

# 2017 ARTC Hunter Valley Access Undertaking

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Image: Hexham Rail Facility

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# Contents

Executive Summary .....	3
Overview .....	5
1. Path-Based Pricing.....	5
1.1. ARTC Proposal and Substantiating Evidence.....	6
1.2. The Frontier Report suggests the basis for path based pricing is not compelling .....	7
1.3. Matters relevant to the reasonableness and efficiency of the pricing proposal.....	8
1.4. Implications from the 2013 Compliance Assessment.....	13
1.5. The proposal has redistribution effects for sunk investments with long term contracts .....	17
1.6. An alternate pricing proposal .....	19
1.7. Assessment of the alternate proposal against the ACCC’s legal tests in s.44ZZA .....	21
2. Variable Cost Charge .....	22
3. Train Path Relinquishment .....	23
4. Innovation Incentive Scheme .....	23
5. Operating Expenditure Incentive Mechanism .....	25

## A. Executive Summary

The 2017 Hunter Valley Access Undertaking (**2017 HVAU**) has been submitted to replace the current 2011 HVAU. The 2017 HVAU replaces the 2016 HVAU which was withdrawn by ARTC prior to the Australian Competition and Consumer Commission (**ACCC**) making a draft determination on whether it would approve the proposed access undertaking.

The 2017 HVAU has been developed following targeted consultation between ARTC and the Hunter Rail Access Task Force (**HRATF**) on a range of issues and having regard to the ACCC's preliminary views on the 2016 HVAU. However, limited consultation has been undertaken by ARTC in relation to its proposal to change the structure of fixed access charges where the fixed costs of providing access would be based solely on path usage.

The Hunter Valley Coal Network has seen significant increases in payloads since the 2011 HVAU was introduced. The role of above rail competition in these improvements cannot be understated as it remains the market mechanism for promoting productivity and efficiency outcomes. The efficient and effective operation of this market has the potential to be disrupted without effective regulation of access, in particular the below rail pricing frameworks that impact competition in this market.

Aurizon Operations (**Aurizon**) has made significant rollingstock investment to establish and expand its presence as a rail operator in the Hunter Valley. This entry and the accompanying rollingstock investment was facilitated by offering a highly efficient and competitive above rail service and reliance on the prevailing below rail pricing framework at the time of those investments. The configuration of Aurizon's rollingstock seeks to maximise gross to net ratio (the gross mass of the train relative to the train payload), which has allowed for improved capital efficiency as trains payloads increased and as train length approaches the limits of the existing infrastructure.

The underlying objectives of the introduction of a Final Indicative Service (**FIS**) in the 2011 HVAU were developed in a period of high demand, where significant growth in supply chain capacity and investment in rail infrastructure to expand below rail capacity and improve supply chain reliability were required. In proposing to implement path-based pricing, ARTC is seeking alignment of the original objectives of the FIS and price on the basis of capacity. However, the proposal does not align to the material change in economic and demand conditions for thermal coal, nor does it have regard to the broader objectives of cost minimisation and efficiency in a market of excess system capacity. Seeking to price capacity on the basis of past investment does not promote the efficient use of capacity that has little or no opportunity cost.

Aurizon does not support the proposal to implement capacity charges based solely on path consumption and is of the view that the proposal does not meet the requirements under section 44ZZA of the Competition and Consumer Act 2010 (**the Act**). On this basis, the 2017 HVAU is not in a form which can be approved by the ACCC as the path based pricing proposal is not consistent with the requirements that:

- access prices should be as close to possible to short-run marginal cost as is feasible within the revenue adequacy objective. ARTC's proposal applies a utilisation charge materially in excess of the marginal costs of utilisation;
- access prices should generally reflect cost structures. Path-based pricing is not sufficiently correlated with the drivers of fixed costs;
- access prices, or components of prices on long-run marginal or incremental cost pricing, are helpful to avoid cross-subsidies and provide guidance on the costs of future investments and optimal levels of capacity. Path-based pricing is inconsistent with both the costs of expanding capacity or the costs of sustaining installed capacity;

- access prices should not distort investment and competition in upstream or downstream markets to the extent possible. Path-based pricing may induce inefficient or wasteful investment elsewhere in the supply chain and alter the competitive position of some users; and
- access prices should be relatively stable to give confidence to access seekers about their own investment decisions. The implementation of path-based pricing alters the economic basis of complimentary and sunk investments.

Aurizon also considers that the proposal would have redistribution effects based on past efficient investment in rollingstock and mine related rail infrastructure. These effects have equity and efficiency implications which need to be considered to determine whether the proposed variations are fair and reasonable in relation to the allocation of fixed and common costs. The variation also removes the productivity incentives associated with improving gross to net ratio.

Aurizon recognises the productivity benefits of improving train payloads. Average train payloads in the Hunter Valley have increased by 17% over the past five years as demonstrated in figure 2 below. Over this period, Aurizon has made a significant contribution to this increase in average train payload, and these improvements were made under the current pricing framework where fixed charges are based on \$ per gross tonne kilometres (**\$/gtk**). Nevertheless, Aurizon recognises the broader benefits of applying a train path charge as an alternate to the current approach to reflect differences in capacity utilisation. However, the capacity charge, when expressed as a \$ per train kilometre (**\$/tkm**) rate should be commensurate with the forward looking avoidable costs (incremental costs).

In this regard, an efficient price structure would be comprised of a:

- capacity charge in \$/tkm which reflects the forward looking avoidable costs of mainline capacity; and
- fixed costs charge in \$/gtk which allows ARTC to recover the balance of its efficient costs.

This approach avoids many of deficiencies with ARTC's path-based pricing proposal and is consistent with the relevant matters under section 44ZZA of the Act. Importantly, the efficient use of rail infrastructure does not require that less paths are used for the same output without capacity constraint, only that each path is efficiently used. Incentives, such as those in the 2017 HVAU path-based pricing proposal, seek to promote the use of less paths and without alternate demand for excess capacity, and induce inefficient use of rail infrastructure.

In addition to addressing an alternative proposal for the pricing of capacity in the Hunter Valley Coal Network, Aurizon's submission addresses the following matters:

### **Variable Cost Charge**

Aurizon supports ARTC's proposal to apply a common \$/gtk rate for the variable cost charge for services operating within the services envelope. However, Aurizon highlights that any subsequent differentiation should be supported by sound engineering and econometric analysis.

### **Train Path Relinquishment**

Aurizon has concerns regarding the Take or Pay (**TOP**) implications on customers if there is a permanent variation to train paths, for example through increased train size. The 2017 HVAU and Access Holder Agreement (**AHA**) do not permit ARTC to waive TOP charges in these circumstances, unless a transfer can be facilitated with another access holder. These arrangements are fundamentally incompatible with the arguments being relied upon for the introduction of a capacity charge to incentivise the efficient use of the network.

## **Innovation Incentive Scheme**

While Aurizon is supportive of providing service providers incentives to undertake innovation, it has identified that the proposal in the 2017 HVAU operates asymmetrically in that only ARTC may initiate a proposal. Aurizon foresees that the proposal in its current form would lead to a reduction in competition. Aurizon's recommendations are to:

- allow any RCG member, including rail operators, to make innovation proposals;
- require ARTC to declare the extent to which the project, or part of the project, may be contestable; and
- include an obligation for ARTC to allow reasonable access for an access holder or access seeker for the purpose of investigating or installing innovation initiatives, provided that access can be provided safely

## **Operating Expenditure Incentive Mechanism**

Aurizon supports the inclusion of this mechanism on the basis of its consistency with the principle that incentives to reduce costs should be included in access regimes. However, Aurizon identifies that there are opportunities to design the mechanism so as to limit the potential for cost shifting from the below rail provider to a rail operator by ensuring that rail operators are included in the development and implementation of the mechanism.

## **B. Overview**

The following submission addresses the material presented by ARTC as part of the 2017 HVAU, the ACCC's correspondence, the Frontier Economics report and submissions provided as part of ARTC's withdrawn 2016 HVAU. Aurizon recommends a number of amendments to ARTC's 2017 HVAU to reflect appropriate elements for promoting efficiency and competition and make it a more workable undertaking.

