months before St Heliers – Muswellbrook".[238]
- ARTC notes in relation to timing *"Slippage in the delivery timeframe for Antiene to Grasstree and St Heliers to Muswellbrook results in an increase in delay for Ulan line trains [PZ2] in particular in late 2008 / early 2009. This delay would also apply to Gunnedah basin trains [PZ3] but in the second half of 2008 is offset by the acceleration in completion of CTC between Werris Creek and Gunnedah."*[239]

Other Notes

- ARTC's media release following completion of the Antiene to Grasstree duplication notes "*Stage two of the overall project saw the line upgraded from a single track to two tracks side by side between Antiene and Grasstree. This will result in a transit time saving of 15 minutes for Gunnedah trains and 19 minutes for Ulan trains*".[240]
- "*The duplication of the track between Antiene and Grasstree is another stepping stone in enabling significant growth from the Gunnedah region. Demand on Hunter Valley coal is set to increase dramatically by 2012. The ongoing upgrade of the corridor with new signals, more passing loops and bridge replacements is part of ARTC's strategy to stay ahead of future export capacity for coal*".[241]

[238] Ibid, p. 20.

[239] Ibid, p. 39.

[240] ARTC, *Track Duplication Completed as Investment in Hunter Valley Coal Line Continues*, Media release, 21 November 2008, See http://www.artc.com.au/library/news_2008-11-21.pdf

[241] Ibid.

St Helliers to Muswellbrook duplication

Description	Related to the Antiene to Grasstree Stage 1 duplication. The second section of track to be duplicated was a 2 km section between St Heliers and Muswellbrook Yard. Similar to the previous project, this second of track also had a lower capacity than the majority of the Newcastle to Muswellbrook line.
Value	$31.4 million
Year of Approval	2007
Year of Construction	2008
Year of Implementation	2009
Lunarr Advisory (Idemitsu) Assessment	Not Incremental
EJC (Whitehaven) Assessment	Not Incremental
E3 Advisory (ARTC) Assessment	Partly Incremental
Primary Purpose	Similar to the objectives identified for the entire Antiene to Grasstree duplication, the objectives for the specific St Heliers to Muswellbrook duplication include, among other things: • "*enhancing the railway capacity by providing additional train paths and operational flexibility* • *reducing train delays* • *supporting future introduction of heavy haul 32TAL* • *accommodating future 80km/hr running for coal trains*".[242]
RCG/RIG Endorsements	Pacific National, QR
Relevant RCG/RIG Documentation Comments	• Project benefits include: o *"providing capacity for the forecast in coal traffic, increasing available daily freight paths from 21 to 96, between St Heliers and Muswellbrook on completion of the entire [Antiene to Muswellbrook] duplication project, although each stage will provide a marginal increase as a stand alone project* o *providing a fit for purpose infrastructure (market driven) that is reliable and unrestricted and reduces cycle times, without disruption to other customers* o *losses due to reactive maintenance and track possessions will be minimized by the inclusion of bi-directional working* o *flexibility is optimized for ARTC and operators".*[243]

[242] ARTC, *Antiene to Grasstree Duplication – Approval for Construction*, 2008, p. 7.

[243] ARTC, *St Heliers to Muswellbrook Duplication – Approval to appoint a Track and Civil Works Contractor*, 2008

Relevant 2007-2012 HVCCS Comments	• See Antiene to Grasstree Stage 1 duplication.

No. 3 departure road at Kooragang Coal Terminal

Description	ARTC identified an opportunity to relieve congestion at the Kooragang Coal Terminal (KCT) by purchasing the existing Departure Road no. 3 from Pacific National and then reconfiguring it to remove the refuelling facility.
Value	$30.8 million
Year of Approval	2013
Year of Construction	2013
Year of Implementation	2014
Lunarr Advisory (Idemitsu) Assessment	Not Incremental
EJC (Whitehaven) Assessment	Not Incremental
E3 Advisory (ARTC) Assessment	Not Incremental
Primary Purpose	Increasing the operational flexibility of the Hunter Valley Network and easing congestion on the wider network by delivering an additional Departure Road at Kooragang Coal Terminal.
RCG Endorsements	
Relevant RCG Documentation Comments	Comments from 'No. 3 departure road at KCT: Phase 5 and 6 RCG submission'[244] • It is seen as an expedient option to partially relieve congestion at the Kooragang Coal Terminal and thereby the wider rail network. • The general scope provided at the time was for the delivery of eight clear departure roads at Kooragang Coal Terminal (KCT), two for each dump station (allowing for the planned dump station 4). • The existing configuration provided five clear Departure Roads for the existing three dump stations, plus one (No.3) under private ownership and used for locomotive re-fuelling. • The purchase of this road, the removal of the Pacific National refuelling facility and the reconfiguring of the Dump Station end of the yard was seen as a more expedient option for providing an additional departure road. • The network capacity benefit due to the congestion relief is an additional 2.7 million tonnes per year
Relevant 2011-2020 HVCCS Comments	• KCT has six departure tracks, which are used for stabling trains while locomotives are serviced and fuelled, trains are examined, and while waiting a path. • However, each of the three dump stations requires a departure track to be vacant for a train to feed onto as it unloads. Number 3-departure track is effectively occupied with fuelling activities and causes considerable congestion.