In particular, the submission proposes an alternate access capacity pricing framework based on an assessment of the prevailing demand and supply conditions, the implications of the ACCC's 2013 Compliance Assessment, the compatibility of ARTC's proposed framework with other provisions of both the 2017 HVAU and AHA amongst others. In particular, the submission addresses the relevant legal tests required to be applied by the ACCC for approving an access undertaking.

The submission also addresses and recommends changes to the proposed Innovation Incentive Scheme and Operating Expenditure Incentive Mechanism geared towards ensuring all relevant stakeholders considerations are accounted for in the development and implementation of these mechanisms. Furthermore, the submission also recommends changes to the Train Path relinquishment provisions within the AHA to align with changes to the pricing of capacity.

## **1. Path-Based Pricing**

The 2017 HVAU, consistent with the withdrawn 2016 HVAU proposal, seeks to implement a path based pricing arrangement in which a standardised price will be applied to all services operating within the Services Envelope for each relevant zone. The proposal was addressed in some detail in submissions on the now withdrawn 2016 HVAU and no definitive position on the topic has been reached by ARTC, the

ACCC or in the Frontier Economics report. However, it has been noted in ARTC's supporting material on the 2017 HVAU that it is not universally accepted<sup>1</sup>.

## 1.1 ARTC Proposal and Substantiating Evidence

An important attribute of the 2017 HVAU proposal is the relative simplicity and transparency for an access seeker/holder, or rail operator, to estimate the likely cost of access. ARTC's proposal is a substantial improvement on the current arrangement where the extent of price discrimination on the basis of an applied \$/gtk rate is based on ARTC's own discretionary assessment based on the relevant train service characteristics.

ARTC proposes to achieve this simplicity and transparency by pricing the fixed cost charge for all services on the basis of a zonal \$/tkm) rate. While Aurizon supports modifications to the current approach to achieve simplicity and transparency, it is submitted that this objective can be realised with the adoption of a two part tariff which does not require the entire fixed cost component to be recovered through a uniform \$/tkm charge.

ARTC's December 2016 Explanatory Guide provides limited rationale for its introduction and can be summarised as:

*Path-based pricing therefore provides the incentive for producers to increase the efficient utilisation of their contracted commitments, therefore increasing the efficient utilization of the network<sup>2</sup>... The adoption of path-based pricing will reward the consumption of Capacity by higher payload trains compared to lower payload trains and to that extent provides an appropriate incentive to utilise the Network efficiently<sup>3</sup>.*

Aurizon concurs that the proposal will have the effect of altering the relative cost of access based on train payload. However, what is less evident is whether it will have the intended effect of increasing the efficient utilisation of the network. More importantly, ARTC does not provide the necessary supporting evidence and analysis as to why recovering sunk fixed costs through a single \$/tkm rate represents an efficient price.

Stakeholder submissions in response to similar pricing proposals demonstrate that there is not a consensus view on the reasonableness of pricing the fixed cost charge on the basis of \$/tkm<sup>4</sup>. In addition, the ACCC's letter to interested parties on 7 July 2016 in respect of this proposal noted that:

*The ACCC engaged Frontier Economics to assess the proposed move to path-based pricing. The ACCC has published the report by Frontier Economics. The ACCC is still considering the report and submissions provided, and is yet to reach a view on this issue<sup>5</sup>.*

Given the issues raised in the stakeholder submissions and the content of the Frontier Economics report<sup>6</sup>, good regulatory practice should require the supporting documentation to address these issues in a reasonable level of detail. In this regard, Aurizon expects that ARTC should provide supporting documentation addressing:

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<sup>1</sup> Ibid, p.9

<sup>2</sup> Ibid, p.9

<sup>3</sup> Ibid, p.26

<sup>4</sup> ARTC (2016) 2017 Hunter Valley Coal Network Access Undertaking, Explanatory Guide, p 9

<sup>5</sup> ACCC, (2016) ACCC letter proving preliminary views – 2016 HVAU, 7 July 2016

<sup>6</sup> Frontier Economics (2016) *Assessment of the path-based pricing proposal in the 2016 Hunter Valley Access Undertaking*, A report prepared for the Australian Competition and Consumer Commission, July



- the material change in economic conditions and whether the drivers towards strong capacity signals in the below rail price remain an appropriate and efficient objective;
- the materiality of the incentive price relative to the price of alleviating any below rail capacity bottlenecks (i.e. the unit cost of the next increment of capacity expressed in \$/tkm);
- the relative efficiency of any potential investment relative to further below rail investment and the consequences on the total supply chain cost of meeting the forecast output;
- the prospects of pricing on the basis of \$/tkm providing a materially stronger payload incentive than currently exists (is the incentive price necessary);
- the relative proportion of ARTC's total fixed costs which are variable over the long run represented by train kilometres; and
- the relative distributional effects and associated equity impacts on sunk investment and contracts, including any implications for upstream competition in the market for seaborne coal exports.

The expected contribution of this ACCC submission is to outline Aurizon's views on these points, leading to the recommendation of alternate access pricing proposal which more effectively addresses the efficiency and equity considerations, whilst maintaining a framework that improves simplicity and transparency.

## 1.2 The Frontier Report suggests the basis for path based pricing is not compelling

In response to submissions on the 2016 HVAU proposal to introduce path-based pricing, the ACCC commissioned a report by Frontier Economics to provide advice on whether the proposed changes to pricing is appropriate for the purpose of assessing ARTC's undertaking under the provisions of the Part IIIA of the National Access Regime.

The report concludes that<sup>7</sup>:

*the specific value of that additional capacity at this time may be relatively low, and the incentives created for changes in train composition by changes in the structure of track charges may also only be weak. Our view is therefore that path-based pricing may have a positive effect on efficiency, but it will only likely be minor; and*

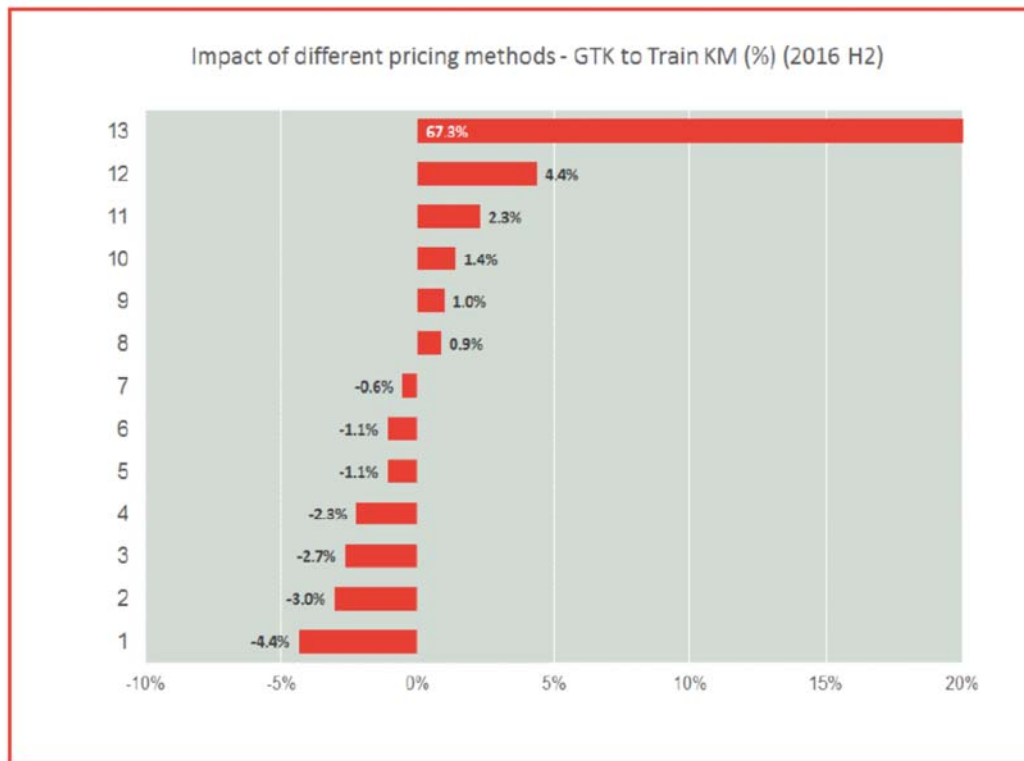
*in our opinion, the approach of ARTC would be suitable if it could show that a large proportion of the fixed costs subject to the TOP charge were variable in the long run with Train Km. On balance, Train Km is not an unreasonable choice of pricing unit, but seems to be one of a number of alternatives for which a case could be made.*

The report also assesses the effects of a path-based pricing proposal on selected services by indicating the impact of a gtk versus tkm approach and, based on the graph reproduced below, concludes that the impact of changes on individual users is no more than moderate. While the impact on an individual user may appear moderate, the relative change between users may be more significant in terms of effecting their competitiveness. For example, there is a large relative change in access costs between the selected service number 1 and the selected service number 12.

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<sup>7</sup> Ibid, p. v.

Figure 1. Frontier Economics Assessment of Impact of Change from GTK to Train Km Pricing



Source: Frontier Economics Report, p. 30

### 1.3 Matters relevant to the reasonableness and efficiency of the pricing proposal

Aurizon recognises that pricing has a role to play in providing incentives to improve productivity and that a tkm pricing metric is aligned with this objective. However, the more fundamental question is whether pricing solely on the basis of a tkm metric will necessarily promote greater efficiency than a pricing mechanism which restricts the proportion of the access charge to be recovered by that metric to the efficient forward looking avoidable costs.

In particular, pricing metrics such as train paths or train kilometres may be characterised as a '**Capacity Charge**'. Pricing solely on the basis of tkm therefore implies that ARTC's total fixed costs are variable with usage and can be strongly attributed to units of capacity. The following matters demonstrate why this is not a plausible premise.

#### 1.3.1 Aurizon's 2016 HVAU submission challenged whether a capacity charge is desirable for the foreseeable demand

A key point raised in Aurizon's 2016 HVAU submission is that the forecast output of the Hunter Valley Coal chain is materially less than the declared system capacity. In summary, the submission suggested that:

1. on the basis of current demand projections there is sufficient below rail capacity such that the need for further below rail investment is not foreseeable;
2. the scarcity value or opportunity cost of a train path is effectively zero; and



3. any investment response to the incentive price would promote inefficient investment elsewhere in the supply chain to meet an output level that would be achieved without that investment (the investment is avoidable).

In relation to the first argument a recent media release by the Port of Newcastle states:

*In a further sign of the recovery in resources, just over 161 million tonnes of coal was exported, an increase of almost 3.3 million tonnes or 2 per cent on 2015. A new monthly coal export record of 15.9 million tonnes was achieved in December 2016; the previous record was 15.8 million tonnes in December 2014<sup>8</sup>.*

Notwithstanding this improvement and record throughput, these numbers remain well short of the port capacity of approximately 211 million tonnes per annum. ARTC has also suggested that it retains a downward bias on coal demand for the Hunter Valley as observed by the following comment on its demand risks:

*ARTC's assessment of these risks is provided in a confidential attachment to this Guide with the conclusion reflected in the points above that there is downward pressure on both demand and supply<sup>9</sup>*

Argument 2 is consistent with the Productivity Commission's view on what represents efficient pricing:

*The supply costs that are relevant for efficient pricing, including infrastructure pricing are opportunity costs or shadow prices – i.e. the returns that could be earned by using inputs in their next best use. If they have no value, then the past costs are sunk and are of no relevance to future pricing decisions<sup>10</sup>.*

Aurizon recognises that pricing on this basis would not allow ARTC to recover its efficient past investment and therefore does not dispute an accounting approach to allow recovery of historical costs. Nevertheless, this view is consistent with the objective that the amount of total fixed costs should be recovered in a manner which does not distort incentives or investment decisions by users of the service.

As to the final point on the prospect of inefficient investment addressed in argument 3, Frontier Economics effectively summarises this as wasteful expenditure:

*In the second case described above, where there is no increase in output of coal, the kinds of investment caused by path-based pricing effectively increase track capacity because they imply more tonnes of coal shipped per path and so a reduced requirement for paths. This provides a benefit if there are alternative uses for these paths, i.e. other trains to use the paths to ship more coal. If there is already sufficient capacity on the network to meet all reasonable demands, then downstream investment which further increases network capacity might be wasteful. It would be wasteful in the sense that the total (above and below rail) costs of supplying coal have increased but no more coal has been shipped<sup>11</sup>.*

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<sup>8</sup> Port of Newcastle (2017) Record trade for Port of Newcastle great news for the Hunter, Media Release, 18 January. <http://www.portofnewcastle.com.au/News/Items/2016/Record-trade-for-Port-of-Newcastle-great-news-for-the-Hunter.aspx>

<sup>9</sup> ARTC (2016) 2017 Hunter Valley Access Undertaking: Appendix B (RML Estimate), December, p. 9.

<sup>10</sup> Bureau of Industry Economics (1995) Issues in Infrastructure Pricing, Research Report, August, Canberra, p. 7.

<sup>11</sup> Frontier Economics (2016) Assessment of the path-based pricing proposal in the 2016 Hunter Valley Access Undertaking, A report prepared for the Australian Competition and Consumer Commission, July, p.22

Aurizon is not aware of any new evidence subsequent to earlier submissions, nor has any further evidence been provided by ARTC in support of the 2017 HVAU, which suggests that capacity is scarce requiring that a strong capacity signal is necessary to promote upstream or downstream investment.

### 1.3.2 An incentive price for capacity has not been necessary to improve productivity

A key requirement for the efficacy of path-based pricing is that not only should it provide an incentive to improve productivity but that incentive is more significant than those that already drive productivity improvement under the current pricing arrangements.

Payload changes since the start of the 2011 HVAU, as observed in the 2016 Hunter Valley Corridor Capacity Strategy, demonstrate that this presumption is clearly questionable<sup>12</sup>.

Figure 2. ARTC Published Variations in Contracted and Actual Average Train Payloads

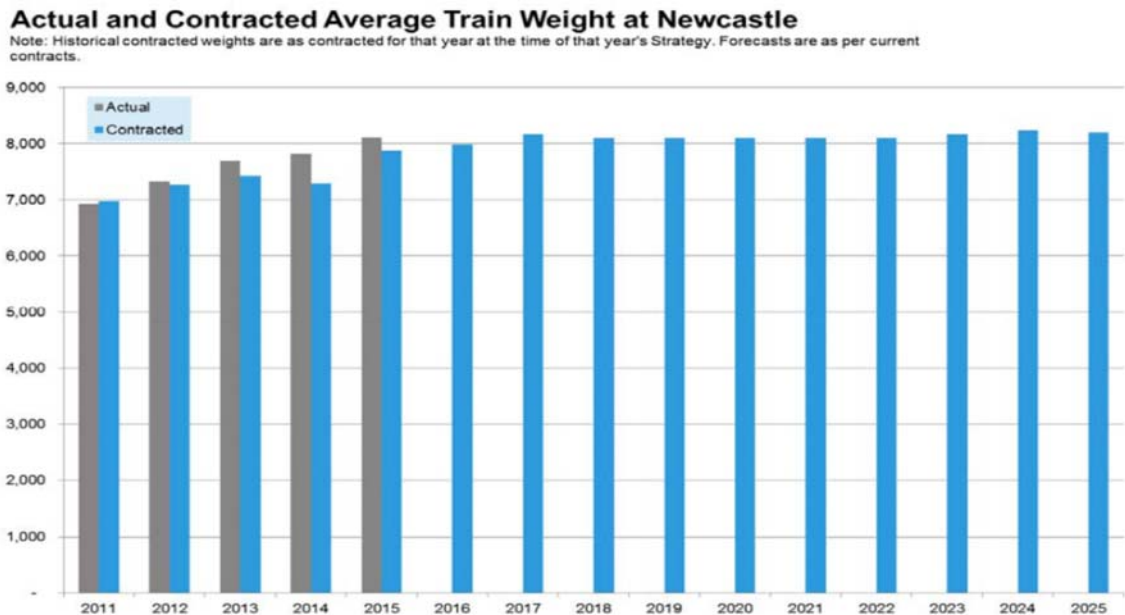


Figure 9 - Average Train Capacity under Contracted Volumes (tonnes)

This actual average payload shows an approximate 17% increase in average train payloads over the course of the 2011 HVAU.