[244] ARTC, *No.3 Departure Road at KCT Phase 5 & 6 RCG Submission*, 2013

Drayton Junction Renewal

Description	The Drayton Junction was a high maintenance junction with slow junction speeds. This led to reliability issues and the time for maintenance reduced the capacity of the network. The project involved relaying the junction with a high-speed, low-maintenance turnout.
Value	$19.9 million (excluding interest during construction)
Year of Approval	2012
Year of Construction	2012
Year of Implementation	2013
Lunarr Advisory (Idemitsu) Assessment	Not Incremental
EJC (Whitehaven) Assessment	Not Incremental
E3 Advisory (ARTC) Assessment	Not Incremental
Primary Purpose	*"The primary objective of [the project] is to maintain capacity ahead of demand by renewing the junction to reduce the impacts of infrastructure maintenance and reliability downtimes."*[245]
RCG Endorsements	QR, Idemitsu, Bloomfield Coal, Xstrata Coal, BHP Billiton, Rio Tinto

Relevant RCG Documentation Comments	• *"[*The *project] will maintain the ability of the mainline to cater for the increase in tonnage on the mainline and the Drayton Branch [PZ1]."*[246]
	• This is in the context of: *"Significant forecast volumes from the Drayton Branch will place increasing pressure on [Drayton Junction]."*[247]
	• The outcomes are increased reliability and reduced maintenance costs, and will be measured by:
	  o *"Reducing junction conflicts so as to achieve the increase in main line tonnages.*
	  o *Catering for the increased branch line traffic.*
	  o *Reduction in necessary ongoing maintenance cost…"*[248]
	• *"…the* Drayton *Junction project is predominantly a renewal project"*[249]

Relevant 2007-2012 HVCCS Comments	• *"The effects of [train conflicts at junctions] are particularly acute at three junctions that have slow junction speeds and/or high frequencies of train movements: Whittingham, Newdell and Drayton…* • *Newdell and Drayton Junctions also have high maintenance turnouts,*

[245] ARTC, *Drayton Junction Renewal, RCG Memo Phase 5-6*, 2012, p. 2.

[246] Ibid, p. 2.

[247] ARTC, *Drayton Junction Renewal – Project Assessment Report*, 2012, p. 6.

[248] Ibid, p. 9.

[249] Ibid, p. 19.

	necessitating excessive track maintenance and producing additional train delays."[250]
	• Benefits are described for branch line (PZ1) and main line users: *"[The project] would…effectively [double] the number of branch line trains able to be handled or [permit] an extra 15 northbound main line coal trains per day."*[251]
	• The project underwent a redesign for the 2006-2011 Strategy due to *"forecasts of substantially increased coal traffic on [the Drayton] branch line…"*[252]
Relevant 2009-2018 HVCCS Comments	• *"Although [the Newdell and Drayton Junctions] have adequate capacity for the immediate future, renewal of the junctions is highly desirable as a way of reducing the impacts of infrastructure maintenance and reliability downtimes."*[253]
	• *"[The junction upgrades] will approximately halve the junction* occupation *time, ensuring that interference between trains and hence delays, are minimised in the short term and ensuring adequate capacity in the longer term."*[254]
Relevant 2011-2020 HVCCS Comments	• ARTC deferred the Drayton Junction upgrade because improving the condition of the existing infrastructure was an effective short-term solution. Deferral will also allow alignment of project scope with coal producer requirements, noting, *"Indicative contractual nominations from the Drayton branch [PZ1] are expected to increase significantly as the Mount Arthur North mine expands."*[255]
Other Notes	• An ARTC press release describes the Drayton Junction project as part of a package *"designed to increase the coal carrying capacity of the Hunter Valley Rail network."*[256]

[250] ARTC, *2007-2012 Hunter Valley Corridor Capacity Strategy – Consultation Document*, 29 November 2007, p. 14.

[251] Ibid, p. 16.

[252] Ibid, p. 16.

[253] ARTC, *2009-2018 Hunter Valley Corridor Capacity Strategy – Consultation Document*, June 2009, p. 17.