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### 1.3.3 ARTC does not identify any need for further investment in rail infrastructure to alleviate any binding capacity constraints

The 2016 Hunter Valley Corridor Capacity Strategy<sup>13</sup> identifies no immediate investment requirements in Zone 1 to meet current or prospective volumes and only minor investment in Zone 2 to meet prospective volumes as shown in the following extracts from Tables 4 and 5.

<sup>12</sup> ARTC (2016) 2016-25 Hunter Valley Corridor Capacity Strategy, October, p. 11.

<sup>13</sup> Ibid, pp. 28-29.

Figure 4 ARTC Projected Network Investment for Current Contracted Volumes

Contracted Volume	2015 Strategy – Proposed by	2016 Strategy – Required by	2016 Strategy – Proposed by	Change 2015 to 2016	Estimated Cost (\$m, escalated P75)
<b>Port—Muswellbrook</b>					
Nil					
<b>Ulan Line</b>					
Nil					
<b>Gunnedah Line</b>					
Nil					
<b>Congestion Projects</b>					
Kooragang Arrival Roads Stage 2	Q2 2016	see note 1	Q4 2016	+ 6 months	\$36
<b>Productivity Projects</b>					
ARTC Network Control Optimisation (ANCO)	Q4 2016	n/a	n/a	see note 2	\$30
Advanced Train Management System (ATMS)	Q1 2020	n/a	Q1 2020	see note 3	\$260

Table 4 - Recommended Projects, Delivery Schedule and Costs for Contracted Volumes

Figure 5. ARTC Projected Network Investment for Contracted and Prospective Volumes

Contracted plus Prospective Volume	2015 Strategy – Required by	2016 Strategy - Required by	Estimated Cost (\$m) un-escalated 2016, order-of-magnitude	Estimated Cost (\$m) escalated, order-of-magnitude
<b>Port—Maitland</b>				
Nil				
<b>Maitland - Muswellbrook</b>				
Nil				
<b>Ulan Line</b>				
Mt Pleasant	Q1 2022	Q1 2024	\$25	\$29
Widden Creek	Q1 2023	-		

Table 5 - Recommended Projects, Delivery Schedule and Costs for Prospective Volumes

The absence of any identified projects required to achieve current contractual requirements or prospective volumes in Zone 1, and the timing of any investment for prospective investment in Zone 2, should it be required, supports the conclusion that the scarcity price for capacity is currently low.

### 1.3.4 The incentive price exceeds the cost of alleviating the capacity constraint

Aurizon notes that the capacity planning assumptions for the Hunter Valley currently assume a relatively low utilisation rate of approximately 65%. This is highly conservative compared to utilisation rates applied in other dedicated bulk export supply chains. ARTC identifies two projects which would allow a much higher utilisation rate to be assumed including:

- ARTC Network Control Optimisation (ANCO);
- Advanced Train Management System (ATMS).

The relative contribution of each project to an increase in utilisation is not specified. Nevertheless, this suggests a significant capacity uplift can be obtained for modest capital investment of \$30 million investment in ANCO which might be expected to produce the largest marginal benefit.

This supports a conclusion that the incremental cost of alleviating any capacity constraint is relatively low and materially less than that implied by the proposed capacity charge. ARTC has not provided the information required to adequately address the forward looking incremental cost of capacity.

Transparency on the incremental cost of capacity related to network investment can only be achieved, and must be supported by, disclosure of the \$/tkm unit price for specific projects based on the average tkm per service per zone requiring that investment in future corridor strategies. This should inform whether the proportion of the access charge comprised of \$/tkm is providing an appropriate estimate of the forward looking cost of a unit of capacity and guide Rail Capacity Group (RCG) members on the materiality of the investment.

### **1.3.5 The proposed incentive price is inconsistent with other elements of the 2017 HVAU**

The objectives of the path-based pricing proposal necessarily requires that capacity be sufficiently scarce such that it would be more efficient to improve utilisation of existing capacity than to invest additional capital. Aurizon's 2016 HVAU submission expressed concerns that the incentives to improve efficiency were significantly impacted by the inability to relinquish capacity created by those improvements without financial penalty.

The concern remains as ARTC has retained the provisions that, for an access holder to avoid the costs of train path relinquishment associated with productivity improvements, the access holder (with ARTC's assistance) has to find an alternate use for those paths. This concern is further exacerbated by the change from a gtk to tkm pricing metric.

While clause 11.1 of the AHA requires that ARTC will not unreasonably withhold consent to a request for a permanent variation of Train Paths, any relief from TOP remains at ARTC's absolute discretion unless ARTC has requested the variation. Furthermore, under clause 11.5 of the AHA, where a rail operator increases train payload and operates a non-compliant service leading to a permanent change in the service assumptions, ARTC will only consent to the request if:

*the variation of the Service Assumptions does not lead to a reduction in TOP Charges and Innovation Charges (as applicable) that would otherwise be payable.*

Under a gtk based price arrangement, an improvement in train payload would have a negligible impact on the TOP charges as the total gtk would remain relatively unchanged. However, under a tkm based approach, the improvements would lead to a reduction in TOP Charges as it would require less train kilometres for the same tonnage requirement.

Similarly, under clause 4.20 of the 2017 Access Undertaking, ARTC will use reasonable endeavours to facilitate the permanent assignment of relinquished capacity. However, subclause (b) clarifies that:

*To the extent an Access Holder that nominated Relinquished Capacity is unable to assign or trade that capacity to a third party, then that Access Holder remains liable to ARTC for the TOP Charges for any Relinquished Capacity in accordance with the terms of its Access Agreement. To avoid doubt, any Relinquished Capacity not assigned or traded will remain Contracted Coal KM.*

These provisions are fundamentally incompatible with the purported efficiency objectives of path-based pricing. The issue of path relinquishment and path-based pricing cannot be considered in isolation, particularly when the current demand environment and available capacity outlined in section 1.3.4 is considered. The undertaking must be internally consistent through either:

- a path-based pricing approach which promotes heavy and longer trains and a mandatory obligation to permanently vary train paths to reflect a heavier and longer train; or

- a weaker incentive on a capacity price and an appropriate mechanism for relinquishment which minimises cost transfers.

The 2017 HVAU does not align to either of these frameworks.

### 1.3.6 The incentive price is not an efficient price

The Frontier Economics report acknowledges that the two part tariff proposal by ARTC represents a 'second-best' approach comprising a variable usage charge and a fixed access fee. The general economic objective in setting the fixed access fee is to consider a broader range of economic objectives and set prices in a manner which allows the service provider to achieve revenue adequacy while minimising welfare distortions.

A number of approaches have been advanced in the economic literature to achieve these objectives<sup>14</sup>. In a multi-commodity, multi-product market this will typically involve discriminating on the basis of willingness to pay (Ramsey pricing). However, under a uniform pricing framework, it is more relevant that the allocation of common costs does not distort competition in upstream or downstream markets. In this regard, prices which are competitively neutral, such as net tonnes or net tonne kilometres, may be a more efficient approach to allocating common and joint costs which are not identified as incremental to a particular user. Alternatively, given the relative homogeneity in axle load and train speed then gross tonne kilometres may proxy for net tonne kilometres.

A typical approach will be to identify one or more price metrics which have some link to cost causation and can be subject to a fully distributed cost approach. However, in this regard the path-based pricing proposal is sub-optimal as:

- the variable cost charge does not include all the avoidable costs, including replacement, associated with continued use of the service;
- the capacity charge materially exceeds the incremental costs associated with capacity (i.e. a significant proportion of the total fixed costs have a weak relationship with train kilometres); and
- it does not allocate common and fixed costs which are unrelated to an increment of capacity in a competitively neutral manner with respect to the commodity being exported.

In practice, ARTC assesses variable costs as those which are variable over the short to medium term and not those that vary over the long term with usage.

## 1.4 Implications from the 2013 Compliance Assessment

In assessing the 2013 Compliance Assessment, the ACCC has already given consideration to the incremental costs of capacity associated with recent investment in Zone 1. In making its final determination, the ACCC relied on advice from an expert consultant (WIK-Consult) from which the ACCC concludes that *'WIK's approach to the calculation of incremental cost is thorough and robust and is supported by economic theory'*<sup>15</sup>.

For clarity, Aurizon is not seeking to address the issue of what revenue contribution should be made by Zone 3 producers for their use of Zone 1. However, Aurizon considers that WIK's assessment of incremental costs is relevant to the consideration of path-based pricing.

<sup>14</sup> See for example BIRTE Research Report 109, Rail Infrastructure Pricing, Principles and Practice, pp. 30-44

<sup>15</sup> ACCC (2016) Final Determination: ARTC compliance with the HVCN Access Undertaking for the 2013 calendar year, June, p. 6

#### **1.4.1 The 2013 Compliance Assessment represents one estimate of a capacity charge**

The ACCC's review of the 2013 Compliance Assessment has essentially determined what incremental costs are reasonably attributable to Zone 3 producers for the investment (to support the growth in Zone 3 volumes over this period) which has occurred within Zone 1 since 2008.

The practical effect of the ACCC's determination is to establish a proxy capacity charge based on those incremental costs. ARTC proposes within the 2017 HVAU to recover from Zone 3 producers the incremental costs within Zone 1 as determined by the ACCC determination.

This suggests that rather than require Zone 3 producers pay the common price for the use of Zone 1, and reallocate revenue in excess of those incremental costs to revenue recovery within Zone 3, it would be more transparent to establish a 'capacity charge' for Zone 1 which reflects those incremental costs. This capacity charge would then form the basis of the \$/tkm pricing component with the balance to be recovered through an alternate price metric.

This approach would also ensure that revenue associated with the use of that Zone is reflective of the costs associated with that Zone rather than the costs of an alternate Zone which requires reallocation. This also ensures the price for the use of Zone 3 is associated with the cost recovery for that Zone.

#### **1.4.2 Incremental costs are assessed on a forward looking basis**

An important caveat of the WIK analysis is that it was prepared primarily for the purpose of determining the minimum contribution that Zone 3 producers should be required to make for benefits obtained from past investment in Zone 1.

The WIK report notes that for the purpose of considering Incremental Costs:

*In the economic literature, it is commonly understood that the incremental costs of providing a service to one firm can be determined by calculating the costs that could be avoided if that service were no longer provided. The question of which costs could be avoided if a service was removed is subject to the considered time horizon<sup>16</sup>.*

Critical to the assessment of Incremental Costs for the purpose of determining an efficient price (as opposed to cost allocation between Zones) is determining those costs that would be avoided and the time horizon. However, in all circumstances, that assessment must be made on a forward looking basis as stated in Khan's view of marginal costs (including long run marginal cost):

*It is for the future costs or the decline in future values – not for fixed, historically sunk costs – that the marginal cost of production is causally responsible; it is only the future, not the past, costs that will be saved if the production is not undertaken<sup>17</sup>.*

This point is effectively acknowledged by ARTC in its submission to the ACCC's draft determination on the 2013 Compliance Assessment which states:

*A capital expenditure, once committed cannot be uncommitted and is considered a sunk cost. ARTC accepts that it is possible that a prospective capital expenditure can be*

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<sup>16</sup> WIK-Consult (2015) *Assessment of the Incremental Costs of Pricing Zone 3 Access Holder's Use of Pricing Zone 1 and 2 of the Australian Rail Track Corporation's Hunter Valley Rail Network – Final Report*, Study for the Australian Competition and Consumer Commission, September, p. 18.

<sup>17</sup> Kahn, A.E. (1988) *The Economics of Regulation: Principles and Institutions*, MIT, New York, Vol. 1, p. 73.



*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<sup>18</sup>.*

While ARTC correctly acknowledges that sunk costs are not avoidable costs, the incremental costs associated with optimisation of the network are only those related to the physical removal of the infrastructure, not any foregone profits by ARTC.

The relevance of these facts to the determination of an efficient price is that incremental costs should only reflect those costs that the continuation of a particular service imposes. In practice this is limited to the future costs of maintaining and replacing assets.

Asset replacement costs, subject to technological change, can reasonably be characterised as the depreciation expense. However, the depreciation expense relevant to the consideration of incremental costs is not the economic depreciation but the physical asset degradation attributable to the individual service. In this regard, Khan notes:

*The purpose of including an allowance for depreciation in price is to ensure recovery of invested funds over the economic life of the physical capital in which they have been embodied; and of course to see to it that price reflects this authentic cost. It is equally correct to say that total depreciation charges is supposed to reflect the decline in the value of the physical asset, from original value to scrap value<sup>19</sup>.*

So while it is necessary for the regulatory framework to allow prices to recover past costs it should not be confused with the determination of incremental costs. Furthermore, given the material difference between the Remaining Mine Life and the expected physical asset life a large proportion of the regulatory asset base is unlikely to ever require replacement (**RAB**).

Similarly, many assets within the RAB (such as track grade) have no alternate value and will be maintained in perpetuity. Assuming route kilometres are invariant to train kilometres (i.e. no geographical expansion) then determining the proportion of the RAB which could require future replacement and is related to asset utilisation can be reasonably demonstrated by considering the most recent asset valuation as shown in the following table<sup>20</sup>.

**Table 1. Aurizon Assessment on the Indicative Percentage of Asset Replacement Cost Subject to Usage Related Depreciation**

Asset Class	Replacement Cost	Usage Related Depreciation	Adjusted Replacement Cost	% of Replacement Cost
Ballast	73,108,724	< 100% #	73,108,724	11.1%
Sleepers	56,723,983	100%	56,723,983	8.6%
Rail	78,141,054	100%	78,141,054	11.9%
Turnouts	14,367,353	100%	14,367,353	2.2%
Insulated Joints	1,286,934	100%	1,286,934	0.2%
Lubrication	326,344	100%	326,344	0.0%
Bridges	45,690,912	50%	22,845,456	3.5%
Culverts	10,849,935	50%	5,424,968	0.8%

<sup>18</sup> ARTC, Submission on the ACCC's Draft Determination, p. 11

<sup>19</sup> Kahn, A.E. (1988) *The Economics of Regulation: Principles and Institutions*, MIT, New York, Vol. 1, p. 117.

<sup>20</sup> Worley Parsons (2013) Depreciated Optimised Replacement Cost Calculation for additional segments of the ARTC network: Gap to Turrawan Valuation Report, p 50

Signalling	134,399,285	35% *	47,399,285	7.2%
Track Grade	227,772,788	0%	-	0.0%
Telecoms	128,199	0%	-	0.0%
Fencing	5,736,402	0%	-	0.0%
Level Crossing	7,353,880	0%	-	0.0%
Misc Structures	1,691,866	0%	-	0.0%
<b>Total</b>	<b>657,577,659</b>		<b>299,624,101</b>	<b>45.6%</b>

# Ballast useful life is also impacted by weather

\* Route cabling removed as not related to asset usage.

As shown in the table above, the proportion of the asset base which could reasonably be considered a maximum value as falling within the scope of incremental costs (on the basis it may require future replacement due to usage) for past investment is less than 50% of the total replacement cost. This is a highly conservative estimate as the utilisation percentage of 50% applied to bridges and culverts is likely to substantially exceed any likely asset replacement costs for those assets over the economic life of the RAB.

An issue raised during the consultation on the 2013 Annual Compliance Assessment is whether the assessment of incremental costs should have included pre-2008 sunk costs. The approach applied by the ACCC is to effectively determine the unit cost of the next increment(s) of capacity had the ACCC made that determination in 2008 on a forward looking basis (with the timeframe and incremental block of capacity being all investment between 2008 and 2015). The inclusion of pre-2008 costs could only include the forward looking asset renewals costs. The inclusion of these costs would materially reduce the Long Run Average Incremental Cost (LRAIC).

Where incremental costs are not determined on the basis of the unit cost of the next increment of capacity, and are to be determined only with reference to sunk assets, then the appropriate and relevant measure in determining an efficient price is LRAIC which will be substantially less than the incremental costs applied in the 2013 Annual Assessment.