[254] Ibid, p. 17.

[255] ARTC, *2011-2020 Hunter Valley Corridor Capacity Strategy – Consultation Document*, 2011, p. 17.

[256] ARTC, *ARTC partners with Leighton Contractors for major Hunter Valley rail works programme*, 2009, See https://www.artc.com.au/2009/07/29/2009-07-30-094137/

Newdell Junction Upgrade

Description	Similar to the Drayton Junction, the Newdell Junction was a high maintenance junction with slow junction speeds. This led to reliability issues and the time for maintenance reduced the capacity of the network. The project involved relaying the junction with a high-speed, low-maintenance turnout.
Value	$15.7 million
Year of Approval	2009
Year of Construction	2010
Year of Implementation	2011
Lunarr Advisory (Idemitsu) Assessment	Not Incremental
EJC (Whitehaven) Assessment	Not Incremental
E3 Advisory (ARTC) Assessment	Not Incremental
Primary Purpose	The 2009 RIG Submission 'Endorsement of Request for Additional Funding' describes the primary objectives as: • *"Improve/increase capacity through the junction by increasing turnout speeds;* • *Reduce* maintenance *costs;* • *Improve the reliability of the signalling system at the junction; and* • *Increased junction capacity to be in place by 2010"*[257]
RCG/RIG Endorsements	QR, Whitehaven, Bloomfield Coal, Xstrata Coal, BHP Billiton and Rio Tinto endorsed the 2009 RIG Submission 'Endorsement of Request for Additional Funding'.
Relevant RIG/RCG Documentation Comments	There are a number of references in the 2009 RIG Submission 'Endorsement of Request for Additional Funding' that suggest a focus on capacity benefits including two of the four primary objectives and a note in the value engineering section that *"The additional capacity that this project will deliver will be available from November 2009 onwards"*.[258]
Relevant 2007-2012 HVCCS Comments	• *"The effects of [train conflicts at junctions] are particularly acute at three junctions that have slow junction speeds and/or high frequencies of train movements: Whittingham, Newdell and Drayton…* • *Newdell and Drayton Junctions also have high maintenance turnouts, necessitating excessive track maintenance and producing additional train delays."*[259] • Benefits are described for branch line (PZ1) and main line users: *"[The project] would…effectively [double] the number of branch line trains able to be handled or [permit] an extra eight northbound main*

[257] ARTC, *Newdell Junction Upgrade – Endorsement of Request for Additional Funding*, 2009, p. 1.

[258] Ibid, p. 2.

[259] ARTC, *2007-2012 Hunter Valley Corridor Capacity Strategy – Consultation Document*, 29 November 2007, p. 14.

	line coal trains per day."[260] • *"Although the existing junction has adequate capacity for the immediate future, renewal of the junction is also highly desirable as a way of minimising recurrent maintenance costs. Accordingly, ARTC has now commenced design work on this renewal and is progressing the project primarily for its maintenance cost savings."*[261]
Relevant 2009-2018 HVCCS Comments	• *"Although [the Newdell and Drayton Junctions] have adequate capacity for the immediate future, renewal of the junctions is highly desirable as a way of reducing the impacts of infrastructure maintenance and reliability downtimes."*[262] • *"[The junction upgrades] will approximately halve the junction occupation time, ensuring that interference between trains and hence delays, are minimised in the short term and ensuring adequate capacity in the longer term."*[263]

260 Ibid, p. 15.

261 Ibid, p. 16.

262 ARTC, *2009-2018 Hunter Valley Corridor Capacity Strategy – Consultation Document*, June 2009, p. 17.

263 Ibid, p. 17.

Maitland Junction computer based interlocking

Description	Replacement of old Maitland relay signalling with computer based interlocking.
Value	$9.8 million (excluding interest during construction)
Year of Approval	2009
Year of Construction	
Year of Implementation	2011
Lunarr Advisory (Idemitsu) Assessment	
EJC (Whitehaven) Assessment	Not Incremental
E3 Advisory (ARTC) Assessment	Not Incremental
Primary Purpose	To improve the reliability and efficiency of ARTC coal freight and passenger services between Maitland and Branxton.[264]
Relevant 2011-2020 HVCCS Comments	• The primary issues at Maitland are related to the maintenance of the old slow speed turnouts and increasing capacity by improving train speeds and reducing crossing conflicts. • In the meantime, a project to replace the old Maitland relay signalling with computer based interlocking has been commissioned. This project will make the upgrade of Maitland Junction cheaper and less risky.

[264] railway-technology.com, *Ansaldo to Upgrade Hunter Valley Signalling*, Kable, See http://www.railway-technology.com/news/news68976.html