#### 1.4.3 The WIK Assessment of Incremental Costs includes costs which are unrelated to train kilometres

The WIK assessment seeks to identify those past investments which provided benefits to all users of Zone 1 for the purpose of cost allocation between Zones as opposed to the incremental costs attributable to an individual service. It is the latter which is required to determine whether a price associated with the incremental cost identified in that report should include minor and major capex that is unrelated to train kilometres.

WIK applied gtk as the recommended cost driver in determining incremental costs<sup>21</sup>. As discussed above, when considering incremental costs associated with sunk investment without capacity constraint, it is appropriate to apply gtk as this is a more accurate representation of physical asset degradation and asset depreciation. In this regard, it is inefficient to recover the full value of past investments solely from a price metric unrelated to the causative factors of future expenditure and asset consumption.

Similarly, a number of projects are associated with port precinct congestion and interface conflicts. The predominant incremental cost driver for these projects is tonnage throughput. Port congestion is a function of unload time variability. The greater the train payload then the longer the unload time and the

<sup>21</sup> WIK-Consult (2015) *Assessment of the Incremental Costs of Pricing Zone 3 Access Holder's Use of Pricing Zone 1 and 2 of the Australian Rail Track Corporation's Hunter Valley Rail Network – Final Report*, Study for the Australian Competition and Consumer Commission, September, Appendix A

greater the unload variance with the consequential increase in port dwell and queue times. Recovering these projects through a \$/tkm charge would attribute a larger proportion of their cost recovery to users relative to the driver of their actual causation.

A significant proportion of ARTC's fixed costs, such as corporate overhead and business management, are unrelated to units of capacity and should not be included in a capacity charge.

#### **1.4.4 An efficient capacity charge does not fully recover all fixed costs on the basis of train kilometres**

In summary, an efficient price will include a capacity charge which does not exceed the higher of:

- the unit cost for the next incremental block of capacity; or
- the incremental cost per tkm or train path of sustaining the current installed capacity; and
- recovers the balance of the revenue required to achieve revenue adequacy through a competitively neutral price metric unrelated to capacity.

#### **1.5 The proposal has redistribution effects for sunk investments with long term contracts**

As shown in the Frontier Economics report, the introduction of path-based pricing is likely to have some redistribution effects by altering the effective cost of access per net tonne for different users. As the proposal is likely to have only a minor or negligible efficiency benefit, the equity impacts associated with this redistribution is a relevant matter to the ACCC's approval of the 2017 DAU.

##### **1.5.1 Equity and Fairness are relevant to the ACCC's decision making**

The principles of equity and fairness have widely been recognised as principles to be considered in pricing and regulatory decision making. For example, the cross subsidy test is based on fairness as it does not consider the current replacement value of the pre-2008 Zone 1 rail infrastructure assets in establishing a stand alone cost. This is despite that a revaluation would likely represent a more efficient estimate of stand-alone costs. To do otherwise is considered unfair as producers and other parties have made complimentary sunk investments on the basis that stand alone costs will be considered against the roll-forward RAB value rather than a hypothetical bypass price. It is also consistent with the broader arrangements within the National Access Regime that in making an access determination the ACCC should have regard to the interests of those with rights to use the service.

In relation to ARTC's path-based pricing proposal, a material change in the net cost of below rail access between rail operators associated with a change in the tariff structure may be considered unfair where implicit cost discrimination arises from investment made in response to incentives that were implicit in the price structure and expectations prevailing at the time those investments were made. In this regard Biggar<sup>22</sup> (2010) argues that:

*it is considered particularly unfair to raise the price for service to exploit the good-faith effort or investment of the buyer of that service.*

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<sup>22</sup> Biggar, D (2010) *Fairness in Public Utility Regulation: A Theory*, Agenda Vol. 17(1), pp.5:29

While the statement refers to raising the price of the service, it is equally applicable to changes which may have discriminatory impacts which arise due to complimentary and sunk investment by the customer as Biggar further notes:

*Price discrimination could be considered fair where customers of the regulated firm have had sufficient notice to adjust their own complimentary investments to the pricing structure and where the tariff structure does not discriminate between customers on the nature or extent of their sunk complementary investments.*

Aurizon's rollingstock investment in the Hunter Valley is both complimentary and sunk. Importantly, it is also a relationship specific investment as there are limited demand prospects of use other than in the market for transportation of coal by rail on the Hunter Valley's 30TAL infrastructure without modification. The wagons also have an effective physical and economic life of approximately 30 years which means there is little prospect of being able to 'adjust those investments' in response to the tariff structure. Given the expected economic life of the rollingstock investment, it may also be reasonable to conclude that had the changes in the tariff structure been foreseeable at the time of the investment, an alternate rollingstock investment choice would have been made.

### **1.5.2 Equity and Fairness are relevant to the efficiency objectives**

Significant ex-post changes after complimentary investment has been made can also have efficiency implications if it reduces incentives to invest. This point is outlined by Menezes (2015) who states:

*More broadly, one would expect that any unanticipated change in regime could be translated into greater regulatory risk. There are two ways this might occur. From the perspective of an access seeker, the tariff setting process is in some sense random, so it has some probability distribution. The change in regime could change the distribution so that the 'new' distribution yields unambiguously higher tariffs (this was the case in the simple example above). Alternatively, the change may not increase expected tariffs but instead increase risk. In this case a risk-averse access seeker may be dissuaded from investing by the riskier regime<sup>23</sup>.*

The increase in regulatory uncertainty can have implications for efficiency or productivity related investment where a rail operator has concerns that future changes to the pricing framework may have the effect of expropriating the efficiency gains from that investment through value transfers to other users. Subsequently, a rail operator may be disincentivised from pursuing productivity enhancing investments. Alternatively, the increased level of regulatory risks associated with the potential future loss of profits from changes to the pricing framework, after investment has been made, may lead to higher overall rail freight prices to end users as rail operators factor in the risk of changes to the pricing frameworks into rail haulage rates.

This is particularly the case as the imposition of regulation precludes an access seeker from entering into a long term contract to efficiently avoid repricing risk and where subsequent changes to the pricing framework may be considered a possibility to overcome the deficiencies associated with a path-based pricing proposal. Nevertheless, Aurizon recognises that the consideration of equity, from both an efficiency and public interest perspective, requires the consideration of the interests of all users and necessarily requires the balancing of competing interests. In this regard, a fair and reasonable pricing framework requires balancing the interests of those who consider they are being penalised for past efficient investments in reliance on incentives within prior regulatory frameworks and those parties who

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<sup>23</sup> Menezes, F. (2015) *The Economic Impact of QR's proposal not to include an adjustment to refund or recoup differences in tariffs: stage 1 report*, A report prepared for the Queensland Competition Authority

believe they are not realising a below rail cost advantage from their own investment in higher train payloads.

## 1.6 An alternate pricing proposal

Aurizon contends that an alternate tariff structure and framework can address many of the deficiencies identified with ARTC's path-based pricing proposal. An alternate proposal will also be superior in meeting the competition, efficiency and public interest aspects relevant to the ACCC's consideration of the 2017 HVAU.

### 1.6.1 Attributes of an efficient pricing framework

The following reflect the guiding principles included in the Frontier Economics report on path-based pricing. Principles for prices that would promote efficient use of and investment in infrastructure such as rail networks (and consideration of the path-based pricing proposal against that principle) include:

- access prices should be as close as possible to short-run marginal cost as is feasible within the revenue adequacy objective (path-based pricing applies a utilisation charge materially in excess of the marginal costs of utilisation);
- prices should generally reflect cost structures (path-based pricing is not sufficiently correlated with the drivers of fixed costs);
- basing prices, or components of prices, on long-run marginal or incremental cost pricing are helpful to avoid cross-subsidies and provide guidance on the costs of future investments and optimal levels of capacity (path-based pricing is not consistent with either the costs of expanding capacity or the costs of sustaining installed capacity);
- prices should not distort investment and competition in upstream or downstream markets to the extent possible (path-based pricing may induce inefficient or wasteful investment elsewhere in the supply chain and alter the competitive position of some users); and
- prices should be relatively stable to give confidence to access seekers about their own investment decisions (implementation of path-based pricing alters the economic basis of complimentary and sunk investments).

Having regard to these principles, the pricing framework in the 2017 HVAU is not in a form that is appropriate for the ACCC to approve. It should also be noted that the efficient use of rail infrastructure does not require that less paths are used for the same output without capacity constraint, only that each path is efficiently used. Incentives which seek to promote the use of less paths for the same output without alternate demand for excess capacity, and induces investment elsewhere in the supply chain, is not an efficient use of rail infrastructure.

### 1.6.2 Specification of an alternate proposal

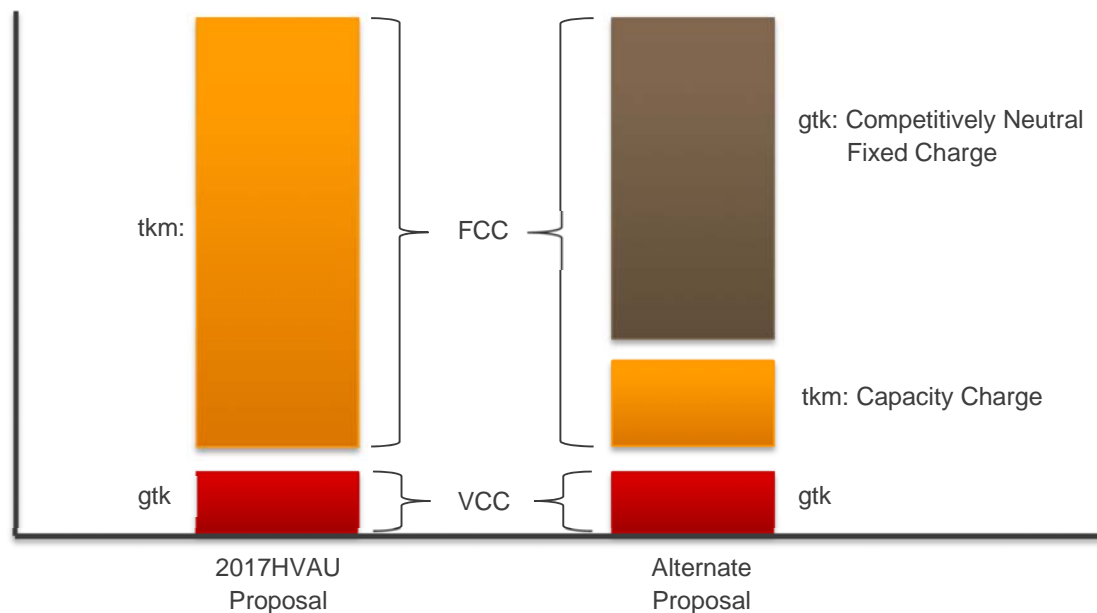
An alternate pricing proposal which is superior to the path-based pricing proposal in terms of the attributes of an efficient pricing framework involves:

- a continuation of the variable charge associated with the direct short run marginal costs of usage expressed in \$/gtk;
- recovery of the total fixed costs of access through:
  - a 'capacity charge' expressed in either \$/tkm or \$ per train path based on the contracted paths; and

- a 'common cost charge' expressed in either \$/gtk, net tonne or net tonne kilometres based on forecast usage.

In order to retain the simplicity of only two tariff metrics it is likely to be preferable for the common cost charge to be priced in \$/gtk. A comparison between this indicative proposal and the path-based pricing proposal is illustrated in the following graph.

**Figure 6. Indicative Representation of an Alternate Price Structure**



Unless evidence is presented which empirically establishes the unit cost of the next incremental block of capacity for the relevant pricing zone, the capacity charge should not exceed LRAIC. Given the relative proportion of assets which would be expected to be renewed or replaced over the long term this is not expected to represent a major proportion of the total fixed costs.

While the common cost charge could be calculated on forecast usage, it may be also be preferable to calculate it on the basis of contracted paths and service assumptions to align with ARTC's objective to increase the proportion of the charge to be included in the TOP charge.

The price for each zone would be set with respect to the relative value of the capacity charge relevant to that zone.

### 1.6.3 Benefits of the alternate proposal

The alternate proposal has a number of desirable features:

1. It is consistent with projected market and demand conditions which do not warrant additional investment in supply chain infrastructure given existing levels of rail network capacity;
2. The capacity charge retains a productivity incentive commensurate with the economic value of a market participant not responding to that incentive;
3. It meets ARTC's objectives of avoiding subjective assessments of capacity use and retains the simplicity of two price metrics;



4. It is more closely aligned to the drivers of long run incremental costs and the causative factors for those costs;
5. GTK representing the majority composition of the price metric is consistent with providing incentives to improve gross to net ratios and reduce the rate of physical asset depreciation;
6. TKM representing the minority composition of the price metric retains a moderate efficiency incentive to run longer trains (which may only be accommodated on parts of the network through further below rail investment); and
7. It represents a better balance of interests between users with complimentary sunk investments.

The framework is also more sustainable as it can be periodically reviewed to:

1. Adjust the capacity charge to more accurately reflect the costs of providing the next increment of capacity (subject to the planning process providing sufficient time for adjustment to ensure future changes are predictable); and
2. Flexibly respond to changes in economic conditions and changes in economic objectives over time through the ability to price discriminate by way of the allocation of common costs with differential \$/gtk rates.

While the capacity charge should be periodically reviewed it would not be expected to decline where its initial determination is set above the avoidable incremental costs of the service for the purpose of meeting other equity or efficiency objectives. The current level of differentiation in \$/gtk rates is a relevant benchmark for this purpose.

The ability to differentiate the \$/gtk rate would facilitate pricing objectives such as providing a distance taper through differential rates for the use of Zone 1 by Zone 1, 2 or 3 users. Of significant relevance to the 2017 HVAU is the \$/gtk rate for Zone 3 use of Zone 1 could be set so as to align with the required revenue contribution. The Zone 3 price would then align to the required level of cost recovery for that zone.

This alternate proposal should ensure that above rail competition remains, and will continue to remain, the market mechanism for promoting productivity and efficiency outcomes in the rail haulage market and across the supply chain and is the primary driver of improvement in train payloads. The objective of access regulation is to support the effective functioning of competition. Material changes to below rail pricing frameworks have the potential to disrupt the efficient operation of this market.

### 1.7 Assessment of the alternate proposal against the ACCC's legal tests in s.44ZZA

The following table assesses the alternate proposal against the criteria the ACCC is required to have regard in deciding whether to approve an access undertaking.

Test	Assessment
Promote the economically efficient operation of, use of and investment in the infrastructure by which services are provided, thereby promoting effective competition in upstream and downstream markets	The proposal includes a capacity charge which reflects the avoidable incremental costs and applies an allocative charge which avoids distortions to competition in upstream or downstream markets (i.e. does not disincentivise productivity improvements in rail operations and gross to net ratio). The allocative charge does not affect competition in the market for seaborne coal exports.

	The proposal promotes the efficient use of rail infrastructure through avoiding wasteful investment in upstream or downstream markets.
That regulated access prices should be set so as to generate expected revenue for a regulated service or services that is at least sufficient to meet the efficient costs of providing access to the regulated service or services	The proposal aligns the price components to their relative cost drivers and therefore facilitates recovery of efficient costs
Access price structures should allow multi-part pricing and price discrimination when it aids efficiency	The proposal involves a multi-part tariff which provides more effective signals on forward looking avoidable costs and therefore aids efficiency by maximising total economic welfare
That access pricing regimes should provide incentives to reduce costs or otherwise improve productivity	The proposal retains a capacity charge which retains an incentive to improve payload and an allocative charge which promotes improvement to gross to net ratio for a given payload
The legitimate business interests of the provider	ARTC's legitimate business interests are not effected where it is able to recover its efficient costs. ARTC's interests are promoted through price signals which reflect ARTC's future costs thus providing incentives to reduce those costs.
The public interest, including the public interest in having competition in markets	The proposal is not inconsistent with the public interest
Any other matters that the Commission thinks are relevant	The proposal appropriately balances the interest of parties with rights to use the service.

## 2. Variable Cost Charge

The 2017 HVAU proposes to remove the current level of price differentiation for the variable cost charge between train service types and apply a single \$/gtk rate will apply in each pricing zone. Aurizon is supportive of the proposed change on the basis that the overwhelming volume of trains have a differentiation factor of less than 1.5%<sup>24</sup>. The basis for this differentiation is not well established with ARTC applying differentiation factors which have been derived on railways with a heterogeneous traffic mix. Given the relative homogeneity of both axle load and train speed of coal carrying train services Aurizon does not consider that a sufficiently robust empirical validation of the previously applied differentiation factors relevant to the Hunter Valley coal network has been established to warrant price differentiation at that level of precision.

Aurizon supports ARTC's position to apply a common \$/gtk rate for the variable cost charge for coal carrying train services operating within the services envelope at the permissible axle load and common train speed. Any subsequent differentiation should be supported by sound engineering and econometric analysis with respect to ARTC's actual costs.

<sup>24</sup> ARTC (2016) 2017 Hunter Valley Coal Network Access Undertaking, Explanatory Guide, p 26

### 3. Train Path Relinquishment

As noted in section 1.3.5 on the discussion of the disincentives for rail operators to pursue productivity improvements associated with a \$/tkm charge, Aurizon considers that the relevant provisions in section 11 of the AHA do not promote efficiency improvements.

Under the terms of the AHA, ARTC will not unreasonably withhold its consent for a permanent change to Services Assumptions, defined as *'the assumptions relating to the Services set out under clause 3.1 of the relevant Train Path Schedule'*.

Among other things, the Service Assumptions include a rail operator's train length and gross tonnes per service. Therefore, any efforts by a rail operator to respond to the pricing incentives to operate a longer or heavier train will be impaired if ARTC seeks to adjust the TOP charges to account for the change in those service assumptions.

Importantly, the imposition of any financial penalty associated with increased above rail productivity is contrary to the competition objectives of the AHA which allows the user to nominate path allocations to multiple operators. Where rail haulage agreements are for a term less than the AHA (which is highly likely given the renewal provisions in the agreement) it is highly probable that an access holder may incur a financial penalty for contracting with a rail operator on Service Assumptions which differ from those under the current haulage agreement. This may adversely affect that user's ability to compete with other users if it is unable to contract appropriately to reflect improvements in their operator's service offering.

It may also have adverse impacts on a rail operator's ability to compete in the rail haulage market. Rail operators maintain relatively homogeneous train configurations for the purpose of operational flexibility. Therefore, in order to compete at the margin it may be necessary for that rail operator to modify the service assumptions for all of its existing rail operations. That is, it is not feasible to design a bespoke service offering with a different set of service assumptions without modifying the service assumptions of its existing operations. As a consequence, the inability to relinquish capacity for improvements in above rail productivity may be anticompetitive and contrary to the objects clause in Part IIIA of the Act.

This potentially places the objective of competition in the rail haulage market in direct conflict with seeking to avoid the socialisation of below rail costs from productivity driven path relinquishment to other users. As above rail competition provides broader benefits to the entire coal industry, then above rail productivity must take precedence over socialisation concerns. Aurizon acknowledges that the benefits of that competition may not be uniformly distributed given contractual rigidities. However, if competition is not given primacy then the future efficiency benefits to all users may be foregone.

In summary, Aurizon considers that for the ACCC to consider the 2017 HVAU to be consistent with the objects of Part IIIA of the National Access Regime it would require an access holder to have the ability to relinquish its unused capacity associated with improvements in above rail capacity. Aurizon also considers that this will not promote inefficient contracting as the end user will remain incentivised to contract on the most efficient combination of above and below rail costs associated with the below rail pricing framework in place at that time.

### 4. Innovation Incentive Scheme

The 2017 HVAU retains the Innovation Incentive Scheme, first proposed in ARTC's 2016 HVAU, in which ARTC would have the ability to earn revenue outside of the revenue ceiling limits for projects or changes to practices or technologies related to the Network and/or Associated Facilities which:

- are innovative and not in the ordinary course of ARTC's business that should be incurred by ARTC acting in accordance with good industry practice expected of an owner or operator of a below rail network; and
- provides benefits to Access Holders where ARTC would not otherwise have an incentive to do so under this Undertaking.

While Aurizon is supportive of providing service providers incentives to undertake innovation, in its proposed form the mechanism operates asymmetrically in that only ARTC may initiate a proposal. The mechanism also has the potential to be misused where the benefits are either not reasonably shared between ARTC and users or ARTC seeks to withhold improvements or investments which should be in the ordinary course of ARTC's business. This is particularly the case where the project or change in practice relates to the Network or Associated Facilities as ARTC will retain monopoly or quasi-monopoly control over whether an innovation or improvement can be implemented.

In relation to the asymmetry of how proposals are initiated, this can be easily overcome by allowing any RCG member, including non-voting rail operators, to initiate proposals for ARTC to consider and provide reasons as to why the benefits of implementing the project or initiative would not exceed the costs. However, it is unclear why innovation and incentives to improve efficiency are not consistent with good industry practice expected of an owner or operator of a below rail network. The economic problem in this circumstance is not whether ARTC has an incentive to undertake research and development of projects related to long term provision of access, but whether it will be able to recover its actual costs of doing so. ARTC has not established the basis as to why it would be necessary to recover an incentive payment in addition to the return on the capital costs of an Innovation Project determined by reference to the Rate of Return and the life of the Innovation Project and where RCG endorsement effectively underwrites the costs of that project or initiative.

Aurizon also considers that where ARTC submits a proposal outlining an incentive payment in excess of what it would earn if the costs of the project were added to the rate base, then the proposal should clearly identify the extent to which the project is contestable.

The undertaking should also clarify that ARTC will not deny reasonable access to the Network and/or Associated Facilities to an access holder or an access seeker<sup>25</sup> for the purpose of investment in innovation or operational efficiencies. This is necessary because ARTC may have an incentive under the scheme to deny access for the purpose of maximising the value captured by the project. For example, Aurizon is seeking to install an above rail condition monitoring super site adjacent to the rail corridor consistent with similar investment it has made in Queensland. This investment is highly innovative and involves significant improvements in asset reliability and operational efficiency which will have flow on effects to the efficiency of the supply chain and are independent of increasing train size. However, under the Innovation Incentive Scheme, ARTC may seek to deny the installation of this facility, despite it having no safety or reliability impacts, so that it might market a comparable ARTC owned facility to capture those broader operational efficiencies. This is not to say that ARTC should be precluded from developing its own common user facility, only that it should not use its control over the monopoly assets to deny an access seeker or rail operator the ability to develop and install their own facility.

In summary, the 2017 HVAU should:

- allow any RCG member to make innovation proposals;

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<sup>25</sup> An access seeker for this purpose is someone wanting to access the corridor/associated facilities

- require ARTC to declare the extent to which the project, or part of the project, may be contestable; and
- include an obligation that ARTC will not deny reasonable access to an access holder or access seeker to the Network and/or Associated Facilities where that access can be provided safely.

## 5. Operating Expenditure Incentive Mechanism

Aurizon welcomes ARTC's commitment to work with stakeholders to develop an operating expenditure incentive mechanism. The inclusion of this mechanism is consistent with the relevant pricing principle that access regimes should provide incentives to reduce costs. Nevertheless, Aurizon has concerns with the exclusion of rail operators from the development of the mechanism given the potential for the scheme to lead to cost shifting from the below rail manager to above rail operators.

Under the current regulatory framework of cost pass-through based on the ACCC's ex-post assessment of efficient costs, ARTC's incentives are fully aligned to throughput as it does not bear material financial risks associated with maintaining the network towards that objective. The move to an ex-ante efficient cost benchmark and efficiency sharing mechanism has a material impact on ARTC's incentives. Those incentives are compounded by virtue of ARTC being vertically separated and therefore having limited insight into the consequences of changes in its maintenance practices or an exposure to the financial impacts of those consequences.

Aurizon considers that the design of an effective regime which addresses the potential for cost shifting arising from the incentives under an operating cost efficiency mechanism requires an appropriate level of rail operator participation. This is necessary as the access holders may be immunised, or obtain some benefit, from these cost transfers due to contractual terms of the rail freight agreement which were not structured to reflect these risks.

In summary, the 2017 HVAU should be amended to include rail operator representation in the development and implementation of the operating expenditure incentive scheme.